SUPPORTING DEFORESTATION-FREE COCOA IN GHANA ACTIVITY

LAND USE PLANNING DIAGNOSTIC REPORT

INTEGRATED LAND AND RESOURCE GOVERNANCE TASK ORDER UNDER THE STRENGTHENING TENURE AND RESOURCE RIGHTS II (STARR II) IDIQ

Contract Number: 7200AA18D00003/7200AA18F00015
COR: Sarah Lowery
USAID Office of Land and Urban
Contractor Name: Tetra Tech
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DISCLAIMER

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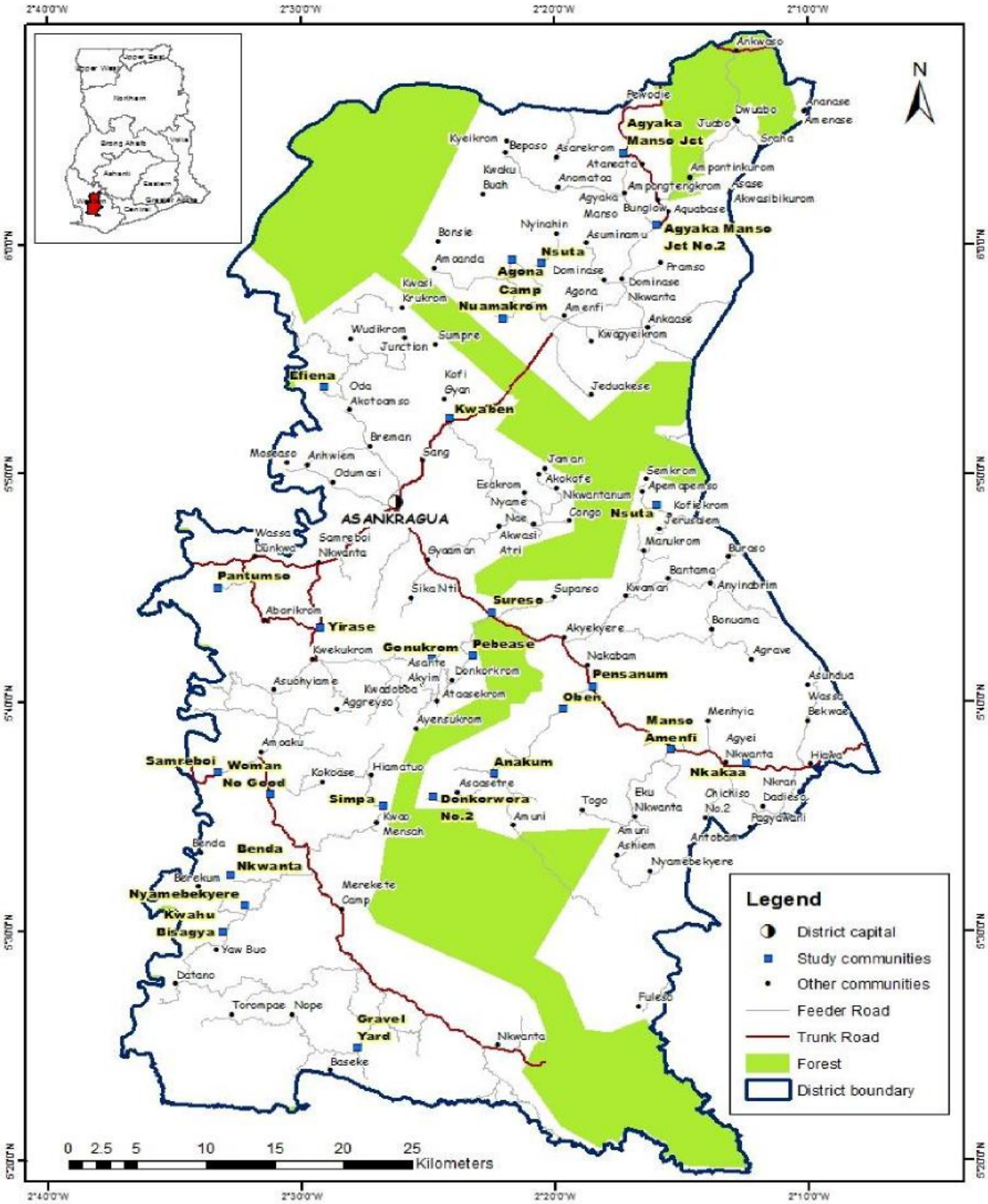
ACRONYMS AND ABBREVIATIONS

ASGM	Artisanal and Small-Scale Gold Mining
AT&P	African Timber and Plywood Company
CEL	Communications, Evidence, and Learning
CF	Chief Farmer
Cocobod	Ghana Cocoa Board
CREMA	Community Resource Management Areas
CSSVD	Cocoa Swollen Shoot Virus Disease
E3/LU	USAID Land and Urban Office in the Bureau for Economic Growth, Education, and Environment
GCFRP	Ghana Cocoa Forest REDD+ Programme
GHG	Greenhouse Gas
HIA	Hotspot Intervention Area
IDIQ	Indefinite Delivery/Indefinite Quantity
ILRG	Integrated Land and Resource Governance
IUCN	International Union for Conservation of Nature
LUPD	Land Use Planning Diagnostic
LUSPA	Land Use and Spatial Planning Authority
MAST	Mobile Approaches to Secure Tenure
NTFP	Non-Timber Forest Product
PIER	Private Investment for Enhanced Resilience
PRA	Participatory Rural Appraisal
ProLand	USAID Productive Landscapes Project
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RRA	Rapid Rural Appraisal
SDF	Spatial Development Framework
STARR II	Strengthening Tenure and Resource Rights II IDIQ
TGCC	USAID Tenure and Global Climate Change Project
USAID	United States Agency for International Development
WRSDF	Western Regional Spatial Development Framework

Figure 1: Map of Wassa Amenfi West District

Source: Ghana Statistical Service, 2014.

Figure 2: Map of Locations of Communities in Wassa Amenfi West District



Source: Quampah & Narh, 2016.

EXECUTIVE SUMMARY

The Integrated Land and Resource Governance (ILRG) task order under the Strengthening Tenure and Resource Rights II (STARR II) Indefinite Delivery/Indefinite Quantity (IDIQ) contract provides support to the United States Agency for International Development's (USAID) Land and Urban Office in the Bureau for Economic Growth, Education, and Environment (E3/LU). ILRG develops and implements targeted interventions in select USAID presence and non-presence countries, providing technical assistance to improve land and resource governance, strengthen property rights, and build resilient livelihoods as the foundation for stability, resilience, and strong economic growth.

CONTEXT

Ghana and Cote d'Ivoire together produce two-thirds of the world's cocoa. Cocoa plays a critically important role in local and national economies, providing jobs, improved livelihoods and social welfare, expanded tax base, family and corporate income, and foreign exchange earnings growth. However, the long-term viability of cocoa farming is at risk in many parts of Ghana and Cote d'Ivoire due to a number of factors, including climate change.[1] For many years, smallholder cocoa has been the leading agricultural commodity driving deforestation in both countries. This deforestation increases greenhouse gas (GHG) emissions and has a negative impact on biodiversity, soil fertility, and water quality and quantity; affects local rainfall; and threatens farmer livelihoods. In response, the governments of both countries and commodity buyers have made specific commitments to reduce and eliminate deforestation from their supply chains through the creation of initiatives such as the Cocoa and Forests Initiative and the Ghana Cocoa Forest REDD+ Programme (GCFRP) that will sell carbon credits to the Forest Carbon Partnership Facility.

Declining productivity of cocoa farms represents an additional challenge facing the West African cocoa sector. In Ghana, up to 40 percent of cocoa farms have low productivity and the Ghana Cocoa Board (Cocobod) estimates that 700,000 hectares (ha) of cocoa farms need to be replanted. Several challenges to large-scale farm rehabilitation exist. Farmers and communities lack the funding, labor resources, and technical know-how to replant old trees using best practices to rehabilitate old cocoa farms to be higher yielding and more resilient. Many farmers also have insecure land tenure arrangements that prevent or discourage them from replanting old farms and need help to improve tenure security.

The Supporting Deforestation-Free Cocoa in Ghana activity is a partnership between USAID and private sector actors the Hershey Company (Hershey) and ECOM Agroindustrial Corp. (ECOM) to pilot and scale up a financially viable farm rehabilitation and land tenure strengthening model for the Ghanaian cocoa sector. In combination with land use planning, the model will result in reduced deforestation and GHG emissions and increased carbon sequestration in the cocoa landscape, increased cocoa farm productivity and resilience, diversified farmer incomes, and improved livelihoods. Working with the private sector to support viable business models will draw on the resources and expertise of private partners needed to help Ghana on its journey to self-reliance. The theory of change guiding this initiative is summarized in Figure 1-1.

LAND USE PLANNING DIAGNOSTIC

In late May and early June 2019, a 10-person multidisciplinary team of Ghanaian and international specialists carried out a series of case studies in the four villages of Yirase, Domeabra, Suresu Nkwanta,

[1] International Center for Tropical Agriculture, 2011.

and Nyame Nnae in the Western Region of the Wassa Amenfi West District and the Asankrangwa Stool. The objectives of the study (see Box 1-1) for each community were to:

1. Describe the ecological and contextual situation;
2. Assess the tenurial situation;
3. Identify the resource governance institutions; and
4. Assess the opportunities for land use planning in the Wassa Amenfi West District.

METHODOLOGY

The land use planning diagnostic (LUPD) primarily used rapid rural appraisal (RRA) and participatory rural appraisal (PRA) information gathering tools, complemented by a literature review. Information was successfully gathered in the four villages thanks to excellent cooperation with the local communities during an intensive information gathering process from May 24 – June 7, 2019. The data was analyzed and written up in a first draft during a writer's workshop in Takoradi from June 10 – 14. The key findings are summarized in the sections below. A summary of key information for each of the four villages is presented in Annex A. Annex B presents the schedule for the study. Annex C includes key research questions and associated RRA research tools. The reference list is presented in Annex D.

During the field research, the USAID Communications, Evidence, and Learning (CEL) project carried out a complementary quantitative baseline study in the same four villages. The thematic research topics were defined by the two projects with the intent to provide an overall assessment of the present-day situation upon completion of the respective project analyses. A USAID and State Department team visited the ILRG field work from June 3 – 7, 2019 and provided valuable insights during rich discussions with the land use planning diagnostic team.

FINDINGS AND RECOMMENDATIONS

The LUPD takes a historical perspective to determine the broad structural factors that have shaped the landscape of the Wassa Amenfi West District from centuries past to the present. Section 2 presents the LUPD's findings and notes the many interconnected factors, in both ecosystems and social systems, that have profoundly transformed the forested landscape over the centuries. With stunning rapidity, the Wassa Amenfi West forested landscape was shaped by the Wassa peoples largely through their control of the migrant labor force through complex land and labor arrangements from the 1980s to the present, which were complemented by state and private sector investment in a network of roads which facilitated settlement and export of timber and cocoa. From a time when the forested landscape seemed limitless, today the relics of the once-expansive primary forests are now largely situated in a narrow band of primary forest reserves surrounding the Wassa Amenfi West District and the district capital of Asankrangwa. Within these confines, the expansion of the cocoa frontier has largely been arrested, though pressures on the forest reserves are high. The forested landscape is now highly fragmented – best characterized as a mosaic of mixed tree cover of cocoa trees, some overstory of taller trees, and patches of primary and secondary bush-fallow. Thanks primarily to the labors of migrant settlers organized and abetted by the Wassa power elite, the pioneer frontier expansion phase is over.

In Section 3, the LUPD team argues that the conservation and restoration of the forested landscape capable of absorbing significant carbon requires a profound societal commitment by the people of the Wassa Amenfi West District themselves to a multifaceted vision for the future of their own territory. External actors, including donor organizations/activities like USAID and the ILRG Supporting Deforestation-Free Cocoa in Ghana activity, should continue to construct a partnership with local communities to support this journey of environmental rehabilitation and economic and social

development. The question may be raised by USAID and others – since there is little primary forest left to conserve, and carbon stocks are low, why invest United States government resources in this landscape? The answer is simple – the environmental and social context in Wassa Amenfi West District is symptomatic of the unfolding drama of tropical deforestation across West and Central Africa. Learning how to work with local communities, the private sector, and government to conserve and restore the resource base is an important challenge for the 21st century.

The LUPD recommends short, medium, and long-term strategies to launch the creation of a new human-derived landscape capable of absorbing carbon while also contributing to the economic development of the Wassa Amenfi West District. As suggested in this diagnostic, a combination of interventions at both the local and national level could go a long way towards creating new incentive packages leading to the emergence of new societal norms and behaviors toward the land. Tweaking policy and legal practices, such as simplifying timber and shade tree registration or working with landowners and tenants to tweak tenancy arrangements, might go a long way to changing the incentive structure. Similarly, the new technical and financial packages being tested by the private sector, like those of ECOM and the farm documentation services offered by Meridia and supported by ILRG, offer new opportunities if proven acceptable to local communities. Yet these measures are insignificant in comparison to broader structural incentives needed in the long term, such as higher farm-gate prices to farmers to reward and off-set labor costs for adopting environmentally friendly farm rehabilitation practices. To bring about the profound changes required to construct a landscape capable of absorbing carbon to some level equivalent to the primary forest is not easy, but not an impossible task.

The foundations of a profound change in consciousness and behavior at all levels of society is in the making. The Wassa landed elite appear to be concerned about the future of their territory and that of future generations. Since the Wassa are the historical holders of land rights to their territory, they determine to a large extent the future of the landscape. The Wassa will be under pressure to negotiate new *abunu* tenancy agreements with the various migrant groups who now occupy the landscape. With appropriate incentives, the Wassa may impose conditionalities on tenants to protect fallow lands, encourage planting of more shade and timber trees, and adopt other environmentally proactive comportments. At the same time, private land markets will continue to grow, further weakening the power of the Wassa to influence norms and behavioral practices.

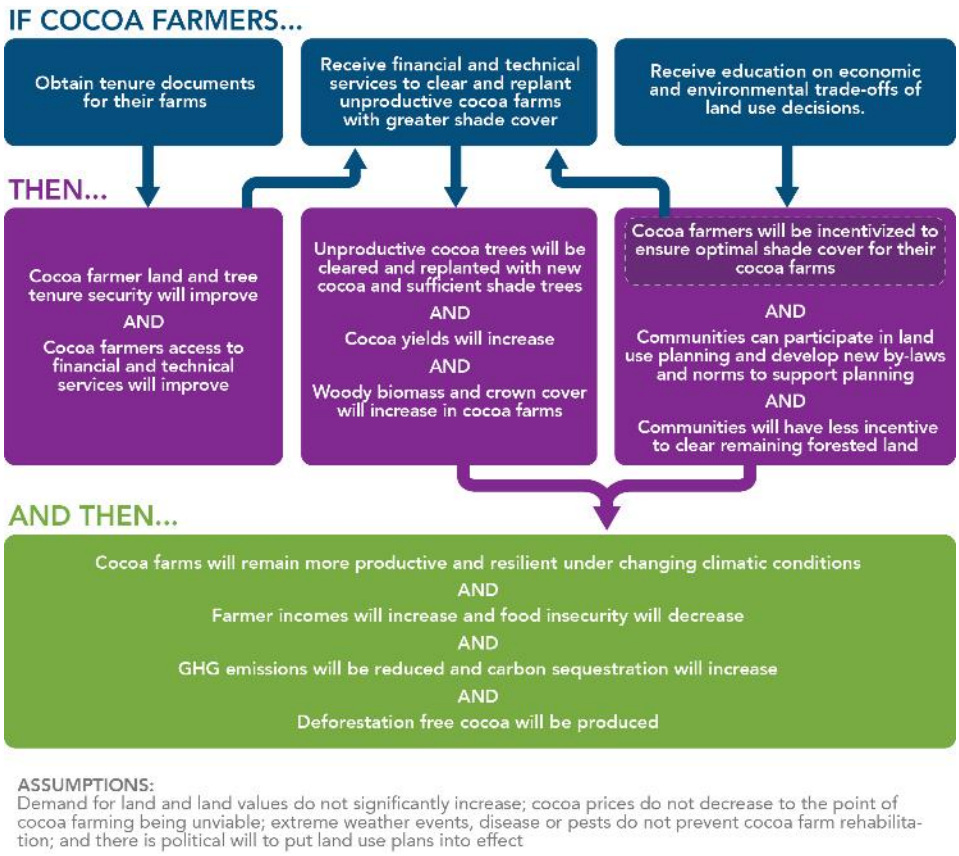
International partners of the Ghanaian government and the people of Wassa Amenfi West District, like the ILRG Supporting Deforestation-Free Cocoa in Ghana activity, can contribute strategically to a new environmental and social space. Confronted with extremely limited means, the challenge for USAID is to utilize the limited resources at its disposition in strategic and carefully targeted ways.

1.0 LAND USE PLANNING DIAGNOSTIC OBJECTIVES AND METHODOLOGY

The land use planning diagnostic (LUPD) was carried out from May 27 – June 7, 2019 in four villages of the Asankrangwa Stool, in the Wassa Amenfi West District in the Western Region of Ghana, as part of the overall United States Agency for International Development (USAID)-funded Integrated Land and Resource Governance (ILRG) task order's Supporting Deforestation-Free Cocoa in Ghana activity. This two-year initiative is carried out in collaboration with private sector actors in the cocoa commodity chain. The ILRG program in Ghana is implemented by an international consortium, including Tetra Tech as prime contractor and Winrock International and Meridia as core subcontractors, and an innovative public-private partnership to contribute to the journey toward self-reliance. The purpose of the initiative is to design and then scale up a financially viable small farmer rehabilitation and land tenure strengthening model for the Ghanaian cocoa sector that, in combination with land use planning, will result in reduced deforestation and greenhouse gas (GHG) emissions and increased carbon sequestration in the cocoa landscape, increased cocoa farm productivity and resilience, diversified farmer incomes, and improved livelihoods. ILRG is working with the private sector to support viable business models, drawing on the resources and expertise of these private partners to help Ghana on its journey to self-reliance. The general theory of change guiding the LUP diagnostic is guided by the assumptions noted in Figure 1-1.

The USAID-funded ILRG program provides technical assistance services to improve land and resource governance, strengthen property rights, and build resilient livelihoods as the foundation for strong economic growth, stability, self-reliance, and resilience. The project assists countries through a variety of services: assessments, policy support, institutional capacity building, facilitation and partnership building. In Ghana, the project aims to address the complex challenge of deforestation around smallholder cocoa farming by providing technical assistance to

Figure 1-1: Theory of Change for the ILRG Supporting Deforestation-Free Cocoa in Ghana Initiative



improve landscape-scale governance and land use planning to ensure that GHG emissions from cocoa farms, secondary forests, and primary forests are reduced, halted, or reversed. The ILRG Supporting Deforestation-Free Cocoa in Ghana activity is a follow-on activity to a 2016 – 2017 pilot activity in Ghana that focused on supporting cocoa farm rehabilitation and land documentation in one community in the Asankrangwa Stool of Wassa Amenfi West District. The ILRG activity focuses on three main objectives: (i) improving tenure security through affordable tenure documentation, (ii) developing a commercially viable and resilient farm rehabilitation model that works for farmers and investors, and (iii) initiating land use planning to reduce deforestation and improve governance.

1.1 INSTITUTIONAL CONTEXT

Ghana is the second-largest cocoa producing country in the world, and the industry is a major contributor to national revenue and gross domestic product. The cocoa industry generates about US$2 billion in foreign exchange annually and plays a major role in the national economy. The sector employs approximately 800,000 farm families over six of the ten regions of the country.[2] In the Wassa Amenfi West District in the Western Region, where parts of Ghana's most carbon-dense and biodiverse forests have been converted into cocoa farms, cocoa production is increasingly being recognized as a significant driver of deforestation and forest fragmentation.

Despite smallholder farmers occupying more land and remaining forests, cocoa productivity has declined over the years – up to 40 percent of cocoa farms have low productivity. The Ghana Cocoa Board (Cocobod) estimates that 700,000 ha of cocoa farms need to be replanted due to aging, disease, and climate change. However, there are several challenges to farm rehabilitation. Farmers and communities lack the funding, labor resources, and technical know-how to replant old trees using best practices to rehabilitate old cocoa farms. Insecure land tenure arrangements prevent or discourage farmers from replanting old farms.

The Wassa Amenfi West District is becoming a gold-producing locality with extraction concentrated just north of the district chieftaincy town of Asankrangwa (Figure 1-2). The environmental impacts of gold mining are widespread and severe. It is important to relativize gold to cocoa; a recent USAID study found that despite the massive expansion of cocoa production into this district, cocoa production may now be of secondary economic importance to gold because of its more amplified ecological impacts and economic significance, even if mining is not practiced by everyone.[3] While Ghana has developed action plans to end deforestation in the cocoa sector and restore forest areas, measures to address the rapid expansion of artisanal and small-scale gold mining are so far quite limited and threaten potential gains in reducing deforestation from the cocoa sector. Policy makers prescribed approaches to scale up conservation of primary tropical forests and restore the environment in six hotspot intervention areas (HIAs). While these strategies focus on measures to improve cocoa yields through adoption of environmentally sound climate-smart practices and strengthening supply chain mapping,[4] these recommendations fail to address the second major threat to the landscape – the expansion of alluvial and small-scale gold mining using often mercury and noxious chemicals for first stage smelting. Until a more holistic view of the root causes of landscape transformation are adopted, it will be difficult to institute effective land use planning.

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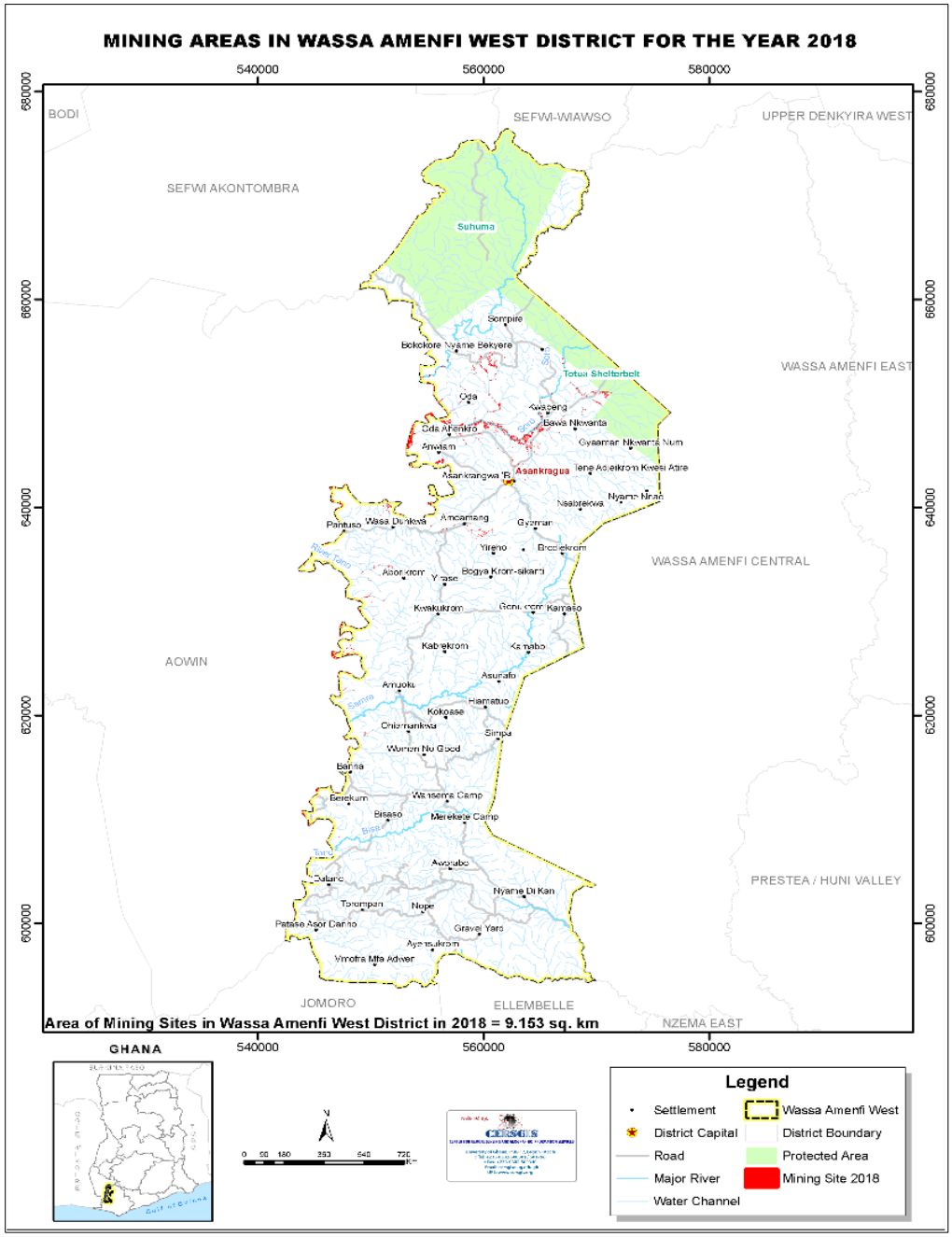
[2] Estimation by Cocobod, the national institution that fixes the buying price for cocoa in Ghana, https://www.cocobod.gh/home_section.php?sec=1

[3] DeJong, 2019.

[4] See Republic of Ghana, 2017.

Figure 1-2: Map of Wassa Amenfi West District and Gold Mining



Source: Centre for Remote Sensing and Geographic Information Systems, 2018.

1.2 OBJECTIVES

The objectives of the LUPD were designed through a collaborative process between the ILRG team and USAID. The process started with a list of topics derived from the pilot activity carried out under the USAID-funded Tenure and Global Climate Change (TGCC) project. Initially, the intent of the diagnostic was to confirm findings initially uncovered in the community of Nyame Nnae.[5] Topics included land use

[5] Roth, Antwi, & O'Sullivan, 2017.

practices, resource management institutions, tenure arrangements, cocoa production practices, conflict resolution mechanisms, and local planning practices. The choice of topics was then influenced by inputs from an exploratory baseline assessment by the USAID-financed Communications, Evidence, and Learning (CEL) project in November 2018 and a scoping mission in early 2019 supported by the USAID Artisanal Mining and Property Rights project on the artisanal gold mining situation. The LUPD team then revised the proposed topics and prepared diagnostic objectives. In addition, the participatory diagnostic was designed to generate information needed to promote land use planning using the ECO Game approach developed and progressively refined by Winrock International. The central objectives are listed below in Box 1-1 and the rapid rural appraisal (RRA)/participatory rural appraisal (PRA) tools used to collect information are listed in Annex C.

Box 1-1: Land Use Planning Diagnostic Objectives

Contextual Description

- Land use pressures on secondary forest and forest reserves including conflicts around primary forests managed by Forestry Commission.
- Presence and ecological and social dynamics of artisanal gold mining.
- Additional field data for ECO Game customization including experience with climate smart agriculture, climate and weather vulnerabilities, and economic and cultural value of secondary and primary forests.

Tenurial Situation

- Types of customary tenure arrangements for cocoa farms in Suresu Nkwanta, Yirase, and Domeabra to determine if there are any differences with the customary rights identified in Nyame Nnae including tenure status of shade trees on cocoa farms.
- History of land use decisions, land tenure, and customary arrangements including traditional farm fallow rotation cycles and management practices.
- Tenure status and economic value of secondary forests and communal rights over non-timber forest products (NTFPs) on household lands.
- Perceived tenure (in)security by different social categories and men/women.
- Previous farm mapping or farm rights documentation projects.

Resource Governance

- Governance structures and social hierarchies (ethnicity, gender, and socio-economic categories) around land use and management including types of existing community-level resource management regimes and enforcement mechanisms.
- Determination of community boundaries and tenurial niches within; and mechanisms of village organization or governance within these boundaries.

Land Use Planning

- Types of informal and formal community land use planning.
- Recommendations and conclusions for participatory and inclusive land use planning for the Wassa Amenfi West District.

The diagnostic contributes information to the overall theory of change for the public-private collaboration between the United States government and private sector partners the Hershey Company (Hershey) and ECOM Agroindustrial Corp. (ECOM) is described in Figure 1-1. It is hypothesized that if cocoa farmers are incentivized to ensure optimal tree shade cover for their cocoa farms and that they are enabled to participate in land use planning entities, this will lead to the development of new norms and by-laws governing resource use. Farmers will then have less incentive to clear remaining forested lands. In effect, it is hoped that land use planning will become an instrument for the reduction of deforestation and eventually increased carbon sequestration through improved management of existing trees and planting of new timber and shade-tolerant cocoa trees.

1.3 METHODOLOGY

The LUPD methodology included both a literature review and subsequent field work. Field work included a mixture of PRA and RRA tools used over the course of two weeks in four communities in the Asankrangwa Stool of Wassa Amenfi West District. Informational meetings were held in Accra with the Ministerial Multi-Sectorial Mining Integrated Project at the Ministry of Lands, the Artisanal Small-Scale Miners Association, and a representative of the Secretary of the Asankrangwa Stool on May 20 and 21, 2019. The diagnostic was conducted in four cocoa farming communities of Wassa Amenfi West District long involved in cocoa growing: Yirase, Domeabra, Suresu Nkwanta, and Nyame Nnae. The communities were selected with the support of the USAID CEL project team based on the following criteria:

- Concentrations of old cocoa farms under the Hershey/ECOM program;
- Evidence of recent deforestation, presence of some remnant forest cover;
- Location of forest reserves in relative proximity; and
- Communities near one another.

Before conducting the diagnostic in the villages, a two-day classroom training was carried on RRA and PRA approaches and tools for all the team members, including two community representatives from each village. The training consisted of exercises and simulations to reinforce teaching on the use of the RRA/PRA toolbox. The eight village representatives provided important background on each village and explained the rationale behind the study to village authorities during the Diagnostic. The representatives played a key role in setting up timely meetings. The initial two-day training did not allow enough time for every team member to practice the use of RRA tools fully prior to starting data collection.

Day 2 of the PRA training session
GABRIEL SIDMAN/WINROCK INTERNATIONAL

A first phase of the diagnostic took place in Yirase village over a five-day period. The team spent the week interacting with a wide range of groups and individuals while practicing the use of RRA/PRA tools. The team progressively developed an approach to carry out the remainder of the study in the other three villages, for two days each. The team felt that investing five days in each village would be excessive because it would generate roughly the same information. In each village, the team started with a village meeting with the participation of community leaders and the entire team to explain the process, objectives, and steps of the diagnostic. During the meeting, the team explained the role of the community representatives and requested the villagers' assistance to ensure that participants would represent the interests of women and men and would consider age, social and economic status, and ethnicity. The LUPD team applied a gender-sensitive approach in the villages to take into account different views from men and women based on the differentiation of tasks, roles, responsibilities, problems and constraints, interests, and perspectives. By using the PRA tools, the LUPD team played the role of facilitator, recorder of community concerns, and (through this report) the transmitter of information to policy makers.

Table 1-1: PRA Tools

	Land Uses Map	Historical Matrix	Transect	Venn Diagram	Seasonal Calendar	Semi Structure Interview	Focus Group	Revenue Ranking Matrix	Time Line	Theater/Role Play	Problems and Interventions Matrix	Classification with Beans
Pressures and conflict around forests	X	X	X						X	X	X	
Ecologic and social dynamic of artisanal gold mining	X	X	X		X			X	X			X
Climate-smart agriculture			X		X							X
Financial flow and benefits					X		X	X			X	X
Customary tenure arrangements	X	X	X			X	X	X	X	X	X	
Land uses decisions	X	X	X	X		X	X		X			
Perceived tenure security	X	X	X			X	X	X		X	X	X
Governance structure and social hierarchy	X	X		X			X			X		
Boundaries and tenurial niches	X	X	X			X						
Presence of formal and informal land use planning	X	X	X								X	

1.4 TEAM

The LUPD was implemented at the village level by an interdisciplinary team composed of technical specialists from ILRG (including a gender specialist) technicians from district offices of the Land Commission and Land Planning Authority, and two representatives from each village. Since the diagnostic was designed as an action research exercise, the community representatives were key. Involvement of these eight members reinforced communication around the diagnostic objectives and process and created focal points for upcoming project activities.

Table 1-2: Team Composition

Team Member	Profile
Sabine Jiekak	Team Lead/Senior PRA Trainer Tetra Tech
René Dogbe	Alternative Dispute Resolution and Field Logistics Specialist, Winrock
Mary Tobbin Osei	Gender Expert
Martin Yelibora	Land Use Planning Lead, Winrock
Gabriel Sidman	GIS and ECO Game Expert, Winrock
Edem Feglo	Logistics Support and Community Liaison, Winrock
Bernard Dwumah	Land Administration Officer, Lands Commission
Ashmond Baffoe	Town Planning Officer, Planning Authority
Richard Ankomah	Area Manager, Meridia
Barbara Arhin	Field Agent, Meridia
Gideon Atilego	Translator, Farming Extension Agent
8 village representatives	2 per village—tenant farmer and local land owner

1.5 STRENGTHS AND GAPS

1.5.1 STRENGTHS

The use of PRA tools for the LUPD enabled ILRG team members, government officials, and local community members to work together and learn from investigating the diagnostic's themes. The team worked well together despite being from disparate backgrounds and with varying long-term commitments to the local communities. Most of the team members were "outsiders." Moving forward, team members will be assigned for some follow-up work in the communities. For them, the diagnostic afforded an unparalleled opportunity to learn quickly about local realities. Thanks to good advance preparations of a logistics specialist and to trust built when the LUPD team was in Yirase for the initial five-day diagnostic, the diagnostic was carried out on schedule. The chief of Nyame Nnae communicated with other chiefs to encourage their acceptance of the land use planning thanks to his engagement in the previous TGCC land documentation initiative. Yirase was honored to lodge "outsiders" in the village and daily interactions in activity debriefings were extremely helpful to build trust. This led to rich information gathered in a very rapid fashion. During the diagnostic, a USAID and State Department team visited the targeted villages and participated in some of the activities (e.g., observation of a village-level historical matrix and Venn diagram, a hike up to one of the forest reserves, a visit to ECOM farm rehabilitation sites, and a visit to a small-scale gold mining site), which led to in-depth discussions on findings.

1.5.2 GAPS

The LUPD objectives were prepared in close consultation with USAID implementing partners. In retrospect, given the interest in conserving and regenerating large blocks of primary forest, it was somewhat unfortunate that the assessment did not explore the ecological and socio-economic issues unfolding within the forest reserves in and around the Wassa Amenfi West District. Forest fragmentation may be occurring in these landscapes. This additional topic would have required much more investment of time and resources. While the use of RRA and PRA tools ensures commitment of communities at the village level to think of and deal with local problems themselves, an extra day in each of the smaller villages would have helped gather more in-depth knowledge of village dynamics. However, LUPD team members can return to these villages to collect additional information if needed. In all four villages, the team found it difficult to gain access to informants to carry out PRA exercises because of informants' busy farming schedules. For instance, in Yirase the community made it clear that they were unavailable for group discussions between 9:30 AM and 3:00 PM because farmers had to work in their farms. At times, facilitating equal involvement of women and men in the diagnostic process was not easy to achieve due to the timing of women's work – women and men tended to be busy at different times. Some questions were still considered sensitive, especially around issues like gold mining or interactions with the Forestry Commission around timber shade tree management. Toward the end of the intensive two-week period in the villages, team members became understandably fatigued after the long days of constant work and living in villages. For this reason, some triangulation or gaps may need to be filled later. The ILRG team should be able fill these gaps by working with implementing partner Meridia and through further interpretation of data from the USAID Communications, Evidence and Learning (CEL) project.

2.0 LAND USE PLANNING DIAGNOSTIC FINDINGS

This section covers the core findings of the LUPD. The findings are organized following the overall objectives of the study itself. After briefly describing the broader environmental, social, and economic dynamics of land use changes in the Wassa Amenfi West District, the section then turns to a description of resource governance institutions, tenurial dynamics, and conflict resolution mechanisms in the case study villages.

2.1 ENVIRONMENTAL, SOCIAL, AND ECONOMIC DYNAMICS

The LUPD team worked with the four case study communities of Yirase, Domeabra, Suresu Nkwanta, and Nyame Nnae to analyze trends and factors underlying the transformation in the landscape of the Asankrangwa Stool, the northernmost part of the Wassa Amenfi West District. The profound transformation of the forested landscapes of western Ghana has been widely reported on in the literature on forest change in West Africa, but rarely focused on specific communities. Like many landscapes of the Western Region, cocoa farming plays a central, yet not an exclusive, part in the local economy. While the cocoa economy generates employment, artisanal and small-scale gold mining is probably of equal economic value, although concentrated along rivers and streams as shown in Figure 1-2. From a historical perspective, the landscape of the Asankrangwa Stool bears the marks of being a frontier economy, with the pioneer labor force still attracted to the area because of employment offered in the cocoa economy and gold. The growth of the urban settlement of Asankrangwa is rapid, with many opportunities in the booming informal sector stimulated by both the cocoa economy and gold mining. Opportunities for the expansion of cocoa production into primary forests has largely stalled because of the presence of the surrounding forest reserves, which are quite well protected by the Ghanaian government.[6] Without room for expansion, the area faces a difficult future. Cocoa production might be intensified through the adoption of new and relatively untested agronomic techniques. However, at a time when the pressures of household survival demand diversification into other income generation activities, many options for diversification exist. The question is whether economic incentives, farmer knowledge, and financial opportunities would generate new opportunities in a timely fashion. The foundation of the labor force – youth – may choose to migrate to the coastal cities or overseas where employment opportunities are perceived to be good or may choose to enter

Figure 2-1: Map of Forest Cover in 2000 in Western Ghana and Eastern Côte d'Ivoire

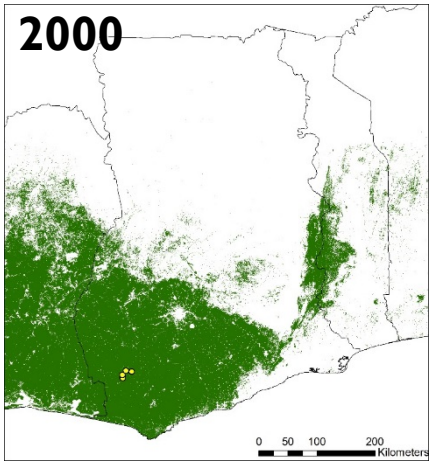
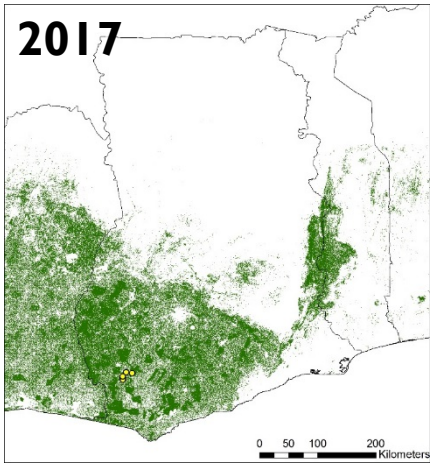


Figure 2-2: Map of Forest Cover in 2017 in Western Ghana and Eastern Côte d'Ivoire



[6] The Wassa Amenfi West District consists of five forest reserves totaling 64,242 hectares: Mamire Forest Reserve, Fure Head Water, Fure River, Bura Forest Reserve, and Totua Forest Reserve. See http://mofa.gov.gh/site/?page_id=1795.

into gold mining because it provides a relatively reliable and lucrative source of income for the time being.

2.1.1 CONCEPTUALIZING LANDSCAPE DYNAMICS IN WASSA AMENFI WEST DISTRICT (ASANKRANGWA STOOL CHIEFDOM)

The LUPD team believes that a regional- and local-level land use planning strategy for the Wassa Amenfi West District must adopt a long-term view of the history of the landscape and possible future trajectories. While it is beyond the scope of this report to delve into the details of this rich history, it is necessary to paint with a broad stroke the complex interface among environment, economy, and society (see Table 2-1).

In looking into the far past, extraction of natural and human resources has long been part of the physical and social landscape of the western reaches of present-day Ghana. For centuries, the social and physical landscape of the region has been shaped by integration into the international economy. Gold has long been exported through coastal and trans-Saharan networks; coupled with the transatlantic slave trade, gold became a feature of the Wassa. The Wassa of the Akan ethnic group actively participated in the gold trade for hundreds of years. This integration into international gold market dynamics continues well into this day through "farmer miners" involved in alluvial gold extraction and international and national companies using mechanized equipment to mine "gold reefs." Through the mercantilist and colonial trade networks, extraction continued through the timber trade into the present. The parallel economy of cocoa production emerged, which took off extensively in the 1980s following the Sahelian droughts leading to the devastation of cocoa farms in the Ashanti region. Throughout the post-independence period, the government of Ghana expanded the road network, often financed and maintained by lumber companies. The penetration of roads into the primary forests played a critically important role in stimulating the settlement of migrant laborers along the road network and contributed profoundly to the conversion of primary forests into the "tamed" environment of cocoa farms interspersed with remnants of gold mining, which are now active pits dug deeper into the subsurface and along river courses thanks to new mining technologies. Without a functional network of feeder roads, the cocoa harvests themselves could not be brought to the coast for export to European and North American markets. The road network also facilitated the migration and settlement from the Ashanti region of tenant farmers familiar with production. In-migration occurred on a massive scale, though abetted by the roads previously constructed into the forests for timber extraction. For this reason, settlements are situated right along feeder roads and at the crossroads. Demographic patterns changed dramatically with the Wassa Amenfi West District recording 21,000 people in 1970 and 92,000 in 2010; the population is currently projected at 120,000.[7] In 2015, the migrant population was estimated to be about 45 – 48 percent of the district.[8]

The migration of people into the Wassa Amenfi West District led to the profound transformation of the physical environment, through the conversion of tropical primary forests into relatively complex agroforestry systems consisting of multi-tiered tall species of timber trees with an undercover of cocoa trees. The forest underwent rapid conversion through a land use process consisting of clearing primary forests, planting food crops until a closed cocoa canopy was created under large timber trees, extracting cocoa until the trees became too aged and diseased, and replanting again from abandoned bush fallows. Throughout this period, alluvial and artisanal gold mining continued, accompanied by semi-mechanized extraction of gold veins with increasing sophistication. In its wake, gold mining left a patchwork of highly

[7] Ghana Statistical Service, Wassa Amenfi District. https://www.citypopulation.de/php/ghana-admin.php?adm2id=0111

[8] Quampah & Narh, 2016.

damaged pockets of intense environmental destruction and contamination by toxic chemicals like mercury and cyanide.

The end result of the massive migration of labor into the Wassa Amenfi West District was the conversion of the primary forests once covering vast regions of Ghana and Côte d'Ivoire into a highly fragmented mosaic of primary forest cover interspersed with cocoa plantations and bush-fallows of varying age structures, all found within a concentric space bounded by the surrounding forest reserves (Figure 2-3 and Figure 2-4). Despite the caveats noted in Box 2-1 below, the primary forested landscape is now largely lost with only non-connected blocks of government-gazetted forested reserves that represent a relic of the relatively recent and vast forested landscapes of western Ghana and eastern Côte d'Ivoire (Figure 2-1 and Figure 2-2).[9]

Figure 2-3: Map of Forest Cover in Wassa Amenfi West District in 2000

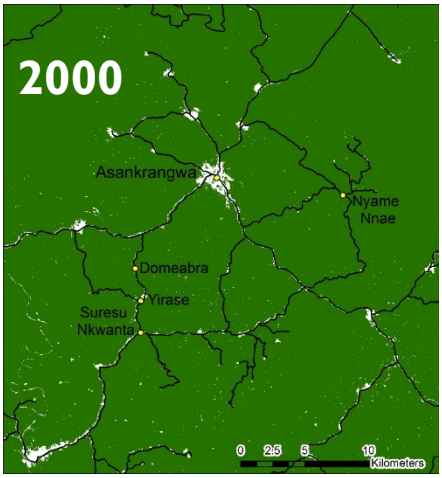
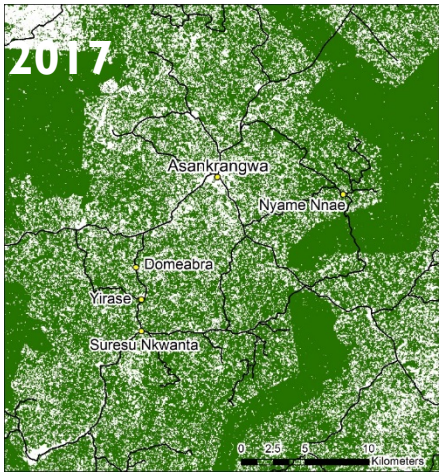


Figure 2-3: Map of Forest Cover in Wassa Amenfi West District in 2017



Box 2-1: Caveats in the Analysis of Geospatial Data on Forest Trends in Western Ghana

Figure 2.3 and Figure 2-4 portray the loss of forest cover between 2000 and 2017 in the Wassa Amenfi West District and the Western Region of Ghana and eastern Côte d'Ivoire according to the Hansen et al. (2013) database. The images paint a picture of drastic forest loss and fragmentation over a 17-year period. However, it is important to take into account some interpretation caveats. First, it is necessary to consider the definition of "forest." The Hansen et al. methodology defines forest as all vegetation taller than 5m at a resolution of 30 x 30m area (900m^2, the size of one grid cell in a Landsat satellite image) and the images above use a cutoff of 30 percent canopy closure for forest. This technical definition allows for a remote sensing classification of forest vs. non-forest but does not always match forest definitions used on the ground. For example, many shaded cocoa systems meet the criteria of >5m in height, >900m^2 in size and >30 percent canopy cover and would thus classify as forest in these images, yet many would classify such a land use as agriculture. For this reason, one must consider that some of the area labeled as forest in 2000 was actually agroforestry or even tree plantations. Therefore, the area of forest in 2000 may be overestimated.

The second caveat is that the Hansen et al. dataset does not show regrowth, so the 2017 images likely underestimate forest cover. In southwestern Ghana, there is quite a bit of regrowth in the form of shaded cocoa and fallow; but in these images, that will appear as non-forest if the trees were cut between 2000–2017. Despite these caveats, it is clear that loss of primary tropical forest in southwestern Ghana has occurred across a large scale as seen in these images, especially outside of gazetted forest reserves.

[9] Digital images presented here derived from Hansen et al., 2013 by ILRG in July 2019.

Table 2-1: Evolution of Landscape in Wassa Amenfi West District

	Mercantilist Period (14th to late 19th Century)	Colonial Era (late 19th century to 1957)	Post-Independence Period (1957 to present)
Forest Cover	Largely intact tropical forest.	Tropical forest, but timber extraction and gold mining creates pockets of disturbance in settlement areas.	Tropical forest confined in forest reserves. Expansion of agroforestry systems dominated by cocoa production especially after the mid-1980s.
Surface Uses	Agriculture primarily oriented toward subsistence production with surplus feeding workers in gold mining.	Gold mining, but logging commences. By 1930s, forest reserves created in Wassa Amenfi West area (Bura, Angoben, and Totua Forest). Logging roads open up the forested landscape and villages begin to be situated along roads.	Alluvial and colluvial mining by artisanal and small-scale mechanized mining. Chinese introduce the Changfa rock crusher, which contributes greatly to the expansion of gold mining. Massive conversion of primary forests to cocoa production and mosaic of bush fallow associated with cocoa. Settlements located along main and feeder roads.
Sub-Surface Uses	Gold mining oriented toward trans-Saharan trade and European routes.	Gold mining expansion, but with introduction of new mining techniques. Logging commences facilitated through construction of feeder roads into the interior.	Gold mining, logging, and massive expansion of cocoa farming into the interior but along logging roads. Mosaic of bush-fallow emerges in radically altered landscape.
Political Economy	Akan/Wassa expansion into southwest. Gold economy fuels slave trade with introduction of guns and ammunitions from traders. Slave trade replaces gold trading in 1500s.	Akan/Wassa political dominance maintained but mediates relations with European traders and gold and timber concessionaires. Colonial "indirect rule" strengthens chieftaincy. Wassa Akropong traditional chieftaincy location.	Akan/Wassa political dominance maintained but threatened by presence of migrant populations engaged in cocoa production. Wassa Amenfi West District established in 2004. Foreign nationals (Chinese) increasingly present in the mid-2000s. National decentralization weakens the Chieftaincy, but traditional roles remain important
Demography	Founders of Wassa settlements migrated from Adansi by second half of 1400s. By end of 1400s, Wassa in full control of southwest. Unknown rural populations likely affected by internal wars and slave trading.	Light, but concentrated around logging camps and gold mines.	Major influx of migrant labor. Population growth largely stimulated by migration from other parts of the country. Major growth starts in mid-1980s following collapse of cocoa economy in Ashanti from drought and cocoa aging trees and swollen shoot virus.
Principle Economic Actors	Portuguese traders in trading relations on gold with Wassa by early 1500s. Portuguese send ambassador to king's court in 1520.	British logging company interests, migrant labor from West Africa in gold mines.	Arrival of Chinese gold mining operators in mid-2000s, though some expelled later. Migrant cocoa growers from Ashanti in eastern and northern Ghana. Anti-migration policies adopted though Aliens Compliance Order to keep neighboring West Africans out of the cocoa sector.

This long-term perspective on the transformation of the physical and social landscape of the Wassa Amenfi West District shows that a crossroad is now being reached. The forested landscape is increasingly valued for the carbon stored, and lost, in the primary forests, the shaded cocoa plantations, and tropical soils. The landscape has undergone profound fragmentation since the 1980s and is no longer contiguous tropical forest. Most of the primary forest has been converted into farmer-owned plantations of cocoa trees consisting of varying densities of overstory of tropical hardwoods. Very little primary forest remains in the landscape. The forest frontier has now been transformed into a patchwork of cocoa farms, bush fallows, and patches of food crop fields. The Wassa Amenfi West District is now surrounded by government forest reserves where commercial logging continues. Swamplands along meandering streams are progressively converted into rice fields, though these areas are also the source of ever-present alluvial gold deposits. Weather patterns are changing with the area expected to become progressively drier and less favorable for cocoa production, a phenomenon frequently described by local farmers.

The cocoa economy, once one of the three pillars of the local economy of the Wassa Amenfi West District, is now severely threatened.[10] The complex agroforestry systems are now largely a relic, as farmers have increasingly abandoned overstory cocoa production of shade-tolerant cocoa varieties with sun-tolerant varieties that generate higher and more rapid yields but require considerable agro-chemical inputs. Faced now with aging and diseased trees, a cocktail of insecticides and pesticides are used indiscriminately with consequential health impacts on the local community and environment. Pollinator midge populations have been decimated with farmers now trying to resort to labor-intensive hand pollination techniques. Most importantly, the cocoa swollen shoot virus disease (CSSVD) is now decimating cocoa plantations and putting at risk the entire economy. Lacking virus-resistant replacement species, eradication depends primarily on physical removal of the trees, one-year avoidance of replanting, and rigorous isolation of newly planted trees from contamination from adjoining diseased plantations.[11]

Box 2-2: Rationale for Expansion of Cocoa Farms

"In the past, you need a small portion of land, a small farm to have a good production of your cocoa. Now you need much more land to have the same quantity; the production is low, there is so many diseases like the swollen shoot, and also pest, and the new seedling don't give as much [cocoa] pod as in the past. We will continue [to] expand our farms, as much as possible even if this means farming around the swampy areas."

- Farmer in Yirase

The Government of Ghana and the international cocoa industry are involved in an unprecedented collaborative effort to address the threats to the cocoa economy through rigorous testing of new cropping systems designed to address the agronomic threats to the small farmer-owned cocoa economy. Strategies to restore and regenerate the cocoa trees consist primarily of reconstituting the complex agroforestry systems of the past and mimicking, to the greatest extent possible, the biological diversity and complexity of the primary forests. Agronomic farm rehabilitation models, like those currently being tested by ECOM, appear promising but have yet to be fully tested. These relatively untried models have not been replicated by local farmers. For the first time in the history of Ghana's cocoa economy, the international buying network is entering into the direct means of production through a model to manage a portion of farmers' fields directly until the fields are rejuvenated. Afterwards, the fields are returned to the farmer, who has agreed to cover the majority of the rehabilitation costs through the sale of food crops grown interspersed with the young cocoa trees. This

[10] Brief comparative analysis of the West African cocoa economy in Wessel & Foluke Quist-Wessel, 2015.

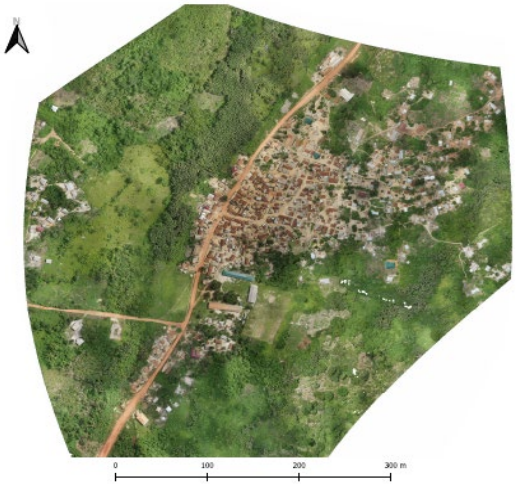
[11] For more detailed technical and economic discussion, see Kolavalli, & Vigneri, 2011.

ECOM model (based in part on the planting and protection of timber species) also augments carbon stocks, a priority not only for international environmental interests but also for farmers themselves.

2.1.2 PRESSURES AND THREATS ON THE LANDSCAPE OF THE WASSA AMENFI WEST DISTRICT

The Wassa (a branch of the Akan) are the politically dominant "indigenous" ethnic group in Wassa Amenfi West District but are the numerical minority. Much of the population of the district now consists of migrant cocoa farmers primarily from the northern and eastern reaches of Ghana, and generations of people in search of gold.[12] In the past, the Wassa managed the flow of people into their territory; today, the central question underlying all debates at the local level and picked up through the LUPD is whether the Wassa can maintain their position as the dominant power brokers. The politics of the Wassa Amenfi West District reflect the tensions between the politically dominant Wassa and what may be a majority of migrants.

In-migration has long been a force to be contended with by the Wassa peoples. Migrant labor from other parts of Ghana and throughout West Africa come into the area for gold mining. The Wassa built effective social control mechanisms that influenced the emergence of contemporary land owner-tenant agreements. The first migrant cocoa farmers arrived in the 1920s; these peoples are now well established through intermarriage and the length of time spent in the district. Farmland was acquired from the indigenous populations, sometimes through purchase and often through tenancy arrangements. Following the severe drought of 1983/84 that affected all West Africa, a cocoa boom sparked in the Wassa Amenfi West District. Cocoa plantations in the Ashanti region burned as a result of raging bush fires during these two years of severe drought. Seeking new livelihoods, the populations of the former center of cocoa growing, already affected by the expansion of CSSV, were eager to farm in other parts of the country. Over the years, the latitudinal shift in rainfall since early 1980s shifted the cocoa belt to the climatically more suitable areas of the Western Region.[13] The rapid conversion of large areas of primary tropical forest to plantations in the "cocoa frontier" has long been studied in Ghana[14] and Côte d'Ivoire.[15]



This view of Yirase from the air shows how settlements like these were founded along logging roads
MERIDIA

One observer noted at the time that these production shifts could only be explained by migration data. The acceleration in migration in the 1983 – 1985 period has been confirmed in many migrant villages of the Western region. Although a minority of migrants come directly from their home villages in the northern part of the country, the majority come from an already established cocoa village. These migrants are either planters themselves or are the planters' sons and workers. This seems to be one more sign of the role of the 1983 ecological disasters in villages of migrants.[16]

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[12] By the 1970 census, 53 percent of the population was born outside the district. In the 1990s. several studies suggested that between one-third to two-thirds of the population were farmer migrants (Boone, 2013, 116).

[13] Abdulai et al., 2018.

[14] Hecht, Morrison, & Padoch, 2014 and Berry, 2014.

[15] Richard,1990.

[16] International Migration Institute, n.d.

As far back as the early 1980s, demographers noted the emerging imbalance between the resident Wassa peoples and the migrant farmers:

> The number of migrant farmers in the Wassa-Amenfi district is thrice that of the native farmers and the number of male farmers dominated that of females. The findings further indicate that most of these farmers are entrepreneurs and self-employed migrants who have migrated purposefully to invest their capital in farming. The study indicates that owing to the number of migrant farmers in the study area and the fact that lands are sold directly to them, the natives feel very alienated from the land to which they have legitimate rights. This situation also forces the youth to migrate out of the area.[17]

In contrast to Côte d'Ivoire, the migrant workers and their families were largely from other parts of Ghana. With the Aliens Compliance Order of 1969 leading to the expulsion of about three million foreign workers, Ghana created a highly unfavorable environment for foreign immigrants.[18] The order required all migrants to pay for a resident permit or leave the country within a period of two weeks. The timeframe was too short for the authorities to produce the paperwork, and both the migrants (laborers at the farms) and farm owners refused to pay the taxes, leading to a mass deportation of foreign workers. In this way, Ghana cut its strong historical link with the reservoir of labor in the former Upper Volta but stimulated the demand for labor from other parts of the country.[19]

Table 2-2: Historical Matrix of Yirase with Changes as Perceived by Community

Variables	Timeframe				
	Before 1956	Between 1956 – 1971	Between 1971 – 1985	Between 1985 – 2015	From 2015 – Present
Population					
Cocoa Farms					
Cocoa Yield					
Revenue from Cocoa					
Primary Forest					
Secondary Forest					
Gold Mining					

The LUPD team learned of these nuances through the RRA historical matrix tool (see Table 2-2). With the focus group of elder members of the community, the team identified key historical periods in Yirase and a list of variables to be compared. Using piles of beans, the focus group indicated how variables

[17] International Migration Institute, n.d.

[18] Akrasih, 2012.

[19] Ruf, 2017.

evolved over time. The matrix presented here for Yirase is quite representative of the other communities. As the communities explained, cocoa production expanded dramatically after 1985 and continues well into the present. This qualitative description is backed up by satellite data showing a phenomenally rapid transformation in the forested landscape (see Figure 2-3 and Figure 2-4).

Primary Forest Cover (*Kwaye*): Very little primary forest cover now remains in the Wassa Amenfi West District. Forest cover maps illustrated how a concentric band of forest reserves managed by the Ghana Forestry Commission surrounds Asankrangwa and the surrounding villages. Pockets or islands of primary and late-stage fallows exist in a mosaic around the district. Hilltops are often islands of biodiversity and indicative of the height and stature of the primary forests of the past but are threatened by conversion into farmer-held cocoa plantations. Logging occurs in protected reserves under the management of the Forestry Commission. Timber trees may also be logged from the lands of cocoa farmers under concession agreements with logging companies issued by the Forestry Commission without consent by the farmers or land owners.

Forest Fallow (*Mfofo*): The forest fallow cycle in the four case study villages consists of a cycle of initial logging high-value timber during the colonial and early independence period (logging continues to this day, but likely of a lesser volume). Migrant settlers and Wassa land owners cleared the land and planted in shade-tolerant cocoa varieties. Timber and other tall trees provided shade in these agroforestry systems. In more recent years, old and diseased trees have been removed and replaced with new hybrid varieties which are sun-tolerant and have high yield but require the use of pesticides and fungicides to control pests and herbicides to manage weeds until the cocoa overstory matures. Farmers continue to search for primary forest lands because soil fertility is higher. However, expansion is largely constrained by the presence of forest reserves managed by the Forestry Commission. Within the forest fallow cycle, some farmers protected private forests, but they view these forests as soil fertility reserves for cocoa production.

Primary forest in the distance, with land cleared up to the boundary for annual food crops and cocoa planting
MARK FREUDENBERGER/TETRA TECH

Swamplands: The landscape of the Wassa Amenfi West District is interspersed with lowlands which have been increasingly converted to rice production. In some of these locations, alluvial and small-scale gold mining occurs and with great ecological impact. At this time, alluvial gold is found primarily near Asankrangwa (see Figure 1-2), but gold nuggets are sometimes found within cocoa plantations by metal detectors.

Alluvial gold is sometimes found in these lowlands
MARK FREUDENBERGER/TETRA TECH

Settlement Areas: The settlement areas of the four case study villages are located along roads constructed initially for the timber industry. Some roads are maintained by timber companies; others are maintained by the government. Good roads are essential for the transport of weighty crops like cocoa to national and international markets. Very few shade and fruit trees are found in the villages, although vegetable crops are integrated into annual food crops planted around houses.

2.2 RESOURCE GOVERNANCE DYNAMICS

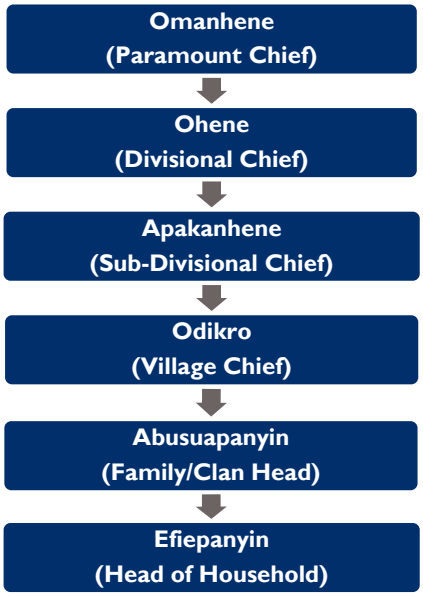
Land use planning is a product of institutions involved in the construction of policies and rules governing the use of natural resources. Power dynamics determine the extent to which land and other natural resources are managed in the Asankrangwa Stool. The distribution and the exercise of power and players interacting at the local and stool levels are embedded into the land governance structure within villages and the territory of the stool. In almost all the villages visited by the LUPD team, inconsistencies surfaced in the allocation of rights and obligations. Deep-seated conflicts are unfolding due to the imbalances in power dynamics between the Wassa and the migrant communities at a time when livelihood priorities and options are in flux.

At this site, a rock-laden vein rich in gold is cut out of the banks of a river
MARK FREUDENBERGER/TETRA TECH

2.2.1 COMMUNITY GOVERNANCE STRUCTURES

In Yirase, Suresu Nkwanta, Domeabra, and Nyame Nnae villages, land and natural resources governance encompasses three distinct authority structures that each draw on diverse sources of legitimacy and may exercise power in distinct but overlapping spheres of competencies: traditional authorities, individuals and family leadership, and (in some villages) representatives of local institutions created by the central government in the framework of decentralization. However, there is no strong collective land governance structure. The exercise of power expressed through community-level normative practices and by-laws emanates from village-level chiefs, elders from extended family clans, and individual family heads. These actors establish the land use planning rules governing how land is to be allocated to different uses, for example of how much forest is to be converted into agriculture, the type of shade trees to plant, and the amount of land turn into fallow. The District Council plays no role in land management.

Figure 2-5: Traditional Governance Structure of the Akan and Wassa Peoples of Asankrangwa Stool

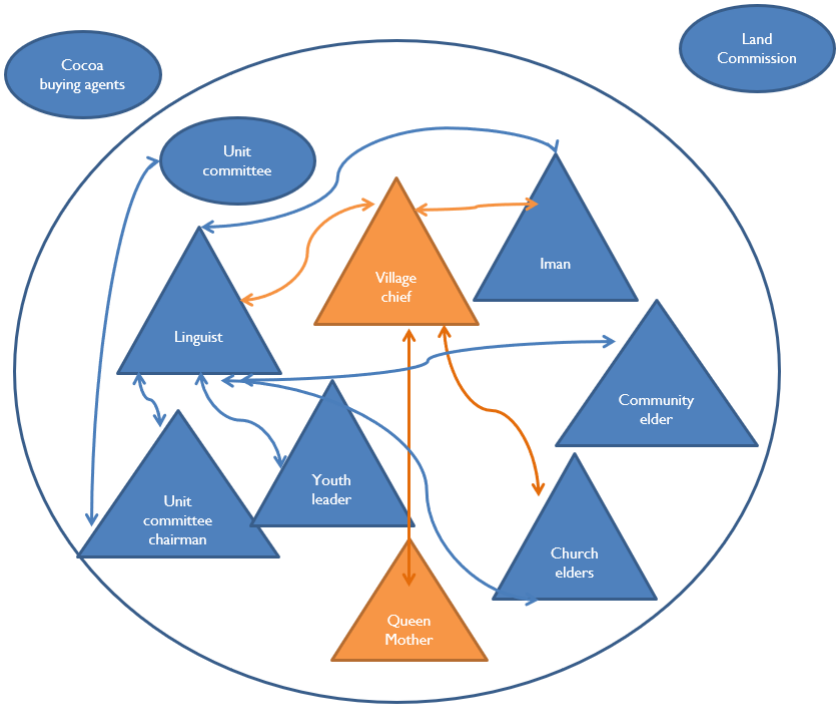


Chiefs as Land Governing Authorities at Village and Stool Levels: The Constitution of Ghana confers all stool lands in the chiefs in trust for subjects of the stools in accordance with customary laws and uses. The power of a chief (who is usually a man) derives from the size of land and resources that are under his jurisdiction. The land size is often associated with the number of communities and sub-chiefs that serve under him. The chiefs strengthen their authority by taxing use of these resources by external actors, be they migrant labor, mining companies, or other external actors. That said, the LUPD team noted a progressive and accelerated loss of control by the sub-chiefs (and by extension, by the stool chief as well) over land and other natural resources in all four villages. Since migrant farmers outnumber the Wassa people in most communities, the traditional power structure is under siege.

Under the Asankrangwa Stool, land and natural resource governance is embedded in the *odikro* (literally meaning the caretaker of the village). These village chiefs in turn are under the

supervision of the *apakanhene*, the sub-divisional chiefs who serve the Asankrangwa divisional chief, the *ohene*. The *ohenes* are under the *omanhene*, the paramount chief with the ultimate role of making general decision to which all the village within the stool must abide. In Yirase and Nyame Nnae, the chiefs are both *odikros* and *apakanhene*. The current Yirase chief is also a sub-divisional chief in Ankye-Jomoro, where his ancestors reigned before his uncle came to settle in Yirase: this is a rare case of a chief serving under two paramount states. All the *odikros* and the sub-divisional chief and his queen constitute the council of elders at Asankrangwa stool. In each village, all *abusuapanyins* (family heads) and the *odikro* and his queen constitute the council of elders.

Figure 2-6: Example of the Village Level Governance System in Suresu Nkwanta



The land use planning process must take into account the structure of the traditional council of elders. The representational make-up of the councils may vary from community to community. In Yirase, the traditional council of elders includes two settlers who represent the voice of all migrants. In Nyame Nnae, most of the migrant settler ethnic groups have elected their leaders who represent them in the council. In Suresu Nkwanta, true power is in the hands of resident community elders supported by religious leaders, as a majority of the village population is settlers and the village chief does not live within the village. In all of the villages studied, many churches have been built and these congregations flourish. Religious leaders play an influential part of the life of the community, though not in land matters.

The council of elders constitute the main traditional governing body in the Wassa communities. The council manages most community affairs, at times in parallel with the local government structures. The LUPD team observed that the chiefs decide on specific land uses most often in regard to the location of built infrastructure (e.g., schools, health centers, or new settlement areas), sacred areas for traditional rites, and (in some cases) the location of artisanal mining. Chiefs exercise very little authority over farming decisions. These decisions are made by the heads of families, whether long-term resident Wassa people or migrant families. Councils of elders are not involved in tree management questions, although they may be important opinion makers.

Lineage and Family Land Management: The Wassa clans of extended families and the family heads of migrant settler families are the key decision makers around access to surface and subsurface resources in all four studied villages. While land and trees belong to individual families through acquisition, acquisition of the land generally comes from the stool chief and not the village chiefs. Family heads, in most cases men – husbands or the oldest man of the clan, the *abusuapanyin* – are the primary individuals responsible for land governance, with the real decision-making power for either farming, management of fallows or the location of artisanal gold mining vested in these individuals.

Within the traditions of the Wassa people, the matrilineal system determines land inheritance, like most Akans in Ghana. However, with the enactment of the Intestate Succession Law and evolution of societal norms and practices, these traditions have been greatly modified. For instance, in Yirase and Nyame Nnae, the community indicated that a man's property can only be inherited by his nieces or nephews if they are family assets. When talking about property, communities do not emphasize issues around inheritance of cocoa trees. Trees are not viewed as an isolated or separate asset from the land, but rather part of the cocoa farm itself.

The traditional rules of inheritance are nuanced. In the case of a tenant farmer who has long cultivated cocoa trees, and if there are cocoa trees left on the share of the *abunu* farm at the time of death, his/her children will inherit the use of the land and continue with the tenancy agreement with the land owner. If the tenant farmer has no children left, a designated member of his/her family continues the agreement. The LUPD team confirmed such instances in all four communities studied. The land only reverts to the land-owning family when the cocoa trees are no longer present on the land because of tree disappearance through old age or disease. This tradition is well enforced. The team came across the case of an Ashanti widow, where the land owner threatened to take back the uncultivated portion of the land under an *abunu* agreement. The widow took the case to the *odikro* and won; she fully inherited her husband's *abunu* farm. The situation is different for land acquired through purchase or gifting. In this case, the children can inherit the land, even if the deceased did not make a will. All the communities affirmed that deceased parents' assets are often shared equally among children, irrespective of their gender.

The LUPD team noted that the migrant settlers formed the majority of the population of the four communities studied and that most of them hail from the northern Volta part of Ghana or the eastern regions. In these localities, the settler communities practice a patrilineal family inheritance regime. In all the villages studied, family heads of land-owning families are the ones who grant authorization to mine the land if there is an offer, as it is considered today as the fastest way to gain additional revenue. Various profit-sharing mechanisms are negotiated with external mining interests.

Women in Land and Natural Resource Governance: In all four villages studied, the husband is viewed as the head of the household and he leads in all family decision-making and decisions around farming activities. In Domeabra and Suresu Nkwanta, community members indicated that it is the prerogative of the male head of the household to determine the uses of a family's parcel of land. The male head decides on the acreage of land to be cultivated in a particular year and whether a parcel of land should be left to fallow. The husbands have the final say on how family revenues should be spent. Some of the women in Nyame Nnae said that they influence their husbands in some way, but they all admitted that the husband is the ultimate decision-maker for the household. In Yirase, women said that a wife may have control over her own farm land, if it is her personal inheritance or property. In the women's focus group discussion in this community, Wassa women confidently affirmed that they have equal rights to their parents' assets. Women do not have rights over their brothers' properties; their brothers' children inherit from the father.

Although the matrilineal family system is built around the inheritance rights of women, most of the family decisions are made by men with little or no consultation with the women, except in the case when a woman is the family head. There are, however, exceptions. A few "strong women" influence family decision-making processes. For instance, one woman in Yirase indicated that her *abusuapanyin* is now compelled to consult her on most of their decisions, as she often challenges the men and argue for

her position if a decision is made and she is not in favor of it. All the women agreed that because of her assertiveness, she has been stereotyped and labeled the "Yaa Asantewaa of her family."[20]

In many settler families ascribing to the patrilineal system, a woman is considered to belong to her husband's family, so she does not have the right to inherit from her father's family. Interestingly, she also does not have rights to inherit from her husband's family, as women are considered a "possession" of their husbands. The women in such patrilineal families are considered the assets of their husbands so whatever assets they have belong to their husbands. As one settler farmer in Suresu Nkwanta said, "how can an asset possess assets?" It was therefore not surprising to note that most of the settler women do not have cocoa farms of their own; they only help their husbands in the family farms.

Unit Committee and District Assembly: Under the decentralization process in Ghana, local government institutions have been created at the district and sub-districts level to execute community development plans and activities. The district assembly has responsibilities related to planning and enforcing the physical development within district boundaries; the assembly has a liaison member within villages called the assembly member. The unit committee in a village assists the assembly member in performing several tasks, including organizing communal labor and voluntary work, increasing community awareness on various topics, making recommendations from village discussion around local matters to the assembly, and supervising the assembly member work in their community.[21] The unit committee and district assembly are represented in some of the villages (Yirase and Nyame Nnae) by an assembly member, while there is none in other villages. While the unit committees are more involved in managing settlement areas, the assembly member at the village level supports the chief in enforcing some rules and regulations related to land and natural resource management. The assembly member does not appear to play much of a role in land management and land administration.

It was unclear to the LUPD team whether or not the communities understand the roles of these two institutions. During community meetings, they were occasionally mentioned as being consulted by the chief in case of conflicts and around other village community development issues. Although both district assembly member and unit committee members are elected and are supposed to represent the community at various assemblies, they do not seem to be viewed as central to land use decisions. For instance, in Suresu Nkwanta, the unit committee joins with the council of elders to allocate plots of land for housing and in ensuring village sanitation; in Domeabra, the assembly delegate plays a key role in mobilizing people for communal work, although not work initiated by the chief and village elders. In Yirase, the team observed that the unit committee was not functional, though the chief and village elders have established a committee, referred to as the "volunteer committee," who appear to be playing the role of the unit committee. In all cases, these bodies have little-to-no accountability to the community.

The volunteer committee can be viewed as a possible foundation for the community resource management area (CREMA), the government-recognized association for the management of natural resources in a designated area. These volunteer committees already exist in some villages around Asankrangwa (Pebase/Suresu/Akyekyere); the LUPD team did not learn the extent to which each is operational and effective in these villages.

2.2.2 COMMUNITY DISPUTE MANAGEMENT

Land scarcity in cocoa farming villages of Yirase, Suresu Nkwanta, Domeabra, and Nyame Nnae presents a real pressure on communities and individuals in several ways. Land-related conflicts have many origins, including pressures associated with the general decline of cocoa productivity and the need to expand

[20] Yaa Asantewaa is a historic Ashanti woman warrior, who led men and won many battles for her people. Assertive women are considered to be strong and often stereotyped as "Yaa Asantewaa"

[21] More details on Ghana local governance can be found in Institute of Local Government Studies & Freiderigh-Ebert-Stiftung Ghana, 2016.

production into fertile forested areas, the expansion of artisanal and small-scale gold mining, and the impact of government policies around state ownership of timber trees. Conflicts and disputes constitute obstacles to promoting deforestation-free cocoa growing and, in the long-term, new carbon sequestration arrangements. Two main factors are at the root of many conflicts within all four communities: the revision of the tenancy agreement related to farm rehabilitation and the introduction of tree registration by the government.

Disputes Around Tenancy Agreements: The LUPD team identified several sources of disputes in the cocoa farming communities. Key among them is the revision of the *abunu* tenure agreement. The central issue is that land owners are seeking revisions in the tenant *abunu* agreements before replanting new cocoa and shade trees on their old cocoa farms. In addition to the revision of the term in the *abunu* agreement, some settlers in Domeabra and Nyame Nnae expressed their disagreement over the flat rate paid by all settlers to support the divisional chief's annual festival celebration. The land owners are of the view that settler farmers should be charged a fee based on their farm size.

When disputes occur on cocoa farm lands, the contesting parties first attempt to resolve it on their own. If this fails to have any positive outcome, the conflict is then reported to the head of clans (*abusuapanyin*) for resolution. If the clan elders are unable to resolve the dispute, the dispute is brought before the *odikro* (chief, also called Nana) of the community, who sits with village elders to resolve the conflict. If the chief and the elders are also unable to resolve it, the conflict travels higher to the Asankrangwa Palace for settlement by Asankrangwa *Hene*, the land owner of the site, and village elders. It may end up in court for adjudication if it is not resolved by the chief and elders at Asankrangwa. That said, going to court to settle land disputes is not a common practice. Some disputes are settled informally through family and friends. To ensure the inclusion of different settler groups, two of the settler community leaders in Yirase have been integrated into the traditional leadership. However, tenant farmers do not find these measures particularly effective; there is a general perception that tenants are cheated by the land owners. Yet from the land owners' perspective, tenants are seeking to keep ownership over land by any means possible. If care is not taken, these disagreements could potentially turn into a profound conflict that could spin out of control, as seen in Côte d'Ivoire in 1999 between land owners and Burkinabe farmers holding similar agreements as the *abunu* tenancy.

Latent Conflict with the Forestry Commission about Tree Registration: Tree management, especially timber trees used as shade trees within cocoa farms, is a potential source of conflict between local users and the Forestry Commission. Except in the village of Nyame Nnae (where the Forestry Commission works with the local community to protect the boundaries of the forest reserve), discussions in the four villages suggested that community members do not understand why they are restricted in their ability to fell a tree they themselves planted or that naturally grows on their cocoa farms.

The case of Nyame Nnae illustrates the tensions between the Forestry Commission and the local communities. In effect, the national policy and law forbidding tree cutting and sale by the farmer breed corruption. Forest guards arrest community members who violate the interdiction to fell trees in the forest or enter the reserve to harvest timber or non-timber forest products (NTFPs). It appears that the culprits plead with the officers when apprehended and often pay bribes to the forest guards in order to be set free. In some instances, forestry guards confiscate timber cut from the forest or farms. Often, the chief and community members are unable to intervene in this conflict, thereby putting those arrested at the mercy of the Forestry Commission. The Nyame Nnae community reported that the Forestry Commission is more lenient with them because they collaborate in the protection of the reserve. That said, some villagers state that they have the right to enter into the reserve to collect secondary forestry products, like vines used for rope, so long as the product is not commercialized.

Other Sources of Disputes: Other sources of disputes in the communities include disagreement over farm boundaries, inheritance, and the gifting of land. These disputes seem to arise because of the lack of documentation of land, gifts, and transactions. Conflicts also arise around unreasonable demands for tributes and other payments to traditional authorities. Domestic violence is rife. For example, in Yirase, the women's focus group discussion revealed that many of the wives in the community (particularly those married to young men) are often beaten by their husbands. The women know that wife beating is illegal but admitted that none of them can report their husbands to the police for fear of stigmatization. They resort to internal dispute resolution mechanisms within the family.

All four communities emphasized the use of internal dispute resolution mechanisms rather than the formal systems to resolve their conflicts. Disputes between family members are first reported to the *abusuapanyin* (family head), who together with village elders is often able to settle such family disputes internally. A few cases (especially marital issues) are reported to religious leaders, who also broker peace between the parties. When women have challenges with their husbands, they may also contact their in-laws for support. If the *abusuapanyin* or religious leaders are unable to resolve such disputes, the conflict may be escalated to the village chief's palace for the chief and elders to adjudicate. When the chief and elders are unable to resolve local disputes, cases are taken to the courts. Disputants generally do not want to go to the formal court system because of the high cost and dangers of social alienation. Community members reported that disputes can also be resolved through "wicked" practices of sorcery and other "devious means."

2.2.3 MANAGEMENT OF REVENUE FLOW FROM LAND AND OTHER NATURAL RESOURCES

Land and forest resources provide important assets for income generation for most rural households in the Asankrangwa Stool. The main sources of revenue for the people in the four communities are cocoa farming; gold mining for the youth; and, in certain villages like Nyame Nnae and Suresu Nkwanta, collecting and selling forest products from surrounding forests. People with secured land rights, especially the land owners, are better off than the tenant farmers, who have more insecure or limited land rights. The communities in the four case study villages are highly dependent on participation in cocoa markets to satisfy their everyday needs. Land demand in these villages is growing, as the number of migrant cocoa farmers increases and extensive farming practices for cocoa production require more land. The growing demand for land for cocoa farming and the beginning of artisanal gold mining within the communities require new and more efficient resource governance rules at the local level.

Cocoa as Main Source of Income: In all four communities, men have more control over financial resources than women do and benefit more directly from cocoa revenue. Participants in several of the participatory research exercises estimated that more than half of men's financial revenue comes from cocoa farming, but only one-third for women's revenue and less than one-third for youth. Men farm bigger portions of land and oversee the weighing and selling of cocoa beans. Women cocoa farmers are not involved in selling; the community members have the perception that women, because they are often less literate, are thus ignorant about how beans are weighed and could be cheated by buyers. For this reason, men argue that they are the only ones with the capacity to sell cocoa beans. Men also keep money from the sale of cocoa beans since there is the general perception that the man bears more of the family expenditure. While men focus on cocoa farming as their primary livelihood, women and youth diversify their income-generating activities. Youth also engage in cocoa farming; many youth are both land owners and tenants, as to gain more income they are usually engaged under different farming agreements (*abunu*, *abusa,* and laborers). Youth often enter artisanal mining in and around the villages or in prime mining areas near Asankrangwa. Women are mainly in food crop production and engage in small-scale trading. Women became more involved in cocoa farming from 1989 on when international prices for cocoa were good enough to attract thousands of migrants to the Asankrangwa Stool.

Uses of Revenue from Cocoa: In all the communities studied, farmers generally agreed that while revenue from cocoa farming somewhat satisfies household income needs, they worry about growing threats to the cocoa economy. Threats come from the spread of cocoa swollen shoot virus disease (CSSVD), pests, and low productivity of newly introduced cocoa varieties. The Revenue Ranking Matrix activity (See Table 2-3 below) conducted in Nyame Nnae revealed that more than half of revenue from cocoa is reinvested in cocoa farming (inputs, labor, and food for workers); the rest is spent on household needs. This was confirmed in Historical Matrix and Seasonal Calendar activities conducted in Yirase, Suresu Nkwanta, and Domeabra. This last exercise also revealed that farmers spend more during the rainy seasons but earn very little in the same season, so they are therefore compelled to access credit facilities from diverse sources.

Table 2-3: Results of the Revenue Ranking Matrix Conducted in Nyame Nnae

	Income			Investments			Savings			Household Expenses		
	Men	Women	Youth	Men	Women	Youth	Men	Women	Youth	Men	Women	Youth
Cocoa	**********	***	**********	**********	**	**********	*	***	**********	*****		******
Food Crops	******	**********	******		*****	***		*****	**	******	******	******
Trees	**	**********	***	**	******						******	**
Forest	******	******	*******									
Livestock (*New activity*)	***	******	*******	***	******	*******						

Note: The exercise uses a system of counting and classification with beans or stones to show proportions or highlight differences. The (*) represents the numbers of beans or stones used.

Access to Finance and Payment Arrangements: Almost all farmers interviewed – men and women alike – mentioned that they use their own money to invest in productive farming activities. However, they also have outside sources of financing through the cocoa-buying companies, moneylenders at the village level, and rural banks. Cocoa-buying companies finance farmers through their purchasing clerks, in cash or by providing them with inputs; it is the main competitive strategy among buyers to ensure that farmers will sell their cocoa beans to them, with the buyers then deducting the amount of money lent or the cost of input before paying cocoa beans. While these advances seem to be the most accessible sources of finance, farmers recognize they are not always able to reimburse the purchasing clerks, putting them in a vicious cycle of debt. It is the same situation for the moneylenders in the village, who lend money with a 100 percent interest rate over an estimated period of four to six months. While the majority of farmers do not use financial institutions often and are unable to secure loans from banks (as they may be unable to meet the security requirements), some farmers in Nyame Nnae save their income from cocoa with microfinance companies and conventional banks. The rural banks require that farmers organize themselves in small groups to access small loans. The banks charge 34 to 38 percent interest on loans for a period of six months (which equates to over 70 percent per year), more than the 30 percent per year charged by conventional banks. Most of the loans are taken out during the rainy season from March to June; some farmers are even compelled to borrow money for food or buy food (like rice and oil) on credit. It is during these "hardship seasons" (as community members in Suresu Nkwanta described the rainy season, during a seasonal calendar exercise) that some local moneylenders do business with needy farmers, charging 100 percent interest on loans. The cocoa farmers pay all their debts during the main cocoa harvesting season in the last

quarter of the year. Therefore, many farmers are not able to invest in substantive farming activities like farm rehabilitation because they must pay back debts and interest on loans.

Financial Revenue from Emerging Land Markets: In the four villages studied, land is increasingly considered a commodity. Land markets are emerging around both the rental and sale of land. This seems to be the result of the scarcity of land due to extensive cocoa farming. Yet another factor is at play: the Wassa land owners and the chiefs gain much from land transactions, either in terms of changing rents through tenancy arrangements (*abunu* and *abusa*) or through documenting land transactions. Now that cocoa trees need replacement, land transactions have become increasingly commercialized. The renegotiation of traditional tenancy arrangements opens the door to changes in the terms at a time when land is becoming scarce. Land owners view land as an asset that can be marketed for various economic uses during a period of high demand, be it for gold mining, cocoa production, or other agricultural uses. Several land-owning farmers near Suresu Nkwanta noted that they will not hesitate to sell their farms and even a privately-owned forest in a village near Suresu Nkwanta to whomever will offer a good price. A farmer in Domeabra mentioned that he would sell his land, especially for artisanal gold mining locally called *galamsey*. *Galamsey* means "gather them and sell" and is a local Ghanaian term which means illegal small-scale gold mining in Ghana. Such workers are known as *galamseyers* or *orpailleurs* in neighboring francophone countries. Transferring land for artisanal mining is viewed as the best investment by many farmers, land owners, and tenant farmers because they believe that gold mining provides quick returns and better financial returns than any cash crop, despite the well-known environmental impacts.

Box 2-3: The Conscious Choice of *Galamsey*

"I've been here for a long time now, I've seen people coming for *galamsey*, they have been putting up houses while I have nothing. I've made my mind to go and look for people in mining so they can invest in my farm. If is it fruitful, I will get into mining without thinking about it further."

- Tenant farmer in Domeabra

2.3 RESOURCE TENURE DYNAMICS

The LUPD team highlighted two sets of complex issues around resource tenure in the Wassa Amenfi West District. The first set is centered on the idea that the development of the main livelihoods of the community – cocoa and gold – and issues related to tree planting should be located both in customary and statutory tenure contexts. The second set is centered on the power dynamics, the multilayered struggles between diverse sets of actors and the process through which resource tenures are continuously renegotiated in the setting of village, family, or individual land boundaries.

2.3.1 INTERFACE BETWEEN "CUSTOMARY" AND "STATUTORY" TENURE

The interface between customary and statutory tenure is complex and dynamic. The communities of the four Wassa Amenfi West District case study villages gain access to land through tenurial arrangements that determine who can use which resources for how long, and under what conditions. In the four case study villages, most of the land is still considered under customary tenure, implying collective ownership handed down by the traditional leadership of the Asankrangwa Stool Chief. However, there is a subtle shift because of the commoditization of the land and privatization of various rights over land. As is noted in the literature, customary owners (stool chiefs, families, or clans) hold allodial title over about 80 percent of total land area, with 20 percent owned by the state. Forest and wildlife reserve areas (10 percent of Ghana's land base) are vested lands, held by customary authorities (chieftaincy structures called stools in the southern part of the country and "skins" in the northern regions) but held by the state in trust for the people of the stool or family from which it was vested.[22] Land tenure arrangements

[22] Hajjar, 2015.

in the villages are evolving in a rapidly changing environmental and economic context, gradually moving from customary tenure arrangements dominated by the authority of clans and families into private property held by individuals. However, the transformation process leads to many contradictions. Within the traditional authority structures, confusion sometimes occurs on who constitutes "elders" or who is a true sub-chief. Various provisions of state land policy and laws seek to preserve customary practices and power at a time when individual land ownership is increasingly prevalent.

History of Land Tenure in the Villages of Wassa Amenfi: According to the communities of Yirase and Domeabra, settlement in those specific villages is related to timber exploitation and cocoa development. The first settlers arrived in Yirase, Domeabra, and Suresu Nkwanta almost at the same time, around 1947. Originally from the Wassa region and other areas (Ashanti, Eastern, Northern and Western regions), the first settlers were all workers for the African Timber and Plywood Company (AT&P) who decided to settle after the construction of the main road due to the fertility of the soil for agriculture. The first settlers obtained land from the Asankrangwa Stool Chief, either under customary freehold for Wassa people or under *asidae* agreements for non-Wassa people.

Customary Land Freeholders: Customary land freeholders, also called land owners in the villages, have free access to the land for any type of purpose. Through rights conferred by the chieftaincy, these families acquired land by clearing primary forests or otherwise occupying the land (e.g., gold mining). In effect, these pioneers acquired land through rights of first occupancy; anyone clearing an area of land that had not before been cultivated established their right over that part of land. As a farmer in Yirase explained, clearing land in a primary forest demonstrated occupation. Once cleared, this land was passed from one generation to another through the matrilineal inheritance system, the same still used by the present land owners in the villages.

The first non-Wassa settlers had *asidae* rights, or the rights of first occupation. The migrants obtained the land from the Wassa people through the Asankrangwa Stool Chief. The *asidae* farmer was required to pay some fees each year to the Asankrangwa Divisional Chief during the annual local festival, called the *afahyetuo*. *Asidae* right holders in Yirase, Suresu Nkwanta, Domeabra, and Nyame Nnae are mostly held by the Ashantes from the south center and the Bonos from the center of Ghana. They were the first to migrate to the Asankrangwa area to farm and opted to reside in their farms. As noted previously, the first settlers from the Eastern Region of Ghana introduced cocoa farming because Wassa natives were slow to cultivate cocoa and easily granted land to strangers in return for cash or other benefits.[23] This was done through clearing virgin forest land. After securing this right, these settlers brought other family members and farm laborers. These farm laborers or *abusa* farmers cannot claim any right on land. *Abusa* farmers are mainly men (there are some women) who take care of the farm and harvest the crops themselves; the land owner supplies input.

Domeabra illustrates this tenancy arrangement. Initially, migrant farmers came as *abusa* tenant farmers. After the harvest, *abusa* farmers and land owners shared the value of the crops with the land owner after the selling beans (with one-third going to the *abusa* farmer and two-thirds to the land owner). This includes the share of the input cost, if any. While *abusa* farmers didn't participate much in the discussion around land tenure issues, the LUPD team found that they were highly involved in gold mining during the off-cocoa season.

***Abunu* Agreement Evolution:** In many of the four villages, the initial *abusa* farmers apparently entered into *abunu* agreements after living in the community for a time. The *abunu* agreement is a sharecropping agreement where part of the farm harvest is shared between the land owner and the migrant farmer. In principle, once the farm matures it is divided in half between the migrant farmer and the land owner. Through this arrangement, the migrant farmer gains exclusive and nearly perpetual

[23] Mentioned by the community during the PRA activities, confirming Benneh, 1988.

rights over his/her portion of the cocoa farm, Communities raised the question whether or not the entire land remains the property of the land owner, since there are a variety of non-written agreements within the community. In many cases, once cocoa trees become old and are cut down, the land owner or his/her descendants reclaim the land. The agreement is an accord determined and enforced by the Asankrangwa Stool. During the division of the land in *abunu*, the land owner has the first choice of the divided portion. In other cases, an entirely new person may be hired to take care of the farm under similar terms. The *abunu* has existed for a long time with reports indicating it emerged in the 1930s, although it expanded rapidly in the Western Region.

Migration Dynamics on Deforestation and Preferences for Full Sun Hybrid Cocoa: The current young migrants coming into the area opt for hybrid varieties and full-sun growth strategies,[24] although replanted cocoa plantations are now being planted with hybrid varieties promoted by Cocobod. Cocobod promotes sun-tolerant varieties because these trees produce pods within two to five years and have high yields, as long as the plants receive enough fertilizer and are sprayed to reduce pests and fungus. A zero-shade cocoa farm consists largely of the cocoa trees themselves. In these situations, ownership arrangements are clear through the *abunu* tenancy arrangements. Tenant farmers can try to negotiate better terms and consolidate their control over farming decisions. When large trees are left from the primary forest, migrants may believe that this reduces their informal control over the land. The full-sun technique is thus often used as an attempt to improve migrants' tenure security. The presence of large timber trees is also a danger. "Timber gangs" arrive on the land owner's parcel with authorization from the Forestry Commission to remove timber trees; in doing so, they may also damage existing cocoa plantations. Compensation is not always offered.

The *abunu* agreement terms and conditions, mainly verbal with a set of witnesses, evolved during the last two decades. Initially, the share of the farm could involve sharing the land, as the communities mentioned in Domeabra and Nyame Nnae. Due to increased migration and land scarcity, the Wassa chiefs reduced the duration of the *abunu* agreement to around 15 to 40 years, the approximate life cycle of the cocoa trees, after which new terms were to be negotiated between the parties. New *abunu* agreements are written following a stool-wide template with the following information: names of the parties of the agreement, starting date of agreement, location of the farm (general description), duration of cultivation, restrictions for the *abunu* farmer, conditions for renewal or non-renewal, conditions of payment of annual fees to the divisional chief, and other covenants and considerations. The revision of the terms of the *abunu* agreement caused some tension between long-time *abunu* farmers and land owners, as it created a more one-sided agreement. The *abunu* agreement is now generally more aligned with a concept of statutory leasehold.

The Leasehold: The leasehold is the main agreement under Ghanaian common law. It is an interest granted by the owner of land (holder of the allodial title or by a customary freeholder or common law freeholder) to a person to occupy land for a specified period. A lease may be granted for a period as short as a year or as long as 99 years with payment for the right to occupy the land made annually; the leasehold agreement prohibits or restricts sublease of land or assignment of part of the agreement timeframe to a third party. In some cases, it may be necessary for the lessee to get the written consent of the lessor before creating such a sublease or assignment.

Tree Tenure: While land is still clearly under customary tenure in the Asankrangwa Stool, tree tenure is separate from the land under customary tenure. The Ghanaian Constitution states that all naturally occurring trees in the country are vested in the president in trust for the people, meaning that farmers and other land users cannot harvest any naturally occurring trees on their land for domestic or commercial purpose. They can only cut trees they have planted on the condition that they are able to prove they are the ones that have planted it. However, farmers can clear primary or secondary forest

[24] Ruf, 2011.

for cocoa cultivation purposes, as the LUPD team witnessed with the Akrensoh forest nearby Suresu Nkwanta, where two families own the remaining primary forest that is being gradually cleared each year for cocoa and food crop farming. Communities in the four villages are aware of this norm, and none of them except Nyame Nnae (where they are familiar with the statutory framework because of the forest reserve surrounding them) understand the logic around that provision. As reported in Yirase and Domeabra, "the Forestry Commission officers told us that the trees in our farms, belong to the state, even some of the ones we planted if we don't register them. Why should we register a shade tree we planted to protect our cocoas? Why should we even register trees on our land?" Based on the assessment, no farmer or individual in the four villages had registered a single tree, despite the sensitization conducted by the Forestry Commission. No one in the villages is aware of the initiative to register trees in the Wassa Amenfi West District under the International Union for Conservation of Nature (IUCN) Livelihoods and Landscapes Strategy between 2008 and 2010. The IUCN project aimed to enhance long-term and equitable conservation of biodiversity and ensure the sustainable supply of forest-related goods and services, among other objectives.[25] Among the lessons learned from the pilot tree certificates, IUCN noted that "having clear evidence of ownership increases the enthusiasm of owners and their willingness to invest time and resources," and that "providing information on policies and rights to communities can empower them to make decisions and deal with government agencies more effectively."[26] However, it was not apparent to the LUPD team that the communities have any real interest in claiming ownership in trees unless it directly strengthens their land rights. Neither could the team assess the relevance of new institutions like CREMAs. Based on the analysis of the unit committees and district assemblies, the LUPD does not recommend creating new institutions for the sole purpose of tree management, but rather strengthening the existing ones to ensure they can have multiple mandates to execute in specific and small areas.

Akgrensoh Forest near Suresu Nkwanta
SABINE JIEKAK/TETRA TECH

Land and Tree Tenure Related to Artisanal Gold Mining: Even though mining laws in Ghana vest all mineral ownership in the state, the LUPD team observed during the field study that land with potential for gold mining continues to be frequently transferred between local land owners and miners and between tenant farmers and miners. The transactions occurred on land owned by individuals or families, without the formal approbation of village chiefs, even if some chiefs do not want mining to occur in their territory. The communities do not ask themselves if the mining is legal or not before transferring the land; they transfer it under an agreement between the *abusa* and the *abunu* farmers. In some cases, the miner pays a specific amount of money for mining to the tenant; by doing so, the miner obtains the right to mining without accounting to the land owner. This is often a source of conflict between the *abunu* farmer and the land owner because of the lack of prior consent. At the end of mining, the land is abandoned. Generally, no records exist of dealings and transfers of rights to land used for mining. In all cases mentioned to the LUPD team, the person farming the land is compensated for the trees cut before the mining starts. Because many community members are aware of the illegal nature of artisanal mining, they were not at ease talking about it. In some community discussions (e.g., in Yirase and Nyame Nnae), interviewees vehemently denied in public that gold mining occurred in their village, even if they explained in detail how it is done.

[25] Nyame, Okai, Adeleke, & Fisher, 2012.

[26] Idem.

2.3.2 DETERMINATION OF COMMUNITY AND HOUSEHOLD BOUNDARIES

Since the land under customary tenure belongs to Asankrangwa Stool, there are no precise boundaries for any of the four villages studied. To claim specific portions of land and distinguish it from the territorial power of each of the *odikros*, the villages studied use a combination of geographic markers and farms limits. The types of boundary markers can change for ecological and economic reasons; the location of boundaries is tied to the history of village settlement.

Village Boundaries: In the community mapping exercises and transect walks conducted in Yirase, Suresu Nkwanta, and Domeabra, rivers, roads, bridges, and protected areas were the main boundaries markers identified by everyone. However, the concept of village boundaries seemed to be a bit confusing both for the community and the LUPD team. Indeed, when it comes to village boundaries, the team learned that the studied communities define village boundaries as a function of the location of farms and forests but not predetermined territorial limits. The LUPD team understands that boundaries for the communities within the same stool serve more as interfaces rather than lines of separation, and fluctuate based on the interests of the community. Boundaries are open to negotiation. Rivers demarcating the limits between different communities can be used by everyone from any community for non-farming activities. Swamps are an important resource niche because of their importance for rice cultivation. Women are the first users of these swampy areas, for rice farming and snail harvesting; youth use them for fishing. The need for clear boundary demarcation only becomes apparent when there are high stakes involved (such as the demand for land for gold mining) and growing pressure on natural resources with the potential for conflicts. In these cases, precise boundaries are set for the medium term. The exceptions are precise boundaries marked off by concrete blocks between Nyame Nnae and the forest reserve.

Household/Clan Farms Boundaries: Household or family land boundaries are better defined, especially when they have already been converted into cocoa farm. This is because in all these cocoa farming villages, information on farm and land boundaries allow families to predict the inputs needs for farming (seedlings, fertilizers, and pesticides) and estimate revenue flows from their harvest or the size of *abunu* plots. Numerous external actors encourage farm and farm land boundary demarcations: the agricultural officers from Cocobod or agents from the buying companies, the farming gangs (spraying, pollinators, or weeding) that need to know the size of the farm to price spraying, the *abunu* agreement where both land owners and tenant farmers need to know the total farm surface and boundaries before sharing, the moneylenders who need to analyze the productivity of farms before providing loans. The boundaries markers are clear: flower trees, shade trees, or a cleared space at the edges of the farms. Following the introduction of new agroforestry practices in the last decade, farmers have been encouraged to plant shade trees in their cocoa farm, and they often use specific tree species as boundary markers. Some of these farm boundaries have been recorded in tenancy agreement, by buying companies, or former projects, but the majority of farm boundaries are rarely officially recorded. Boundaries are determined in front of witnesses in charge of resolving conflicts or disputes.

Farm boundary planting
MARK FREUDENBERGER/TETRA TECH

Table 2-4: Summary of Transect Walk from Yirase to Boundary of Pokouase Village

	Roadside	Route between Cocoa Farm (Boundary)	Cocoa Farms	Rivers
Vegetation	• Different plant species, under growth and swamp that are naturally occurring • Variations: age, species, size, height, climbers • Delimited by cocoa farms. • Weedy area allocated as cemetery the exit of Yirase from Asankrangwa	• Buffer vegetation between road and cocoa farm • Naturally occurring vegetation • Thick vegetation	• Protective vegetation/live fencing around some cocoa farms	• Naturally occurring vegetation along the river
Trees	• Bamboo for building mud houses, cocoa drying platform, harvesting tool and fishing tool • Cocoa trees, coconut trees, palm (raffia), cocoa trees in poor condition (parasite and moss)	• Many naturally occurring trees of different ages: Prekese, Konkroma, Wawa, Ceiba, and Odum • Healthy cocoa trees	• Many healthy cocoa trees • Plants (shrubs for boundary delimitation) • Required shade trees observing space • Diseased cocoa trees (Black pod) • Pest attack (Akate), caterpillars, termites • Trees: orange, mango, coconut. • Young and old cocoa trees – mix young cocoa. farm (on land provision for food crops like rice, cassava)	• Bamboo • Ceiba tree sited the confluence of Yire and Kyirekuro. This is the point of ritual activities
Cocoa Farms	• Bad condition • Parasitic plants • Inter-cropping (plantain, cassava and cocoyam)	• Buffer area between road/cocoa • Better cocoa condition • Many new farms (10 – 12 years), previously cleared for food crops • Trans boundary village land ownership (cocoa to left, uncultivated to right)	• Extensive mixed cropping on the new farms • Boundary plans (Jatropha, flowers, clatoria).	• No buffer along river and cocoa.
Documentation			• Several types of documents: – Compulsory documents in case of land sale (documents must be signed by the Asankrangwa Stool Chief and must include site plan). – *Abunu* agreement can be written or verbal (with witnesses) – Optional site plan by *abunu* agreement – *Abunu* agreement between landlord and tenant • Compulsory information: size, location, status of parties • Site plans done by town planner or cocoa support company	

2.3.3 PERCEPTIONS OF TENURE SECURITY

The general perception of tenure security in the targeted villages is defined as a situation where the community, individually or as a group, believe they can use their land and land resources without anyone challenging or threatening their rights. In the four villages, land tenure security is clearly linked to the right to continue using the land without changing the content of the tenancy agreement, as long as the interest is there for cocoa farms. As land becomes scarce because of the closing of the cocoa frontier, the tenure regimes are evolving towards individualized land rights. Farmers and land owners are demanding changes in land rights agreements that are enforceable at low transaction costs. The perception of tenure security directly impacts both cocoa farm rehabilitation and, in the end, the agenda to support high carbon value tree planting.

Land Tenure Security of Land Owner (Clan/Family/Household Head Perception): In the beginning of the 21st century, land available for conversion into new plantations became increasingly scarce until the last remaining areas of primary forest were cleared over the last few years. This land scarcity has caused the value of the existing agricultural land to increase, so that the Wassa land owners (the powerful group in the communities) have begun to interpret their relationships with tenants in a more biased manner. The communal land system is progressively evolving to an individualized tenurial system. The foundations for the construction of more intensive tree and food crop production may be emerging because of the shortage of land. Land owners started feeling insecure around 20 years ago as *abunu* farmers began to outnumber Wassa land owners. For instance, for an *abunu* agreement on 10 acres of land, the *abunu* farmer kept half (five acres) and the land owner the other five acres. The land owner believes that if the *abunu* farmer is allowed to rehabilitate and keep all five acres to himself, the land owner would be left with only five acres; in case he needs help to rehabilitate his own farm and enter to a new *abunu* agreement, he is going to be left with 2.5 acres. If this continues, he would eventually lose all his land to *abunu* farmers. One tenant in Nyame Nnae remarked, "Very soon the Wassa people will start coming to the tenant farmers for land to do *abunu*." The land owners feel that if they keep giving half of their land away, after the third and fourth generations, they will have no land left for themselves.

To respond to this concern, in the late 1990s the Asankrangwa Stool Chief mandated that *abunu* tenancy agreements be revised periodically. It was decided at the time that the *abunu* arrangement should last only for one cycle of cocoa tree life – between 15 and 40 years. After the trees die, the land is returned to the land owner or a new tenant agreement must be negotiated. To cement their powerful societal position, land owners have begun to draw up one-sided *abunu* agreement documentation, as the LUPD team saw in Yirase and Suresu Nkwanta.

Settlers/*Abunu* Farmers' Claims for Permanent Rights: *Abunu* tenure agreements and farm rehabilitation were the two major topics discussed by the communities in all the four villages. The LUPD team observed that the settlers formed the majority of the population of the four communities, meaning that most farmers are migrants, while most land is owned by Wassa people. Initially, *abunu* farmers could keep their share of the cocoa trees, including the land and the shade trees which were naturally occurring. They could also cut and replant without losing their land. When the population started to grow, people then saw the need to own and keep the land for themselves and their families for the future. *Abunu* farmers tend to believe that since they are Ghanaian, it does not matter which part of the country they come from; they should have the same right as the Wassa people. Since the Wassa decision to revise the *abunu* terms, tenant farmers express feelings of insecurity. They feel that if they lose half of their farms (and land) after every cocoa tree life cycle, then they will become landless in succeeding generations. In addition, as the majority of agreements were oral, there are several versions of narratives related to *abunu* arrangements. The Wassa communities' current narrative is that when cocoa trees become aged and unproductive, *abunu* farmers should negotiate a new agreement over the

portion of the farm that belongs to him/her with the land owner, endorsed by the village chief. Land owners mentioned that the agreement can stay as it was established in the past if *abunu* farmers maintain "cordial relation" with the land owners.

Women's Perception of Tenure Security: In all of the communities studied, women noted that they have land rights as part of the package of parents' assets that are often shared equally among their children, irrespective of their gender; women in the focus group discussion in Yirase were clear that they have equal rights to the assets of their parents as their brothers do. Despite the fact that the Wassa people follow a matrilineal system, most family decisions are made by men with little or no input from the women in the family.

Conundrums Around Tree Tenure: From the perspective of sustainable landscape management and carbon sequestration, the primary objectives are to increase the number of tropical hardwood shade trees in the cocoa landscape, encourage longer fallow cycles and secondary forest regrowth or restoration, and maintain and improve the management of primary forests in the forest reserves. However, based on Ghanaian forestry legislation and current practices, the main question centers around the ownership of the shade trees themselves. Depending on whether one is a land owner or an *abunu* tenant farmer, tree ownership shapes the incentive package differently for each party.

The current common practice is that trees planted by the *abunu* farmers at the creation of the cocoa farm are divided up at the moment of the share of the farm, and trees that are on the *abunu* farmer's portion are owned and managed by the *abunu* farmer, while the land owner owns and manages trees that are on his share. The main question arises either at the end of the *abunu* agreement or when the cocoa trees become old and unproductive and the *abunu* farmer wants to cut them and replant new trees. In many cases, an *abunu* farmer will have to renegotiate the *abunu* agreement with the land owner; in case there is not a renewal of the agreement, the current practice is that the land owner takes back the land and all trees on that land and then is free to enter into new agreements with another *abunu* farmer if he so chooses. The question then must be asked, in whose name should the remaining timber trees be registered – the *abunu* tenant or the land owner? Will women be registered as co-owners with their husbands? Under what conditions? If trees are registered under the *abunu* farmer's name, how will it be managed when the *abunu* arrangement comes to an end? If the tree is registered under the name of the land owner, what is the incentive for the *abunu* farmer to keep and maintain the shade trees beyond the duration of the agreement? Since the *abunu* farmer derives little other benefit than shade, what then are the tenurial incentives for the labor force to protect the tree against over-shading by surrounding cocoa trees, weeding, and other practices? What incentives does the *abunu* farmer have to retain shaded cocoa trees?

The diagnostic suggests that naturally occurring shade trees belong to the owner of the farm on which they grow, as well as any planted shade trees and not the one who planted the trees. If a payment for ecosystem services is set up, the question must also be raised about who owns the carbon within the shade trees? If carbon payments from Reducing Emissions from Deforestation and Forest Degradation (REDD+) or other programs are received in the future, what revenue sharing arrangement will be set up to benefit the farmer who planted and cared for the tree for decades? The national government will also want its share. Is it the individual farmer who will receive at some point a carbon payment or will it be a payment divided up between government and the community? Ultimately, equity issues arise, pitting the Wassa land owners against the migrant tenant farmers.

Table 2-5: Tension between Land Owners and Tenants

	Tenure Agreement	Interests/Worries	Positions	Win-Win Solutions
Wassa land owner	• Wassa land owners predominant • No question on tree tenure, trees belong to the land owner	• Control the land • Land uses and users decisions • Worried they will become a minority • Information by the Forestry Commission that farmers can't cut trees without authorization, need to register some trees • Question the merit of such an approach for planted trees	• Renegotiation of agreement when rehabilitation occurs or after a specific period • Insertion of new fees for transactions • Expectation of recognition of their land, their trees, especially when they plant it; otherwise, why plant timber species trees?	• Promote a dialogue between land owners and *abunu* farmers on agreement conditions • Document existing agreements including all the specific conditions (time frame, rate, renewal conditions, shade trees management) • Registration of trees and provision of incentives for the *abunu* farmers to plant high carbon trees
Non-Wassa land owner	• Wassa old and first settlers, Wassa or non Wassa-*Asidae* • Have to pay annual fees (*NtoƆ*) and festival fees (*AfahyƐtoƆ*)- (this does not take place every year, so the payment of the fee might not be every year) • Non-Wassa land owner should inform the chief about all land transfers to non-family members • No question on tree tenure, trees belong to the land owner			
Tenants – *Abunu* farmers	• Shared the farm at the beginning of the agreement 50/50 • Most of agreement are oral, few written • Obligation to work on the land to be shared after a specific number of agreed years for the agreed cash crop • *Abunu* rights are transferable by inheritance or by selling • Pay both *NtoƆ* and *AfahyƐtoƆ* to land owner • Shade trees planted on the cocoa farm belong to the farmer	• Wish to own the parcel of land they have worked on • Wish there is no renegotiation for rehabilitation • Wish no consent of the land owner in case of sale of *abunu* rights • Abuses around the rates of *NtoƆ* and the *AfahyƐtoƆ* • Worried they will lose their farm • Information by the Forestry Commission that farmers can't cut trees without authorization, need to register some trees	• Old *abunu* farmers see themselves as land owners as well as farm owners and perceive themselves as being abused by land owners and the Wassa landed elite	• Promote a dialogue between land owners and *abunu* farmers on agreement conditions • Document existing agreements including all the specific conditions (time frame, rate, renewal conditions, shade trees management) • Registration of trees and provision of incentives for the *abunu* farmers to plant high carbon trees
Village chiefs – *odikro*	• "Witness" of the agreement, both oral and written • Arbitrator in case of conflict • Can benefit from *NtoƆ* and *AfahyƐtoƆ*	• Losing control over land to the tenants • Keeping land for future generation • Losing their inherent right to the land and their power and respect in general – "Very soon the native will be coming to the migrants for land"	• They have to be kept in all transactions • Want to benefit from all transactions over the village land • Tensions around management of the swamplands	• Codify the general *abunu* agreement rules in the village (timing, access to land, ownership of land, parameters of *abunu* – range fees)

	Tenure Agreement	Interests/Worries	Positions	Win-Win Solutions
Divisional chief	• Signs land documentation • Sets taboos and restrictions	• Losing control over land to the tenants • Kept out of the loop when it comes to financial transactions		

Tree Tenure Perspectives of Land Owners: From the perspectives of the land owners, a series of questions must be raised. Can registering shade trees with the Forestry Commission create an incentive for the land owner to maintain and strengthen control over land? Does the registration process itself remove or exacerbate confusions over *abunu* agreements? From the perspective of the land owners, shade trees do not necessarily create an issue if the trees are planted at the early stage of the *abunu* agreement. It appears that the land owner recognizes that the trees on the farm share of the *abunu* farmer belongs to the *abunu* farmer so long as the *abunu* agreement remains valid; afterwards, the land goes back to the land owner with every tree on it, whether naturally occurring or planted trees. The key question is whether the land owner will allow an *abunu* farmer to register planted trees under his/her name, thereby creating a dual tenure system between land and tree ownership. If the *abunu* farmer plants a timber shade tree, and then registers it, does the tree remain under his/her ownership for the rest of his/her life, even if he/she moves away? And then, what happens with the inheritance of the tree registered in the name of the *abunu*? The *abunu* farmer may thereby plant or protect shade trees of low carbon and timber value at the early stages of the *abunu* agreement, and not register them. This could be the reason one sees many pioneer shade trees of small carbon value, but high shade value, like *Prekese, Konkroma, Wawa, Ceiba,* and *Odum* growing throughout the landscape.

The land owners do not clearly see the benefit of registering shade trees, especially as they are still questioning the justification behind the law and policy. Until now, all timber trees are owned and managed by the Forestry Commission; land owners receive few benefits, and a lot of trouble from "timber gangs" working for forest concessionaires. When large timber trees are felled, the trees can destroy cocoa trees and compensation may or may not cover the lost lifetime revenue of the cocoa trees. At this moment, it does not seem that the sale or other transfer of land carries with it any rights or interests in shade trees growing on that land.

Tree Tenure Perspectives of Tenant (*Abunu*) Farmers: The question for *abunu* farmers is whether registration of newly planted timber shade trees strengthens or weakens their tenancy arrangements to the land. Can registering newly planted timber shade trees in the name of tenant ensure long-term tenurial rights to the land on which grows the cocoa trees? But, as with the land owner, what is the incentive to keep naturally occurring trees in the few remaining primary forests or in fallow when confronting the possibility that the Forestry Commission would grant a license to a company to remove the timber species?

The impact of tenure on tree planting varies depending on the nature of the *abunu* tenure arrangements, and on a wide variety of other factors linked to cocoa farm productivity. Tenure is just one factor affecting shade trees planting, and its importance relative to other factors will vary as no tenure arrangement over timber trees will encourage *abunu* farmers to plant these species if it is not clearly linked to cocoa productivity or other economic benefits. *Abunu* farms are managed individually or at household level, with indirect oversight from the land owner who intervenes only when the farm is poorly managed by the *abunu* farmers. Timber shade tree planting of slowly maturing trees may be beneficial because it could secure rights longer for the *abunu* farmer despite what happens to the underlying cocoa trees. Tree planting of timber species has little value unless it helps to increase productivity of the understory cocoa trees AND the *abunu* farmer can retain ownership over a long period of time. It is likely that *abunu* farmers will have little interest in planting timber trees unless ownership can be retained despite a changing relationship to the cocoa trees, and rights can be transferred from one generation to the next. To register a timber tree, the *abunu* farmer will want to be sure he/she can hold onto the tree until it is mature enough to be converted into timber; only a long-term *abunu* agreement can provide such tenure security, or a complete transfer of ownership of the farm (and the land) to the *abunu* farmer. Since timber trees take decades to reach commercial viability, the *abunu* farmer will want an arrangement that guarantees a return several decades down the line, probably for his/her descendants.

Land owners may perceive the tree registration process on his own land and on trees on the *abunu* farms as a way to secure long-term tenure over the *abunu* farms. In the situation of Wassa Amenfi West District where tenant farmers far outnumber the Wassa land owning population itself, this is a very real issue. Timber tree registration in the name of the Wassa land owners may strengthen their historical rights over the land. For *abunu* farmers with weak or unclear tenure rights, registering and owning planted trees may provide them with some level of security. For this reason, they may advocate for the right to register trees in their name. For either party, the land owner or the *abunu* farmer, valuable timber species shade trees may at some point serve as security for loans (either formal or informal) since farmers cannot mortgage their customary tenure holdings. For women who are often disadvantaged in terms of land ownership – both land owner and *abunu* farmers, shade tree ownership and associated registration may provide an incentive for them to seek ways to register trees. Widows or single women may be especially interested in timber tree registration as a way to clarify and secure ownership.

2.3.4 PREVIOUS LAND RIGHTS DOCUMENTATION INITIATIVES

The LUPD team looked into the various land documentation initiatives in Yirase, Suresu Nkwanta, and Nyame Nnae.[27] Land rights documentation is conceived as essential in defining land holding, use pattern and security of tenure and an incentive for investment and improved productivity. Unfortunately, most customary land tenure arrangements in Yirase, Domeabra, Suresu Nkwanta, and Nyame Nnae are based on oral agreements, with their attendant problems. Documentary proof of ownership or use rights to land is gaining popularity because it provides evidence which assists in resolving disputes and other benefits especially to the tenant farmer. For this and other reasons, there has been conscious effort by the Wassa Amenfi Traditional Council to take initiatives to inventory lands in the area. This discussion was started during the reign of the late *omanhene* for the area, Kasapreko Bassahine II, and is being continued by the current *omanhene,* Tetrete Okumuah Sekyim II.

USAID Tenure and Global Climate Change (TGCC) Program: From October 2016 – January 2018, the TGCC program identified challenges and solutions to improving cocoa sustainability in Ghana. The pilot project was carried out with private sector partners Hershey and ECOM, and Meridia was a subcontractor to Tetra Tech. The work included extensive background research, consultation, and a field pilot in Nyame Nnae community to demonstrate how to address several challenges including improving land tenure, tree tenure, and financing cocoa rehabilitation to improve cocoa productivity, which would ultimately hope to reduce pressure to expand production into remaining forests. The project sought to increase land tenure security by documenting land and tree rights as practiced; it did not try to convert these customary rights into statutory rights.

Box 2-4: Woman Has Partial Land Security Despite Documentation

In spite of documentation in the pilot area, *abunu* farmers still feel insecure. In Nyame Nnae, a woman lost her land even though she had a document attesting ownership. This happened when her landlord died and the children of the landowner claimed ownership over their father's lands. The document she had could not save her because it did not describe clear tenancy conditions; it described the general *abunu* relationship but did not confer long-term rights. In future, *abunu* documents need to spell out more clearly rights of farmers and especially at succession.

Three customary land rights templates were drafted based on these prevailing customary norms: i) customary freehold; ii) *asidae*; and iii) *abunu*. The community boundaries of Nyame Nnae and a total of 190 individual cocoa farms were mapped and digitized with the assistance of Meridia's Land Seal

[27] The IUCN also launched a land documentation process with a focus on tree rights registration and the creation of a CREMA, called the Pebase/Suresu/Akyekyere CREMA. The report here discusses lessons learned. The land use planning team did not have time to visit the villages involved in this pilot effort. See Nyame et al., 2012.

initiative, with 37 percent of farms held by women. ECOM's extension agents were trained in tenure principles and provided with training materials and simple, laminated fact sheets to help them resolve land disputes, monitor and assess tenure in their field work, and augment future trainings. During the life of the intervention, the importance of clarifying land owner and tenant relationships through customary contracts emerged as equally important in tenure documentation terms as having a mapped document for the land owner. Clear dispute resolution structures were found to exist within the Asankrangwa Stool, although community members were not always well informed about their rights. The team provided training on dispute resolution to community elders, emphasizing disputes and negotiations relating to cocoa farm rehabilitation and negotiated tenant farmer (*abunu*) arrangements. At the end of the project, 175 out of 190 farmers who received documentation (92 percent) thought it was worthwhile. Community members added that the process provided additional information on farm size and will help reduce conflict.

Asankrangwa Divisional Council Order: The divisional council headed by the caretaker chief has directed all farmers, most especially the tenant farmers, to map their farms and bring it to the seat of the division (Asankrangwa palace) for signing. There the new *abunu* tenancy arrangement is signed and added to the plan of the parcel. Each farmer is charged between Ghc250.00 and Ghc400.00 and a bottle of drink as the signing fee, depending on the size of the farm. This charge comes after the surveyor presents the plan to the council. The secretary then calls the farmer to come along with the above fee before the signed plan is given to him/her. This signing fee excludes what the surveyor charges the farmers before the mapping is done. The current Asankrangwa caretaker chief and elders also believe that since most tenant farmers have farmed for so many years, they need to renegotiate the original *abunu* terms. The fee structure is complex. A tenant farmer is charged Ghc40.00 per acre; once paid, an *abunu* tenancy document is issued for the tenant farmer. In addition to the above, every farmer is supposed to pay a fee of Ghc100.00 to the stool chief and Ghc50.00 (non-farm owners) every year. The *odikro* or the chief farmer in that community does this collection.

From the perspective of the tenant farmers, the cost involved of obtaining a new *abunu* tenancy document is high considering the reality that many cocoa farms are faced with declining yields. Hence finding the money to pay the Stool fees is a challenge.

2.4 CONCEPTS AND DEFINITIONS OF LAND USE PLANNING

The USAID ILRG Supporting Deforestation-Free Cocoa in Ghana activity prescribes the adoption of land use planning for the Wassa Amenfi West District. This section starts by looking at how land use planning is habitually defined but proposes that a new conceptualization be adopted by using a term increasingly in the planning parlance – "tenure responsive land use planning." The section then presents examples of different forms of land use planning present in the Wassa Amenfi West District. It then analyzes whether government land use planning structures are operational, and indeed, feasible in the district.

2.4.1 CONCEPTUALIZING LAND USE PLANNING

Development practitioners and regional planners around the world commonly use definitions of land use planning similar to those in Box 2-5. These definitions imply using scientific information and rational thought to define objectives, institutional arrangements, and rules and procedure for shaping and using the physical and social environment for present and future generations.

The LUPD team adopted a definition of land use planning built upon a nuanced understanding of the history of how people have shaped and constructed the environment over many generations in the Wassa Amenfi West District. The team focused on the history and dynamics of the institutions that set the norms and rules for how the physical environment should be used. Building upon the nascent literature behind "tenure responsive land use planning,"[28] the team recognizes the central role that powerful local, national, and international actors have historically played in shaping the physical environment. Through this diagnostic, the team adopted the view that villagers cited time after time – before rehabilitation of cocoa farms through tree planting and other actions, tenure agreements spelling out rules for access, use, and transfer of rights must be clarified and documented, either orally or in writing. By adopting this methodology, the team concludes that strategies to promote deforestation-free cocoa and other measures to increase carbon stocks ultimately depend on the motivations and actions taken by powerful interest groups deeply engaged in local, national, and international markets. While these markets to a large extent drive the motivations of complex webs of interdependent actors, human agency, at the local level, can nevertheless exert a key influence in constructing new forms of the natural environment. The farm rehabilitation experiments launched by ECOM are but one promising example of this innovation. By focusing primarily, though not exclusively, on working with local and national actors to restructure incentives for greater tenure security in the cocoa growing regions of the country, the LUPD team believes that significant pathways exist for building a biologically more diverse forested landscape of higher carbon absorption.

Box 2-6: Definitions of Land Use Planning

"Planning means the scientific, aesthetic, and orderly disposition of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities" (Canadian Institute of Planners, n.d.).

"The goal of planning is to maximize the health, safety, and economic well-being of all people living in our communities" (American Planning Association, n.d).

"…an iterative implementation-oriented process, based on dialogue between all parties involved, aiming at reaching decisions on sustainable forms of land use in rural areas" (GTZ, 1999).

Box 2-5: Tenure Responsive Land Use Planning

Tenure responsive planning recognizes that land use planning should be collaborative but with the purpose of tenure security improvement. This is a hybrid approach whereby traditional, advocacy, democratic and bottom-up efforts are merged in such a way that they focus towards tenure security outcomes (Chigbu et al., 2017).

Land use planning for the Wassa Amenfi West District should not be perceived as a classical spatial planning exercise delineating desired uses of the land in a top-down fashion. Spatial land use planning is largely irrelevant in a context where state forest reserves are few and limited in size, common lands largely non-existent, and most land is owned by Wassa land owners but allocated to tenant farmers. As illustrated in the sections below, the Wassa power structures and communities consisting largely of tenant farmers each possess the sophisticated capacity to devise norms to enact and enforce rules leading to desired collective and individual behaviors. The historical record shows how the Wassa controlled the labor force and defined rules governing land use leading to the conquest and conversion of tropical forests to the human derived landscapes of today. This conclusion does not mean that state land use processes and structures have no value. Rather, the consultative mechanisms at the core of national planning frameworks create the space so necessary for societal consensus to emerge on how to respond to the urgent environmental and economic problems of the day.

[28] Chigbu et al, 2017; Antonio, Mabikke, Selebalo, Chigbu, & Espinoza, 2016.

2.4.2 COMMUNITY-BASED LAND USE PLANNING

The LUPD team observed many instances of how the community is planning for the use of their space, though within the logic of historical tendencies to extract the maximum benefit from the surrounding environment. Examples of how the community plans for the utilization of various niches within the landscape are summarized here.

Typical homes with drying mats for cacao
MARK FREUDENBERGER/TETRA TECH

Settlement Planning: The district chiefs and unit committees coordinate closely with each other in all the villages to allocate the placement of settlement infrastructures. Intentional and purposeful deliberation occurs to select places in these settlements for houses, churches, schools, football fields, and cemeteries. Settlement planning reveals a certain degree of sophistication because the community has intentionally allocated roadside fringes for commercial activities. The unit committee and the chief enforce decisions determining the location of stores, drinking bars and, in one instance, a fuel station.

A good example of settlement planning is that of Zongo, a community of primarily Muslims in Yirase from northern Ghana and perhaps some from Burkina Faso. At the time of arrival of Muslims from the north, a representative met with the chief and land-owning elders of Yirase to ask for a place to build houses and settle down. The first area allocated was not suitable, so an appeal was made for a better place and after much discussion, a more suitable place was found. Over time, the Zongo community has also obtained a locality where they graze and hold their cattle on the outskirts of Yirase and only bring in the livestock occasionally to Zongo itself. Interestingly, perhaps with the cultural experience of living in the drylands of the north, the Zongo community plants many trees in the settlement in contrast to the other villages where very little tree planting occurs in the settlement itself. Over time, the community has also defended its settlement space. At one time, the people of Yirase encroached on the Zongo community land area to gather sand for construction. Confrontation occurred because the Zongo community felt the sand pits, resulting gullies, and open ditches would compromise public health, safety, and territorial agreements.

Yirase, with Zongo community at right
MERIDIA

Sanitation and Waste Management: Thanks to the USAID Open Defecation Free Project,[29] sanitary facilities are impressively good in the four case study villages. Through an innovative and effective dry latrine pits, hygienic toilets were built, with the most cleanliness observed uniformly in Yirase. The high level of propriety in the villages demonstrates the capacity of the community to adhere to strong norms and behaviors if it suits their interests.

[29] See project description at: https://www.globalwaters.org/resources/assets/project-profile-ghana-wash-health

Sacred Areas Along Streams: As in many communities throughout West Africa, sacred areas exist for prayer, sacrifices, and other cultural uses. In the four villages studied, each have sacred areas, primarily along streams, that were not pointed out to the LUPD team; villagers generally shied away from discussing them. These community protected areas play a key role in the maintenance of biodiversity because they are a repository of genetic plant material and a habitat for wildlife. The ecological function of these sites have been discussed extensively in the literature.[30]

Stream Borders: During community discussions, several references were made to the practice of protecting the borders of rivers and streams from cultivation. Interviewees recognized that in the past, this was a common practice; in recent times, owing to land scarcity and lax enforcement of norms and national regulations, farmers farm too close to the rivers. Interviewees noted often that cultivation along the river banks causes siltation and reduction of water flow. As of yet, only a few farmers are forced to plant up to the stream banks. As one farmer in Nyame Nnae said "we wish we could even plant inside the water."

Private Forests: The LUPD team were told that a number of private forests exist throughout the study areas. The chief of Yirase mentioned a case that the team visited during a transect walk near Suresu Nkwanta. This forest was intact and was referred to as an *abodwese* ("bearded" forest). It is estimated to be over 20 ha and is said to be a source of bush rats, firewood, and construction materials. While the habitat is the home of numerous bird species, the owners were clear that the forests will be converted to cocoa farms. Even though they are islands of biodiversity and represent rich carbon stocks, with ownership in private hands, the owners can do whatever they want with the land.

Agroforestry Farm Fields: The LUPD team was impressed by the presence of various types of agroforestry systems on the farms around the four studied sites. While the community members themselves and the team noted that there are now many more sun-tolerant cocoa trees in the landscape, the vestiges of multi-tiered canopy agroforestry systems can still be found but are threatened. Community members noted that canopy shade trees had at one time been much more prevalent in the landscape, though attributed the decline to the introduction of sun-tolerant varieties of cocoa and technical advice by extension agents to cut down trees. As is still seen in the landscape, cocoa is often planted under large timber trees. But this practice seems to be declining rapidly due to several factors. Large timber trees are cut down by logging companies under license to the Forestry Commission. In other cases, farmers cut down the trees themselves to open up the field to more sun. Classical *tuyunga* agroforestry arrangements are uniformly used whereby farmers allocate some portions of their cocoa farm for food crops like pepper, tomatoes, onions, cocoyam, and maize while intercropped within young cocoa trees. Yet, some fields are set aside uniquely for food crop production. For instance, in Suresu Nkwanta it was clearly stated that land that is not fertile for cocoa farming is deployed for food crop farming.

Artisanal Gold Mining: The populations of the Wassa Amenfi West District and neighboring districts have long participated in the artisanal gold mining sector.[31] From a planning perspective, the communities are involved in a very deliberate opportunistic strategy to generate alternative sources of income to supplement what they estimate is only 50 percent of annual revenue from cocoa production. As described in the USAID *Ghana Artisanal and Small-Scale Gold Mining Mission Report*,[32] gold mining occurs in several landscapes, but primarily along rivers and streams (see Figure 1-2). In these locations, the environmental impact is severe as shown at right. Ancillary impacts include siltation of rivers and streams from gold washing, contamination of soils and groundwaters from the heavy use of mercury and

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[30] Sheridan & Nyamweru, 2008; Schelhas & Greenberg, 1996.

[31] Durnett, 1998.

[32] DeJong, 2019.

other chemicals in gold refining. Test pits are dug within cocoa farms in hopes of finding gold, in other places metal detectors are used to locate nuggets, and in some cases large pits are cut to follow gold veins.

As the USAID study noted, gold mining and cocoa production are inextricably linked:

> …it is important to remember that mining and farming always exist in relationship to each other. Short-term and long-term movements between them are the norm, and there are positive synergies to also bear in mind. For example, the height of the gold mining season corresponds with the low season for cocoa, so with the right sensitization and organization, cocoa farmers involved in gold (or cocoa growing villages involved in gold) can mobilize funds needed for fertilizers and pesticides ahead of the next main cocoa season. In other words, gold mining if properly organized could actually help the cocoa economy by generating funds.[33]

Mechanized mining is an ever-present opportunity for youth employment, but also an environmental threat. Pits like these are difficult to restore and environmental regulations may not be enforced.
MARK FREUDENGERBER/TETRA TECH

The Wassa land owners have set up rules to capture the maximum benefit from artisanal gold mining. Similar to the case of *abunu* agreements, buying the rights to mine a quarter acre of cocoa land costs less than buying rights to that land outright. Prices vary but the price appears to be around 5,000 Ghs ($1,000) for a quarter acre in compensation. However, this compensation is not necessarily given to the farmer but rather to the land owner. For this reason, as the USAID study noted,

> …many landowners see gold as a way to gain more from the land. Landowners are therefore the ones who may pressure tenant farmers to release the land for mining. In some cases, like with the replacement of trees infected by CSSVD, the arrival of gold miners creates a risk for the tenant farmer that after the mining is completed he may no longer have the ability to access land. Regardless the key observation is the central role of the individual land owners on these key decisions, and the importance of involving these land owners in participatory research and decision-making around land use in both cocoa but also mining.[34]

The communities visited during the LUPD are all aware of the policy banning artisanal mining, called *galamsey,* although admit openly that they mine gold, but often "not in my back yard." They stressed that *galamsey* is prohibited and point fingers at other communities where it occurs. Communities that do not have *galamsey* attribute this stance to the commitment and resolve of the chief to ban it. However, some believe that in cases where gold mining is not occurring, this is simply because good deposits have not yet been discovered. Any mining on a farm must be endorsed by the chief before it can happen, even after prior agreement between the present land user, land owner, and prospective miner. Even for

[33] Ibid., p. 21.

[34] Ibid., p. 22.

communities where mining is not seen, community members commute to outside *galamsey* sites to either engage in mining or sell food items. The stakeholders are a mix of youth, men, and women as well as different ethnic groups engaging as laborers.

However, there is a sign of addressing the land use after *galamsey* in the form of recovering these land areas for reuse. Depending on the depth and extent of *galamsey* mining, restoration can be quite straight forward. Shallow pits, like the one shown at right, are quite easy to restore. Much depends on the restrictions and conditions the land owner places on the miner. Some land owners noted that they require pits to be filled in their cocoa fields before moving onto other sites. Land owners worry that deep and narrow pits or shafts are dangerous because people can fall in, be injured, or not climb out. The LUPD team observed a few cases where reclamation of mined areas occurred within some cocoa farm areas. The damaged areas were brought back to food crop cultivation. For instance, plantain was seen on some plots of reclaimed lands in Domeabra. It was unclear if this was an individual effort or under the efforts of an external project.

Artisanal gold mining pits are found within cocoa farms like this one in Domeabra and pose a hazard to farmers.
ASHMOND BAFFOE

During the Nyame Nnae visit, informants noted that government has employed youth to plant trees on old *galamsey* sites, pointing to state sponsored reclamations. Tree planting on previously mined sites was ongoing in some communities, particularly Nyame Nnae, as well as increasing cocoa farm shade trees. However, the latter was with little community buy-in. Community members are of the opinion that they should be planting these trees themselves to ensure that survival rate is good. Any such intervention, to be sustainable, should be carried out with farmers in the lead to plant favored tree species and ensure stewardship. It is unclear also the survival rates of trees being planted on *galamsey* reclamation sites and whether chemical pollutants were being managed in any way to protect people and trees.

Fire Management: The use of fire during the dry season is a key land use practice used by the communities of Wassa Amenfi West to clear land for field crop cultivation and control of weeds that is cited within communities. Once widespread, according to many, the use of fire is much less prevalent now than in the past. For instance, in Suresu Nkwanta and Nyame Nnae, community members noted how they mobilize to halt the spread of fire into the surrounding forest reserve despite the reserve being under the jurisdiction of the Forestry Commission. This highlights the importance of the reserve for employment by youth working for logging companies, but also others entering into the forest for collecting secondary forest products. While much debate exists about whether the forest is open to the public for forest product collection, the Forestry Commission director explained that limited entry is permitted so long as products are not commercialized.

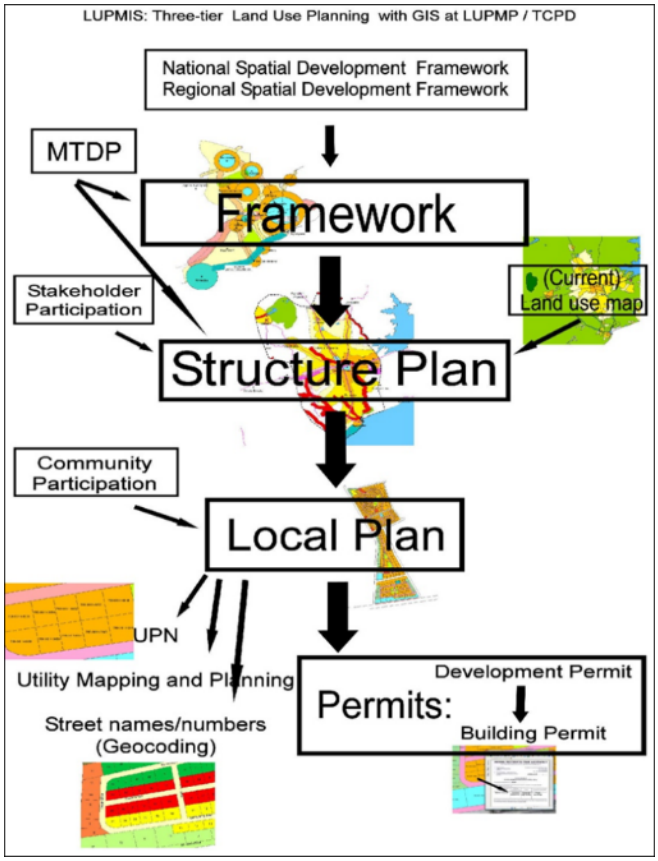
2.4.3 GOVERNMENT OF GHANA PLANNING INSTITUTIONS AND PROCESSES

Ghana has undergone several transformations in the land use planning space over the years. From the pre-colonial era of Gurgisberg to the Nkrumah seven-year development plan through to the vision 2020 and the recent National Spatial Development Plan, there have been several attempts towards ensuring effective and sustainable land use planning. Despite these interventions, however, Ghanaians are not

impressed with the state of land use planning because it has done little to resolve issues like perennial flooding, unauthorized development, illegal mining, mining in forest reserves, deforestation, and emergence of shanty towns at every corner of the urban/rural landscape. Most of these land use interventions have also occurred at the urban areas to the neglect of rural areas where agriculture and forestry product dominates.

According to the Land Use and Spatial Planning Act, 2016, Act 925, "land use plan or planning scheme" means a plan which proposes the disposition of land by function and purpose, including land for which the purpose is yet to be defined or which is to be preserved in its present state, to meet the present and future identified community needs within the time frame for which the plan is valid. Land use planning in Ghana is generally concentrated in the urban areas with much focus on human settlement planning (residential, industrial, and commercial) to the neglect of land use planning for agriculture and agroforestry at the rural areas. As is noted from the field research carried out for this report, land use planning has long been carried out by local peoples, but with the objective in mind of converting primary forests into economically more profitable uses of the landscape.

Figure 2-7: National Land Use Planning Structure



Source: Land Use and Spatial Planning Authority, n.d.

Although informal structures at the rural level lead to land use decisions, there exists a legally formalized land use planning process stipulated in the Land Use and Spatial Planning Act as well as other established institutions and committees mandated to play the functionary role for land use and spatial planning in the country. As is shown in Figure 2-7,[35] the formal planning system is quite top-down with government setting the broad policy frameworks and facilitating the preparation of regional structure plans. At the National level, the Land Use and Spatial Planning Authority (LUSPA) provides the regulatory frameworks as well as the policy guidelines for spatial planning matters while the regional LUSPAs exist to ensure compliance with planning regulations as well as ensure coordination of land use matters within the region. The district level is where implementation of land use proposals is supposed to happen through policy prescriptions and regulations. The spatial planning manual proposes a three-tier spatial planning model with the spatial development framework (SDF) at the apex, followed by the structure plan and the local plan at the community level.

The SDF is the spatial expression of social, economic or other policy at the national, regional, or district level. The preparation of SDFs helps to bring to bear pertinent issues that affect general land use and spatial planning matters, as well as affording stakeholders the opportunity to deliberate on the dreams and aspirations of the district as a whole. It is the ground where ideas are developed, and agendas moved forward for acceptance and incorporation into subsequent plans. The SDF also presents the

[35] Republic of Ghana, Land Use and Spatial Planning Authority.

opportunity for collaboration among agencies and institutions who play various roles relating to land use. It is the crux of higher-level stakeholder consultation. However, it is always good to have issues at the grass root level incorporated into discussions at the SDF stage. The second stage, the structure plan, is a dimensionally specific and accurate spatial plan which is used to guide the development or redevelopment of an area. The structure plan defines the land use policy goals and guidelines which are to be followed when developing schemes and local plans. Land tenure matters and usage issues could be discussed here. Structure plans can be prepared for a number of communities within a specific geographical area. The aim of the structure plan is for the use of land to be rational, functional, and address the economic and social development needs of the entire community. The third stage is the local plan. Unlike the structure plan which shows broad land uses the local plan is a dimensionally accurate plan which shows individual plot sizes with unique parcel numbers. Parcel plans are for the built environment and would be of use for a rural community interested in delineating the village layout. The process for the preparation and subsequent approval of land use plans is stipulated in the Land Use and Spatial Planning Act. Ghana has prepared a number of spatial plans, including the National Spatial Development Framework, the Western Regional Development Framework, and a number of structure plans.

The National Spatial Development Framework (2015 – 2035) emphasizes securing agriculture, where it has the capacity to remain strong and viable, by maintaining the maximum possible number of family farms, while at the same time ensuring that smaller farmers have the opportunity to supplement their farm income through off-farm work. Despite this and the goal of protecting land from threats of settlement development, there is no concrete action at the rural zone A and B towards the protection of agriculture lands from settlement expansion. Urban sprawl is the order of the day. Zoning schemes would have to be prepared and approved if protection of agriculture and forestry landscapes from urban sprawl is to be realized.

A Western Regional Spatial Development Framework (WRSDF) was prepared in 2012 and provides the framework for the regional development agenda. The document is the master plan from which all districts are to develop their spatial plans. The WRSDF paved the way for the preparation of a number of spatial development plans in the region. The six coastal districts (Sekondi-Takoradi Municipal Assembly, Jomoro District Assembly, Nzema East Municipal, Agona Nkwanta Municipal, Ellembele District Assembly, and the Shama District Assembly) received sponsorship and have prepared SDFs, including structure plans, which are currently governing land use and spatial planning activities in these assemblies. The expansion of oil-related industrial development along the coastal belt of the Western Region was an expressed concern by stakeholders during the preparation of the WRSDF. This planning instrument could be especially relevant for the rapidly growing town of Asankrangwa, a rapidly urbanizing community booming from the presence of not only the surrounding cocoa economy but also the flourishing gold economy. For instance, in the town itself, there are over 60 gold smelters spewing mercury into the air. Waste management and other urban issues also confront the town. Urban sprawl is an issue.

Even though some districts have prepared the district spatial development plan and structure plans, the Wassa Amenfi West District Assembly has yet to prepare one. Section 57(1) of the Land Use and Spatial Planning Act stipulates that within sixty days of the coming into force of a regional SDF, the chief executive officer of the authority shall, in consultation with the National Development Planning Commission, direct the district assemblies to prepare district SDFs within twelve months. A holistic spatial and land use view of the district is therefore lacking. There is no clear cut zoning plan for rural and urban development except for piece meal local plan at some selected urban areas.

While land use planning in urban areas has evolved significantly, rural land use planning has seen little change. There are no formal land use planning interventions in the four communities of Wassa Amenfi West District studied by the LUPD team. However, the potential exists as there are existing practices

that can form the basis for land use decision making. Promoting the LUSPA to support district and local plans to build multi-stakeholder engagement is necessary if sustainable land use planning is to be achieved. The rural areas were formerly primary forest zones but the advent of cocoa farming as a land use activity have gradually depleted almost all forest cover. As this diagnostic shows, to increase productivity and income levels of cocoa farmers while increasing carbon stocks in Wassa Amenfi West District through landscape restoration, there is the need to:

- Adopt land use strategies such as incentivizing the planting of high-density timber species into cocoa lands of *abunu* and owner plots;
- Develop management plans for swamplands and adjoining buffers; and
- Promote restoration of *galamsey* and small-scale mining sites amidst reducing the use of mercury and other toxic chemicals.

A district SDF could codify the many decisions and innovations that the ILRG project is testing out, but these would initially be limited to only four selected villages and only in one circumscribed area of the district. These innovations would then need to be communicated to the broader district and might serve as the foundation for replication at a broader scale not only with the district but also within the region. A Wassa District Plan might become an instrument to inform and influence decision makers at other scales. What could be conceived and implemented for the Asankrangwa Stool could be replicated throughout the district because of the similarities in culture and internal societal organization.

3.0 LAND USE PLANNING DIAGNOSTIC CONCLUSIONS AND RECOMMENDATIONS

The LUPD team learned much about the rich environmental and social history of the Wassa Amenfi West District through the diagnostic process. Deliberative and planned actions can be taken to address the realities the district is facing at this critical juncture. The sections below present pragmatic recommendations for how to move forward with land use planning activities. The section first identifies the types of environmental and social trajectories that may unfold in the future. Considering these largely unpredictable scenarios, the team defines through a summary table recommended priority actions for the implementation plan, and beyond. The chapter finishes with a series of short (six month), medium (one year), and long-term (more than a year) recommendations.

3.1 SCENARIOS FOR THE FUTURE OF THE WASSA AMENFI WEST DISTRICT

The LUPD team adopted a historical perspective to interpret how the forest landscape has been shaped in a deliberate and well-planned way by generations of rural people. The Akan peoples have long facilitated the extraction of natural resources from the landscape, initially through the exploitation and trade in gold, then through logging of hardwoods, and now in this era gold, timber, and small farmer-led cocoa growing. Over time, the Wassa, a sub-section of the Akan ethnic group, have structured the conquest and thus restructuring of the forested landscape. Like pioneer communities around the world, they organized themselves to control and direct labor to extract natural resources in response to international market dynamics. In the Wassa Amenfi West District, this planned reshaping of the forested landscape has been remarkably rapid. The untamed primary forests of the past have been transformed into a patchwork of cocoa farms consisting of multiple stands of cocoa trees of various ages; bush fallow reserves set aside for cocoa and food crop production; very small patches of primary forests owned by the original settler families; and generally small settlements situated along a network of feeder roads. The forest frontier is largely a relic of the past for most land has been settled, cleared, and cultivated in cocoa, with only a concentric band of forest reserves now surrounding the district.

The principle actors in this deliberate and planned conversion of the forest frontier have been a coalition of powerful Wassa land owners working in close concert with various national and international actors to extract natural resources from the landscape. Over several hundred years, these powerful economic actors have directed the flow of migrant labor into gold mines to extract alluvial deposits and colluvial veins and to settle in the primary forests to log for national and international markets, but most importantly, to convert the untamed primary forests into the human-constructed cocoa agroforestry systems of the present day. The Wassa established territorial control over the region hundreds of years ago, and ever since have imposed conditionalities for the utilization of the land for many generations of external actors ranging from gold miners, timber concessionaires, and more recently, through *abunu* land tenancy obligations. The Wassa have shaped the present-day environment, one now fragile and susceptible to the ravages of a complex interface between climate-change induced erratic weather patterns, as well as aged and diseased trees deeply affected by CSSV. The original residents of the landscape, the Wassa themselves, will be central to the re-shaping of the environment to meet the challenges of the next generations. For the Wassa, the question is whether they will be able to exercise control over their territories and maintain the conditionalities supporting territorial control of the resource base. The political climate is likely to be shaped around a complex interplay between the Wassa and external actors, be it migrants from other parts of the country to international investors and development actors. Expressions of contestation and resistance are likely to unfold around the efforts of

the Wassa to retain territorial control over surface and subsurface resources, and most likely in the future, the carbon stock in trees and paid for by international REDD+ and other forms of payments for ecosystem services. At the heart of the tension, and hopefully not outbreaks of violent conflict, are concerns over equity and access to natural resources that pit the long-term resident Wassa peoples against "newcomers" from other parts of the country.

Thanks to the massive migration of peoples into the Wassa Amenfi West District, largely abetted by the Wassa power holders themselves, many political economy dilemmas are now surfacing. Numerically much more dominant than the Wassa themselves in the four communities studied, migrant peoples from the cocoa growing areas of Ashanti in the east and the drier northern reaches of the country are clamoring for greater political representation and economic power as well as tenure security for present and future generations. The migrant populations have reason to exert pressure to acquire long-term rights to the land of the district; after all, several generations have grown up in the district, children speak the local dialects, and many have intermarried with the native residents. They know no other home. In light of these contradictory interests between the Wassa and the migrant peoples, the power dynamics will exhibit themselves in whatever land use planning structures are put in place to help shape land use norms and behaviors for present and future generations. In whatever form land use planning takes, these structures will inevitably become the locus of a likely contentious struggle by the Wassa to maintain and reproduce their dominant cultural and economic legacy, but in the face of other cultural groups and economic actors struggling to exert influence over land use decisions.

Land use planning occurs within the context of an environment profoundly shaped, and degraded, by the impacts of cocoa and gold expansion into primary forests that are still commercially logged. National and international policy makers call for deforestation-free cocoa and the restoration of the landscape to mimic as much as possible the biodiversity and carbon sequestration functions of primary tropical forests. However laudatory these policy clarions, the power brokers of the Wassa people, long experienced in capturing the benefits of linkages with the international economy, may not yet have figured out how to benefit from this national and international agenda. Unless the Wassa land owners themselves can capture economic benefits and retain their control over the land and the migrant labor force, the policy agendas of the international community and national policy makers will never be met. The Wassa power brokers must be on board to protect the primary forests and increase carbon stocks primarily through constructing multi-layered agroforestry systems and mitigating the deep environmental impacts of gold mining. For these reasons, this LUPD reinforces the conclusions of several previous studies[36] – multiple market and institutional incentives should be put in place in a coordinated and multilayered way to incentivize the Wassa power brokers as well as the migrant labor force to put in place forms of multitiered agroforestry systems.

The LUPD team believes that a complex set of drivers in the international, national, and local economy and society will contribute to transformations in the physical and social landscape of the Wassa Amenfi West District. While difficult to predict, the following scenarios may unfold in the future.

Scenario I: Current Trends with No Interventions. If current interventions to rejuvenate the cocoa economy fail for various agronomic and socioeconomic reasons, the landscape will likely continue its trajectory trending toward a monoculture of densely planted sun-tolerant cocoa requiring heavy infusions of agro-chemicals. The rural population will continue to place encroachment pressure on the remaining forest reserves, and through invasions of these primary forest, convert this bank of soil fertility into cocoa plantations. The future of the relatively small forest reserves of the Wassa Amenfi West District and the adjoining districts will depend primarily on the capacity of the Forestry Commission to protect boundaries, maintain forest management plans, and hold back the pressures of land invasions. For this reason, USAID may want to focus on supporting the Forestry Commission to

[36] Carodenuto, 2019; Kroeger, Koenig, Thomson, & Streck, with contributions from Weiner & Bakhtary, 2017.

manage the remaining forest reserves in a way that is sustainable and supports community engagement for their protection and long-term management. Unless rural populations benefit directly from the conservation of the forests, like some do through access to secondary forests products, they will have no incentive to invest time and energy in protecting this asset.

Scenario II: Deforestation-Free Cocoa Trajectory. If the cocoa rejuvenation approaches, such as those proposed by ECOM, Cocobod, and others, succeed and key incentives in the domain of land tenure and property rights succeed, the landscape may evolve in the decades to come to be more wooded with multiple story agroforestry systems that absorb greater amounts of carbon, provide greater ecological diversity, and lead to the restoration of ecosystem services. Incentive packages, such as those proposed in the theory of change (Figure 1-1), represent the ideal desired future scenario. Significant challenges for the implementation of this model present themselves to policy from the national to the local, but also to the rural populations of the districts themselves. The central challenge for proponents of this scenario will be to put in place incentives for the creation and maintenance of complex high carbon absorption agroforestry systems, but also, management of the highly threatened swamps and water courses which traverse the district.[37] For any number of rational economic reasons, the labor force dominated primarily by non-resident migrants may shift into gold production and other economic activities more profitable than cocoa. Similarly, unless *abunu* arrangements lead to strengthened rights to trees and land for the tenant households, they will continue to resist acceptance of the current contracts proposed by the Wassa landed elite.

Scenario III: Abandonment of Cocoa Production and Replacement with New Land Uses. If the rejuvenation of the cocoa economy does not succeed or fails to materialize at a suitably fast rate for the population of Wassa Amenfi West District, ILRG field research suggests that the trajectory of the landscape could go in several different, and largely, unprecedented directions. These trajectories may occur simultaneously and in quite unpredictable ways:

- *Increased Forest Fragmentation and Conversion of Swamplands from Gold Mining:* Expansion of gold production may occur in largely unpredictable ways depending on where gold deposits are found. Gold expansion is likely to be driven by small-scale and industrial miners using heavy equipment since alluvial deposits are either few or remain largely undiscovered. The environmental impact of this expansion will likely leave in its wake pockets of intense degradation; most importantly, if mercury continues to be used to extract gold from ore, permanent contamination with health effects to be felt in the far future.

- *Replacement of Cocoa with other Tree Crops:* In the face of expected progressive desiccation of the climate, rural populations may shift production strategies into less high rainfall tolerant tree crops. This may be rubber, citrus, or other crop combinations yet envisaged. Rubber, for instance, appears to require considerably less labor to manage and harvest the tree than cocoa. For this reason, the current trend of progressive expansion of rubber in the western region may continue, but much depends on national and international market incentives.

- *Conversion of Primary Forests and Wooded Fallows into Field Crop Production:* The most likely scenario would be the abandonment of cocoa tree crop production and the expansion of field crop production of annual crops of high economic and household food security value. Given the inherent capacity of both the Wassa and tenant farmers to innovate in difficult ecological and economic conditions, this scenario could consist of the emergence of new agronomic practices

[37] Recent literature evaluating reforestation initiatives note the importance of identifying "success" incentives. See Le, Smith, Herbohn, & Harrison, 2012; Wortley, Hero, & Howes, 2013; and Erbaugh & Oldekop, 2018.

ranging from the cultivation of climate adapted field crops to possible investment in growing illicit but high-value commodities.

3.2 PRINCIPLES AND GUIDELINES FOR LAND USE PLANNING

The LUPD team recommends that principles of land use planning be determined to guide future actions by multiple stakeholders. Without an agreed upon set of clear normative values, land use planning process may flounder because of lack of consensus among stakeholders. For this reason, the team outlines a series of principles below. The central issue for USAID is to determine whether the agency can make a long-term institutional and financial commitment to the area.

3.2.1 PRINCIPLES FOR LAND USE PLANNING

Principle 1: Re-Think Standard Spatial Planning Practices. Standard spatial planning processes and practices are not applicable for several reasons in the Wassa Amenfi West District. The government planning procedures focus on human settlement planning, neglecting planning for agriculture and forestry in rural areas. The planning procedures are largely indicative with government setting the priorities at the national and regional level. If the decision is made to apply the standard practices of the Land Use and Spatial Planning Act, zonation of land uses into different categories is hardly applicable except in the most general way. Land could be zoned for forest reserves, cocoa-based agroforestry areas, swamplands, and settlements. Bush fallow areas would be incorporated into the cocoa agroforestry areas where *taungya* agroforestry practices[38] would be promoted, like those of ECOM, where plantain and other food crops provide shade and revenue during the first phase of the cocoa planting cycle. As the LUPD shows, very little common lands exist in the landscape. For this reason, common property management is out of the question except perhaps for some swamplands. Community norms and rules might be devised and be accompanied by community enforcement mechanisms, but these will largely be aspirational and voluntary in nature since most land is considered private land under the ownership of extended land-owning families. Since sub-surface rights are held by the state, gold mining and other mining will likely occur anyplace minerals are found. However, in theory, before mining can commence, legislation requires environmental impact statements, approval by multiple authorities, and environmental remediation by the miners, mining companies, and the land owners themselves.

Principle 2: Farmer-Oriented Incentives for Building Carbon Stocks in the Landscape. The land use planning process consists of various incentive packages for farmers to encourage adoption of large-scale multi-story agroforestry farming practices suited to the rapidly changing environmental, economic, and political realities touched upon in this report. The testing of the ECOM farm rehabilitation model is a critical step for testing new multistory agroforestry systems. If proven technically successful and financially feasible, the model opens up new opportunities for cocoa producers. Yet, false hopes should not be raised. Since international economic factors and national policies of key institutions like Cocobod shape profoundly the comportment of farmers in cocoa growing agro-ecologies, technical recommendations presented in the present may lose their validity in the face of the political economy of the moment, but also, rapidly changing broader environmental factors. Perhaps the only consistent policy recommendation is to promote measures to increase carbon stocks yet recognize that the specific way in which this vision may play itself out will be shaped by

[38] Taungya is "a form of agroforestry system in which short-term crops are grown in the early years of the plantation of a woody perennial species in order to utilize the land, control weeds, reduce establishment costs, generate early income, and stimulate the development of the woody perennial species" (Agricultural Study Blog, 2018). Through this shifting cultivation, crops are grown side-by-side with forest species. The general cycle is tree planting, cultivation of agricultural crops for one to three years until shade is dense, and then repeating the cycle in another area (Agricultural Study Blog, 2018).

factors far out of the control of any single actor. If there is any certainty it is that the policy and technical recommendations today will probably require substantial modifications in the future.

Principle 3: Define Clearly the Vision for the Agroforestry Landscape. The desired trajectory for the forested landscape needs to be clearly articulated and communicated to all stakeholders at the local, district, regional, and national levels. The literature on cocoa production in the Western Region suggests that the end goal is to create complex agroforests (defined as "anthropogenic forests composed of numerous individually owned and managed plots, but which appear as a forest massif"[39]). As Ruf (2011) defines the term, this consists of mature complex cocoa agroforest as "a cocoa farm which has more than 15 mature timber trees per hectare (and possibly as many as 60–80), usually giant trees more than 15 m tall, which are native to the natural tropical forest. These cocoa agroforests represent a wide range of biodiversity, including fruit trees, shrubs and other plants, generating at least three levels of canopy storage, one below that of cocoa and, more importantly, one or two above." This is more or less the end goal that ECOM is trying to foster through their farm rehabilitation model. The agroforestry systems need to take account of the "desirable" and "undesirable" trees with regards to CSSV.[40]

In this ECOM farm rehabilitation plot, diseased trees have been removed but shade trees have been left in the field and measured for height and diameter, and will be registered with the Forestry Commission.
MARK FREUDENBERGER/TETRA TECH

Even though this LUPD has focused on the farmed landscape, the Wassa Amenfi West District includes six forest reserves totaling 64,242 hectares. While this study did not explore the issues of protected area forest management, it may behoove stakeholders to consider in more depth the ecological dynamics occurring in these primary forests and whether additional support is merited to the Forestry Commission. IUCN has carried out mapping of the forest condition of protected areas in Wassa Amenfi West District.[41] This may serve as a springboard for a district land use plan about the drivers of threats to the forest reserves from surrounding communities and perhaps excessive logging.

Principle 4: Account for Climate Change Dynamics within the Landscape and Influences on Livelihood Choices. Climate models for the Western Region suggest that the southwest may become drier over time. Of their own volition, farmers may shift out of cocoa into other tree crops like timber and rubber, and field crops. Carbon sequestration rates will vary from one commodity crop to another. Gold mining will most likely continue to be an important source of income, especially for youth eager to augment incomes. While alluvial deposits may be nearly exhausted, mining operations by "legal" small-scale and industrial mining may become an ever-increasing source of employment and especially if international investors continue to expand operations.

Principle 5: Build Trust with Local Communities through Livelihood Diversification based on Utilization of Agroforestry Spaces. The LUPD shows that the cocoa commodity chain largely

[39] De Foresta & Michon, 1997.

[40] For more discussion on this issue, see Ruf, 2011.

[41] International Union for Conservation of Nature, 2016.

operates through trustful relations built between farmers, supplies, and the state. For new actors like those of the USAID ILRG project, trusting relations will have to be established between the project and communities. Over the past years, these relations have been progressively built through TGCC, and now, through ILRG. The face of the project is difficult to brand because different project-supported actors intervene: Winrock provides land tenure and community facilitation services, Meridia land documentation services, ECOM the farm rehabilitation component. These actors are only a few of the many who enter into regular relations with the local community (Cocobod agents, agricultural extension agents, private pest control sprayers, cocoa buying agents). Within the panoply of actors, ILRG may need to introduce another set of captivating and useful interventions, such as pragmatic livelihood diversification options which raise incomes, reduce food security risks, and contribute to the protection and construction of agroforestry systems. The project may want to explore options for introducing, testing, and scaling up promising commodity chains simply as a way to engage with the local communities, build trust, and add on incentives for the contrition of new multistory agroforestry systems.

Principle 6: Create Safe Spaces for Social Dialogue and Negotiation. The land use planning process should create the space for social dialogue to unfold not only within the four target villages but also throughout the Wassa Amenfi West District. As noted in Section 2.4.3 above, the national planning frameworks and the REDD+ program both present options for launching institutional dialogues leading to the preparation of required strategies, plans, and new governance structures. Under component 1 of the ILRG implementation plan, the project may choose to finance the community-based dialogues that must feed into the larger planning framework.

Principle 7: Establish Communication and Outreach Mechanisms with Multiple Stakeholders. The ILRG Ghana activity should establish a mechanism for communicating with interested parties at several levels. Since the activity is not a full project, it risks launching activities without the full buy-in or awareness of all actors. ILRG should prepare a communication and outreach plan to keep interested parties from the villages to the stool chief, key government authorities, and the private sector, informed of programs and activities.

3.3 RECOMMENDATIONS FOR PARTICIPATORY AND INCLUSIVE LAND USE PLANNING

The Land Use and Spatial Planning Act, 2016 (Act 925) provides the framework for educating stakeholders in the environmental, economic, and social realities of the era, but in a way that builds consensus at multiple scales. Without a doubt, strict adherence to the guidelines and procedures around the preparation of plans, from the local to the regional and national levels is complex, time consuming, and expensive. If a spatial planning process can start in a participatory and inclusive way at the district and sub-district level, this process may over time create the opportunity for awareness building and social adhesion to a new vision for the future. Similarly, other national land use planning frameworks are being explored through such mechanisms as the Ghana Cocoa Forest REDD+ Programme. Perhaps the designation of all or some part of Wassa Amenfi West District as an HIA and subsequent creation of CREMAs is another mechanism to facilitate community consensus building around new environmental norms and associated rule-making. Yet, as with most planning processes, the opportunity costs of community engagement in such planning initiatives are extremely onerous in a highly commercialized economic setting where time is money. Where labor is scarce, and rural communities juggle to allocate time to farming and other demands on their time, like meeting with donor delegations and research teams, external actors must remain cognizant of the impositions they create for local communities struggling to allocate the use of their scarce time. For this reason, the land use planning process must be accompanied by visible, short-term, and financially attractive incentive packages serving both the Wassa

power brokers and the heterogeneous amalgamation of tenant farmers with origins from different cultures around Ghana.

The issue of "incentives" has been broached many times in this diagnostic. To effectuate broad structural changes leading to deforestation-free cocoa production, coordinated action around a consistent vision for the future is required at multiple scales. Daunting as this may seem, the ILRG Supporting Deforestation-Free Cocoa in Ghana activity is introducing a package of opportunities for the Wassa Amenfi West District and, if successful, the Western Region of Ghana. If proved successful, these innovations are the incentives which may turn the tide of deforestation trends summarized in this report. Table 3-1 shows key recommendations for how to move forward with the land use planning process that will involve the four communities of Yirase, Domeabra, Suresu Nkwanta, and Nyame Nnae, but also the broader Wassa Amenfi District. While the guidelines below reflect the major priorities of the ILRG implementation plan for the Ghana activity, several pragmatic recommendations are directed at ILRG's implementing partners. This recognizes that the ILRG program may not necessarily have the mandate nor the funding to support all activities listed below.

Table 3-1: Land Use Planning Priorities

Land Use Planning Priority	Land Use Planning Objectives	Indicative Activities	Key Actors	Timeframe
Increase carbon stocks and improve human well-being in Wassa Amenfi West District through forest landscape restoration	• Incentivize planting of high-density timber species into cocoa lands of *abunu* and land owner plots. • Develop management plans for swamplands and adjoining buffers. • Promote restoration of *galamsey* and small-scale mining sites while promoting the reduction in use of mercury and other toxic chemicals. • Promote LUSPA supported district and local plans to build multi-stakeholder engagement. • Incentivize protection of remaining forests on private lands as well as forest restoration or increased fallow cycles that allow for natural regeneration to secondary forests. • Promote enforcement and protection of forest reserves.	• Model carbon sequestration of timber tree based multistory agroforestry systems • Investigate role of swamps and swamp forests/gallery forests for carbon sequestration • Set up training programs for mercury free gold processing • Devise incentive packages for rehabilitation of gold mining areas • Facilitate with LUSPA planning preparation of local and district level plans. Convene stakeholder groups to consider options and opportunities as part of communication and outreach. • Develop economic incentives for increasing forest cover on private lands and model carbon sequestration in these forests. • Investigate whether or not cocoa farming encroaches into forest reserves and then create management plans to reduce encroachment if it exists.	• ILRG (Winrock) for modeling • LUSPA • Mining authorities • Hershey? ECOM? Other chocolate and cocoa companies?	Short and medium term depending on activity
Promote multi-storied agroforestry	• Test, refine, and promote ECOM farm rehabilitation approach as a foundation for the creation of multi-story agroforestry systems while building a common supportive vision within the public, private, and farmer-led cocoa interests. • Refine multi-story agroforestry approach to mimic functional structure and diversity of primary forests while utilizing judiciously external inputs of insecticides, pesticides, and herbicides.	• Organize farmer association field tours to observe and debate ECOM farm rehabilitation model. • Review and promote ecologically sound findings from the Private Investment for Enhanced Resilience (PIER) agroforestry study. • Devise tree registration system for planted and protected timber species held at both Forestry Commission and district chief/village chief level.	• ECOM • Agroforestry specialist Richard Asare through the Private Investment for Enhanced Resilience (PIER) project • Cocobod • Farmers associations	Short and medium term depending on activity
Promote diversified value chains associated	• Identify promising value chains requiring low labor inputs for local, regional, and national markets dependent and	• Carry out study of value chain opportunities based on existing experience in Ghana.	• National and international consultants	Short and medium term

Land Use Planning Priority	Land Use Planning Objectives	Indicative Activities	Key Actors	Timeframe
with multi-storied agroforestry	associated with multistoried agroforestry (e.g.: snails, grasscutters, mushrooms, raffia palm, apiculture, fruit, moringa…) • Leverage experimentation in Wassa Amenfi West District with other development partners and agencies. • Strengthen women's economic diversification and income generation to increase governance influence in the local community	• Conduct study tours for farmer associations to innovative and new value chains. • Contract out training and extension directed to farmers associations. • Promote income generation activities for women of high value, but low labor crops and value chains (i.e.: mushrooms, snail, moringa, grasscutters, "susu," and "tontines").	through ILRG, PIER, or other USAID and donor programs • Private sector entrepreneurs in mushrooms, grasscutters, apiculture, moringa	depending on activity
Strengthen customary tenure arrangements to incentivize planting and maintenance of timber species	• Design and promote incentive package within the customary tenure system for both land owners and tenant farmers to plant and maintain timber species. • Test, refine, and adapt the farm documentation and rights registration services model to local conditions. Promote widespread community outreach if model successful.	• See Section 3. • Promote planting of timber species along village boundaries and farm plots, but through negotiated conventions and agreements on tree ownership. • Refine farm documentation services model.	• ILRG (Winrock, Meridia, and consultants)	Short and medium term depending on activity
Explore payment for ecosystem services for existing primary and secondary forests on private lands	• Explore options for setting up REDD+ HIA site and other types of payment for ecosystem services for setting aside primary forest and bush fallow patches on private lands as well as forest restoration. Recognize that conservation of bush fallows will not occur unless farmers find it more financially beneficial to conserve the fallow than to convert to cocoa production. Payment for carbon sequestration must be more profitable for the farmer than converting the fallows into cocoa production.	• Carry out study of options and opportunities for setting up HIA governance system (i.e.: CREMA and other). • Build collaboration and working relations with the Forestry Commission and other actors to support REDD+ and other payment for ecosystem services opportunities. Support creation of new institutional arrangements for receipt of carbon payments. • Explore options to engage Hershey and other private sector companies in PES schemes.	• ILRG (Winrock) • Forestry Commission • Hershey	Short and medium term depending on activity
Communication and outreach among multiple actors at different scales	• Design and implement multiscale communication and outreach strategy to keep multiple actors informed of Bridge Phase activities.	• Support local plan preparation for four land use planning villages and Wassa Amenfi West District Plan; constitute and work with Spatial Planning Committee at District level.	• ILRG (Winrock and Meridia; consultant to	Short and medium term

Land Use Planning Priority	Land Use Planning Objectives	Indicative Activities	Key Actors	Timeframe
around forest landscape restoration	• Implement pragmatic communication and outreach campaign to promote social dialogue on options for promoting timber shade tree planting and protection, ECOM farm rehabilitation, forest protection and restoration on private lands and in forest reserves, and strengthening of customary tenure arrangements.	• Convene dialogues with government, chiefs, private sector, civil society, and village representatives on trajectories for landscapes in Wassa Amenfi West District. • Work with LUSPA at national, regional, and district level; Physical Planning officer in Asankrangwa; and Town and Country Planner Ashmond in Takoradi.	design communication and outreach plan) • Videos, rural theatre, ECO Game	depending on activity

3.3.1 SHORT-TERM (THREE TO SIX MONTHS)

Over the next three to six months, the LUPD team recommends that the USAID ILRG Supporting Deforestation-Free Cocoa in Ghana activity hire at least one facilitator to engage on a regular basis with the four local communities and local authorities. This person will be the voice and image of the project. A scope of work and detailed work plan needs to be prepared for this person. The oversight and representational authority of the facilitator needs to be clearly defined. The facilitator should participate in bi-weekly project implementation calls.

Since the USAID ILRG Supporting Deforestation-Free Cocoa in Ghana activity has already launched the land documentation process, the project needs to monitor very carefully the social dynamics unfolding around the rights clarification process. As indicated in this report, the latent tensions between land owning families and *abunu* tenant farmers are ever present. Unless carefully managed by the ILRG project, the negotiation process around new *abunu* contracts could very easily spark severe conflicts between tenants and land owners. The crux of the matter is rather simple. Land owners are keenly interested in protecting their historical rights to land and thus are open to having parcels mapped, but they may not have enough means to pay for the farm documentation services provided by Meridia. Price points are not yet known. Land certificates will certainly strengthen the dominance of the Wassa land owning extended families. For the tenant *abunu* farmers, they are interested in negotiating the most favorable conditions for lease arrangements. The tenant families are keen to possess documents that spell out contractual terms so as to protect their interests over the long term.

Considering the sensitivities around the tenant-land owner interface, ILRG needs to put in place a communication and outreach system that facilitates smooth and rapid communication between all interested parties. The project should place a priority on preparing a communication strategy designed to prevent any outbreaks of rumors and misperceptions that could ignite clashes between the demographically dominant *abunu* population and the powerful, but less numerically important Wassa land owning elite. ILRG should not only hold frequent informational sessions with the four targeted communities for land rights formalization but consider as well putting in place a hotline to register concerns and respond to questions. Similarly, community communication channels like the village loudspeakers and rural radio should be used to educate the broader Wassa Amenfi West District on what is unfolding in the four villages.

3.3.2 MEDIUM-TERM (SIX MONTHS TO ONE YEAR)

The longer-term agenda for the USAID ILRG Supporting Deforestation-Free Cocoa in Ghana activity requires a commitment to a realistic but focused set of interventions taking account of limited funding and field presence. The central challenge for the initiative is the lack of a full project implementation infrastructure based in Ghana as well as a sufficiently long-term commitment to work with partner organizations. With these limitations and uncertainties in mind, top priorities may include the following:

1) **Promote LUSPA District and Local Plans:** Support the spatial planning authorities to launch district and local plans to engage multiple stakeholders in the determining land use priorities in the face of the environmental, economic, and social realities presented in this diagnostic. The consultative process must engage a broader range of stakeholders, include many more rural communities within the district, and consider the interface between the rapidly growing urban Asankrangwa town and the surrounding rural areas. Particular attention must be addressed to involving women representatives in all land use planning forums, not only through assuring their participation but building their skills to represent women's interests. New institutional linkages should be set up with the Ministry of Food and Agriculture through the

Women in Agricultural Development Directorate program and its rice intensification project in the Wassa Amenfi West District.

The consultative process will invariably lead to discussions about how to respond to the environmental crisis caused by artisanal and small-scale gold mining, the threats to the lowland swamplands, and how to incentivize the creation of multi-story agroforestry systems in cocoa farms. Consultation for the preparation of land use plans will not be cheap; public debate and engagement of land use planners always absorbs significant resources. The ECO Game may be a useful tool contributing to the public education process around challenges and opportunities facing the district. However, the use of the ECO game will invariably lead to the broader question of what incentives are needed from the local to the national and international spheres to encourage conservation of fallow lands or rehabilitation of farmed parcels – all on what the community considers private lands, but where the room for policy maneuvers is quite small. In the absence of classical western planning tools, like tax incentives tied to titled and registered properties or payment for environmental services, of which none yet exist in Ghana, very few options outside of encouraging policy affecting behavioral change exist at this time. For this reason, tweaking *abunu* agreements, instituting land covenants agreed upon by all, or instituting progressive tree ownership regulations can indeed have long lasting impacts.

2) **Focus on Tree Tenure Reforms:** The debate around the transfer of rights of tree ownership to those planting and protecting timber trees is complex and contentious in Ghana. As noted in this report, a number of questions must be addressed in order to create positive incentives for land owners and *abunu* tenant farmers to plant, manage, and benefit from the eventual sale of shade trees so necessary to cocoa production. The ILRG Supporting Deforestation-Free Cocoa in Ghana activity may choose to wade into the debate, but the project needs to be prepared to invest significant staff time and resources. Building strong relations with the Forestry Commission, the appropriate ministries, and civil society coalitions will take time and staff resources. Becoming part of the ongoing debates around tree registration will be key, but this will require a commitment of resources to support policy reforms. The initiative may propose as a first action to carry out further background research on the question of whether policy revisions transferring rights of tree planting to farmers indeed leads to reforestation. Establishing causality between a policy reform and a behavioral change among farmers is not straight forward as shown in the debate around the causes of the regreening of the Sahel. The USAID Productive Landscapes (ProLand) project is exploring this issue through case study research on reasons why farmers plant trees in Madagascar and West Africa, and should be consulted before embarking on this policy debate.

3) **Facilitate Income Diversification:** The dangers of dependency on a single cash crop have been highlighted in this diagnostic. The question for the USAID ILRG Supporting Deforestation-Free Cocoa in Ghana activity is whether it should support income generation activities that encourage the protection and maintenance of multi-story agroforestry systems. With enough funding, the project could work with the private sector to promote conservation-based enterprises that require maintenance and regeneration of wooded landscapes. Through a consultative process with local communities, the project could explore how to promote promising value chains like the raising of snails, grasscutters, mushrooms, raffia palm, apiculture, fruit trees, and moringa.[42] Options to plan high-value private tree plantations, like teak trees,

[42] Snail raising by women in Kumasi has become popular (https://www.fromthegrapevine.com/nature/how-ghanaian-women-are-turning-snails-gold). Similar small-scale grasscutter raising ventures are now expanding (https://www.modernghana.com/lifestyle/5340/7-reasons-why-you-should-raise-grasscutters.html). Partnerships would need to be set up with professional associations such as the Ghana Mushroom Growing Association (https://www.facebook.com/ghanamushrooms/). Interested women's associations could be introduced to the USAID Feed the Future successes in agricultural diversification, such as growing moringa for the market (https://www.feedthefuture.gov/article/women-in-ghana-make-magic-with-moringa/).

could also be explored and possibly supported. Directed primarily at women, the introduction of these high value, but low labor agricultural value chains could increase women's economic power within the community and thereby augment their influence within community and district-wide governance. Experience from USAID's land tenure and property rights projects in other west and central African countries suggests that increased economic power by women leads to the clarification and strengthening of women's rights to land and other natural resources though such an initiative requires sustained commitment to foster dialogue with women and then follow-up with sustained programming.[43] Expertise from other present and past USAID Feed the Future projects in Ghana could be tapped into to help foster discussions around income generation opportunities with targeted communities. But taking on this task requires a broader commitment of USAID to foster rural development in the Wassa Amenfi West District, one that requires an engagement from USAID/Ghana.

3.3.3 LONG-TERM (ONE YEAR AND BEYOND)

Over the next two years, the ECOM farm rehabilitation pilots should begin to generate technical and financial results. If the model is financially viable, and the farm documentation process managed by ILRG attractive, the ILRG Supporting Deforestation-Free Cocoa in Ghana activity could be well-placed to assist Hershey and ECOM to expand the model throughout the Wassa Amenfi West District, and beyond. Documenting lessons learned about the viability of the two models could then be used to launch a major community and outreach campaign at the local, regional, and national level. Coupled with hoped for policy reforms in the tree tenure domain, and successful public dialogue around land use planning priorities, the project would be well placed to scale-up the successes.

However, the question remains around how far the ILRG activity can go to promote an environmentally less destructive artisanal and small-scale gold mining industry. Gold mining will expand, with dramatic impacts on the land and the peoples for generations to come. Since the gold mining economy and the cocoa economy are so intertwined, complementary programming remains essential. As the complementary USAID study, *Ghana Artisanal and Small-Scale Gold Mining–Scoping Mission Report,* concluded, "recognize that gold mining will not disappear from cocoa regions and focus instead on clarifying rules and leveraging gold's resources to address some of the challenges in the cocoa economy. Promote participatory land use planning as a tool for sustainable development in mining and cocoa communities."[44]

Land use planning and co-management can provide a way forward for communities like Kwabeng. Note the widespread gold mining along lowland areas and the growth of the nearby settlement.
GOOGLE EARTH

[43] See Jiekak, 2019.

[44] DeJong, 2019, p.23.

3.4 CONCLUSIONS

The ILRG Supporting Deforestation-Free Cocoa in Ghana activity carried out this LUPD in May and June 2019 to identify the type of interventions required to conserve and restore the forested landscape of the Wassa Amenfi West District. The diagnostic took a historical view to determine the broad structural factors that have shaped the landscape from centuries past to the present. This analysis shows that many interconnected factors, in both ecosystems and social systems, have profoundly transformed the forested landscape over the centuries. With stunning rapidity, the Wassa Amenfi West forested landscape was shaped by the Wassa peoples largely through their control of the migrant labor force through complex land and labor arrangements from the 1980s to the present, which were complemented by state and private sector investment in a network of roads which facilitated settlement and export of timber and cocoa. From a time when the forested landscape seemed limitless, today the relics of the once-expansive primary forests are now largely situated in a narrow band of primary forest reserves surrounding the Wassa Amenfi West District and the district capital of Asankrangwa. Within these confines, the expansion of the cocoa frontier has largely been arrested, though pressures on the forest reserves are high. The forested landscape is now highly fragmented – best characterized as a mosaic of mixed tree cover of cocoa trees, some overstory of taller trees, and patches of primary and secondary bush-fallow. Thanks primarily to the labors of migrant settlers organized and abetted by the Wassa power elite, the pioneer frontier expansion phase is over.

The LUPD team argues that the conservation and restoration of the forested landscape capable of absorbing significant carbon requires a profound societal commitment by the people of the Wassa Amenfi West District themselves to a multifaceted vision for the future of their own territory. External actors, including donor organizations/activities like USAID and the ILRG Supporting Deforestation-Free Cocoa in Ghana activity, should continue to construct a partnership with the local communities to support this journey of environmental rehabilitation and economic and social development. The question may be raised by USAID and others – since there is little primary forest left to conserve, and carbon stocks are low, why invest United States government resources in this landscape? The answer is simple – the environmental and social context in Wassa Amenfi West District is symptomatic of the unfolding drama of tropical deforestation across West and Central Africa. Learning how to work with local communities, the private sector, and government to conserve and restore the resource base is an important challenge for the 21st century.

The LUPD suggests pragmatic ways to launch the creation of a new human-derived landscape capable of absorbing carbon while also contributing to the economic development of the Wassa Amenfi West District. As suggested in this diagnostic, a combination of interventions at both the local and national level could go a long way towards creating new incentive packages leading to the emergence of new societal norms and behaviors toward the land. Tweaking policy and legal practices, such as simplifying timber and shade tree registration or tweaking the tenancy arrangements between Wassa landowners and migrant tenants, might go a long way to changing the incentive structure. Similarly, the new technical and financial packages being tested by the private sector, like those of ECOM and the farm documentation services offered by Meridia supported by ILRG, offer new opportunities if proven acceptable to local communities. Yet these measures are insignificant in comparison to broader structural incentives, such as the maintenance of high farm-gate prices for cocoa, or price incentives for adopting environmentally friendly farm rehabilitation practices. To bring about the profound changes required to construct a landscape capable of absorbing carbon to some level equivalent to the primary forest is not easy, but not an impossible task.

The foundations of a profound change in consciousness and behavior at all levels of society is in the making. The Wassa landed elite appear to be concerned about the future of their territory and that of future generations. Since the Wassa are the historical holders of land rights to their territory, they determine to a large extent the future of the landscape. The Wassa will be under pressure to negotiate

new *abunu* tenancy agreements with the various migrant groups who now occupy the landscape. With appropriate incentives, the Wassa may impose conditionalities on tenants to protect fallow lands, encourage planting of more shade and timber trees, and adopt other environmentally proactive comportments. At the same time, private land markets will continue to grow, further weakening the power of the Wassa to influence norms and behavioral practices.

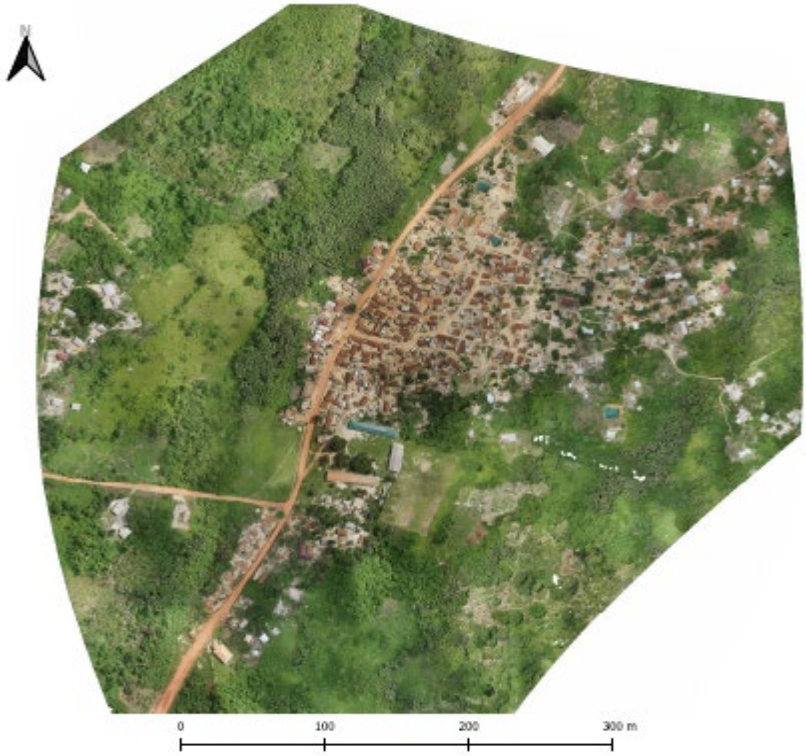
International partners of the Ghanaian government and the people of Wassa Amenfi West District, like the ILRG Supporting Deforestation-Free Cocoa in Ghana activity, can contribute strategically to a new environmental and social space. Confronted with extremely limited means, the challenge for USAID is to utilize the limited resources at its disposition in strategic and carefully targeted ways.

ANNEX A: SUMMARY OF FINDINGS IN VILLAGES OF YIRASE, SURESU NKWANTA, DOMESABRA, AND NYAME NNAE

YIRASE

Summary Description

Yirase was settled in the 1950s by employees of AT&P logging company, which built the road through the area and established logging camps. Early settlers began cultivating cocoa relatively quickly, as the Western Region of Ghana became a very productive cocoa-growing area in the 1950s. The town grew naturally during the second half of the 20th century and through migration from many parts of Ghana continually until present times. The Yirase community divided their settlement history and activity timeline into five major periods related to the main natural disasters that the community has experienced:



Yirase from the air
MERIDIA

- 1st period: From the arrival of the first settlers around 1946 to 1956, when what villagers call their first natural disaster happened: the first settlers Nnana Asanti and his family came from Akofromam with AT&P Company and obtain authorization to settle from the Asankrangwa Stool Chief. Other settlers came from the Ashanti, Eastern, and Northern Regions, all workers from the same timber company.
- 2nd period: From a millipede invasion of the Tikro river between 1954 to 1971. The millipedes invaded the river, which is the principal water source, making it difficult for domestic use, and progressively make their ways to the farms. Traditional leaders have to perform a sacrifice as requested by the customary practices to rid it of the insect.
- 3rd period: From 1971, when the community experimented maybe their first epidemic outbreak killing children, to 1983, when devastating bush fire engulfed several regions of Ghana and led to a severe hunger crisis.
- 4th period: From after the bush fire of 1983 to 2015; with the development of cocoa farming. It is related as the cocoa boom by the community.

- 5th period: from the end of 2015, marked by a nationwide unexpected poor cocoa harvest, which farmers blame on a lack of pesticides and bad weather, to present. From there, it seemed that the precarious financial situation of farmers in Yirase precarious became worse.

Table A-1: Historical Matrix of Yirase with Changes as Perceived by Community

Variables	Timeframe				
	Before 1956	Between 1956–1971	Between 1971–1983	Between 1985–2015	From 2015–Present
Population	●	●	●	●	●
Cocoa Farms		●	●	●	●
Cocoa Productivity		●	●	●	●
Revenue from cocoa		●	●	●	●
Primary forest	●	●	●	●	
Secondary forest		●	●	●	
Gold mining					●

Even now, migrants primarily from northern Ghana are still coming to the community. Yirase expanded as early settlers had children and economic migrants from other regions of Ghana arrived. Yirase has 2,000+[45] and is one of the largest towns in the area giving it slightly increased importance compared to other towns. As the community grew in population, the surrounding primary forest was cleared more and more to make way for new cocoa farms. In the beginning of the 21st century, land available for conversion into new plantations became increasingly scarce until the last remaining areas of primary forest were cleared over the last few years. An increased global demand for cocoa and a decreasing productivity in cocoa sector in Yirase has driven growth in cocoa cultivation deforestation as in other part of the Asankrangwa Stool, in addition to a number of factors including absence of clear land and tree tenure regime, free and productive land scarcity, weak customary legal systems and government policy promoting production increases. From the community perspective, this is further exacerbated by an absence of inputs, degraded soil, old cocoa trees, and the growth of shade trees with low carbon sequestration potential. From the historical matrix, there are more migrants still coming in Yirase for cocoa farming; with climate change heavily impacting northern and upper Ghana, much more immigration into the cocoa landscape is expected and will make it more a melting pot of tensions – stressing the urgency of land dispute resolution and use planning.

ENVIRONMENTAL DYNAMICS

Landscape Transformation: Like many landscapes of the Western Region, Yirase has seen a deep transformation in the landscape over the years, due in majority to cocoa farming extension and the development of other economics activities to suit growing population needs. There is essentially no primary forest left in Yirase and a general lack of knowledge about the benefits of forest. Even the town itself has almost no tree cover for shade. The only secondary forest left is in low-lying areas that flood seasonally and therefore are not viable for cocoa production. Even these areas are kept on a fallow cycle

[45] Persha, 2019.

in which they are planted for rice and maize. Non-timber forest products are few and are obtained primarily from the cocoa farms. Fuelwood is the main one. Bush meat is rare but found—much of it is from rivers (which are considered sacred) such as crabs and snails. Edible mushrooms are found, and medicinal herbs are harvested only on young farms before they begin to be sprayed. Marshy areas and *galamsey* sites are not the focus of cocoa cultivation; they therefore present good low hanging opportunity for land use planning and high carbon sequestration tree planting.

Impact of Cocoa Farming: Almost all of Yirase's inhabitants are cocoa farmers—it is by far the most important livelihood activity in the town. Yirase inhabitants have a perception that decreasing forest cover and shade trees let to worse disease and drought. There is a general perception that cocoa productivity is declining. This is mostly due to pests/diseases and aging cocoa trees, but there are many other theories. The Ghanaian government (mainly COCOBOD) is often blamed for providing insufficient, inadequate and ill-timed assistance via free agricultural inputs. Pesticide and insecticide spraying is very common and is seen as the major tool for preventing disease. There is very little understanding of the public health effects of this spraying. Organic methods seem to be few although pruning is done. Perception that pesticides are increasingly useless and farmers have little knowledge of why certain chemicals are sprayed instead of others—they are just given the chemicals by the government. Alternative farming like food crops is not the major focus for land owners and tenants and the first choice for land is cocoa- this has implication for food prices because cash crop focus largely displaces food crops.

Gold Mining. Despite some contrary opinions and debate, there was general agreement that there is no or very little mining done in Yirase and its farms. Some community members travel to nearby communities to engage in mining. Some community members sell food and other supplies to miners. The town chief expressed an interest in mining but says the community has agreed in meetings not to allow it on Yirase land. Community members, especially the youth, are frustrated by the lack of profitability of cocoa farming. They express the need to branch out into other activities especially gold mining despite a general negative view of mining. There is clear recognition that mining destroys the land and has negative environmental impacts, but they are more than willing to invest in *galamsey*. Marshy areas and *galamsey* sites are not the focus of cocoa cultivation; they therefore present good low hanging opportunity for land use planning and tree planting.

GOVERNANCE ISSUES

Traditional Governance Structures and Issues: Land is administrated first at the family level by the land owner with involvement of family heads. There is a clear hierarchy among chiefs and villages, and this structure does not allow any major role for migrants, even if they have been part of the village since its creation. This can be shown by the fact that a few chiefs of surrounding towns swear allegiance to Yirase's chief, who has been in power for 34 years. He plays an important role in land management, especially as most of the land owners hold their land through forms of customary tenure; use of land is still supervised by the chief, even if each family head in reality manages the land that belongs to his extended family. The chief remains the custodian of community land; however, it is not very clear what is still considered community/communal land in Yirase. The chief's role seems to be more as a mediator in land agreement disputes between the local land owners and tenant farmers, or in case of some intra-family conflicts as land belongs to individual and family. The chief has a council of elders, which constitutes the main traditional governing body supporting the chief. The LUPD team discovered that the Yirase chief integrates representatives of settler communities into their council of elders. There is a separate majority Muslim community known as Zongo, located about a five-minute walk from Yirase town passed a swampy area; it is less densely populated that Yirase town. The chief and other local institutions are not considered impartial leaders of their entire communities, which have become multi-

ethnic with diverse beliefs and traditions, including strong practices from the northern community members installed in a separate community in Yirase (Zongo).

Local Organizations Set from Governmental Decentralization Strategy: There are representatives from the formal local government structure in Yirase. The unit committee and the assembly person were mentioned several times; it is not clear what role they play in land issues or even in the overall village development dynamic. The assembly person represents the community at the municipal, metropolitan, or district assembly and the unit committees are the direct interface between the assembly and the people. Both the assembly and unit committee positions are elected.

Community Organizations: There are several groups within the community involved in cocoa production that play key roles in the village dynamics. Cocoa farmers are mainly independent with a few incorporated into farmer groups/associations. This has implication for farmer mobilization, input politics and distribution, credit access, and land use planning. There is a small farmers' association (30 members) that gives its members a collective voice and organizes cocoa seedling production and alternative agricultural activities such as fish and ginger farming. The elected chief farmer (CF) is Cocobod's main spokesperson; the CF obtains agricultural inputs from Cocobod and distributes them to the farmers via the supervisor and spraying, pruning, and pollinator gangs. Cocoa-buying companies generally have a better reputation than the government, as they provide community assistance in the form of school and borehole construction. They also provide financial assistance in the form of agricultural inputs and the costs are later reduced from the harvest payments. They have local representatives and buyers within the community.

TENURIAL ISSUES

In the beginning of the 21st century, land available for conversion into new plantations became increasingly scarce until the last remaining areas of primary forest were cleared over the last few years. This land scarcity has caused the value of the existing agricultural land to go up, so that the powerful groups in the community, the land owners, have begun to interpret their relationships with tenants in a more biased manner. Practically this means that *abunu* tenant agreements are interpreted to last only for one cycle of cocoa tree life, between 15 and 40 years. After the trees are dead or dying, the land is returned to the land owner or a new tenant agreement must be negotiated. To cement their powerful societal position, land owners have begun to draw up one-sided *abunu* agreement documentation.

Types of Customary Tenure Arrangements for Tenure Status: Most inhabitants in Yirase are tenants but there is still a sizeable and powerful minority of land owners. Land owners tend to be a part of families who have been in Yirase for longer and tend to be from the local Wassa ethnic group. There are some land owners who have purchased land outright (*asidae*) rather than inherited. Wassa inheritance is matrilineal which gives women equal inheritance rights compared to their brothers. This has led to some women land owners, even some single women. However, it is usually the husbands that control money, including the profits from their wives' land. The most common type of tenant agreement is *abunu*. The *abunu* agreement began very informally usually using a verbal agreement, sometimes with witnesses, up until the last five to 10 years. The *abunu* agreement involves tenants working a clearing a plot of land and planting cocoa. The tenant then farms and can keep the profits from the harvest of half of the plot whereas the land owner farms and keeps profits from the harvest of the other half. The landowners claim that the agreement is valid only through the lifespan of the planted cocoa trees, after which the tenant's half of the plot returns to the land owner or a new agreement must be negotiated. Some people, including the chief, mentioned that *abunu* agreement is now for 34 years. This scenario is publicly agreed to by the community but it is unclear if the tenants agree or feel too marginalized to publicly state their point of view. Renewal of tenancy is very subjective and depends on the relationship between land owner and tenant, based on good behavior of the tenant and hard work as perceived by the land owner and the community. There are some *abusa* agreements where a land and farm owner

with or without *abunu* farmers can hire a farmer to work on his land. When there is no tenant farmer, the *abusa* farmer is more like an employee: he receives a salary and/or portion of the cocoa harvest for his work. When there are *abunu* farmers on the land, the *abusa* farmer acts as farm manager, and supervises all the other farmers. In either case, the *abusa* farmer does not do any investment on his own in the farm. This type of agreement is not very common in Yirase. The last form of land agreement is the purchase of land. Once purchased, land can be used at the owner's will, including reselling. Several youth are able to purchase land for cocoa farming for an amount of Ghc7,000 per acre.

Tree Tenure: Land scarcity has led to tenant-land owner conflict and tenant societal marginalization. It has also led tenants to avoid rehabilitating farms to avoid ending their *abunu* agreements and access to land and profits, leading to a decline in cocoa farm productivity which is further exacerbated by climate change causing increased more pest outbreaks and drought. Tenants and youths increasingly turn to alternative livelihood activities, especially artisanal gold mining. There is general knowledge that shade trees are good for mitigating the effects of drought. Community members realize the government's former policy of recommending clearing of shade was incorrect. There is a general lack of knowledge about the Forestry Commission's role in tree harvesting; most farmers think shade trees belong to the farmer. However, some knowledgeable community members understand that valuable timber trees need to be registered if they will be used for profit. There is a perception of unfairness in the shade trees tenure and the role of the Forestry commission.

Perceived Tenure (In)security: First settler farmers perceive greater tenure security on land acquired by direct clearance of forest, inheritance from their parents, or purchase. Accordingly they are more likely to engage into farm rehabilitation. There is a great insecurity among tenant farmers, who represent the majority of the population in the community due to the conditions linked to *abunu* farming agreements. There is a general perception of abuse in such agreements, both written and verbal, especially as the interpretation of past agreements by land owners tend not to be to the advantage of the tenant. Obtaining land through customary contracts (simple receipt) versus land titles is more profitable for the seller, since all that is paid is the agreed-upon price between the seller and buyer. This is in contrast to the statutory system, where the paramount chief receives a portion of the price of the deal, and the fees are paid to local, regional, and state officials. Wassa women, single and married, feel secure about their land tenure, as they can acquire land under the same condition as Wassa men; inheritance rights are the same for women and men and women who own land can do the same type of agreement as men – passing *abunu* or *abusa* agreements. Women who own cocoa farms are able to do shared farming. However, women don't get the same benefit from land as men do, because the selling of cocoa is a male-dominated area, and the revenue from a woman's farm is still shared with her husband, while he is not obliged to share with his wife. Tenure security does not affect utilization of resources but affects the standard of living. On the other hand, if tenure becomes insecure, the standard of living declines because the household becomes less productive due to a relocation of household income and labor into other activities that may not yield as much dividend long-term investments such as in tree crop farming. Secondary forest or fallow land depends largely on the type of tenure agreement and the perception a farmer has on his security. The length of fallow depends on the capacity of the will of the farmer. Unproductive cocoa farms can remain fallow for three to six years. However, land can only be declared under fallow by land owner. Tenant farmers avoid fallow as it lead to renegotiation of their tenure agreement, which limits soil regeneration.

Previous Farm Mapping or Farm Rights Documentation Projects: Cocoa buying organization supported some farmers, both land owner and *abunu* farmers, to obtain site plans for their farms. The site plan provides general information about the farm, like the names of the land owner and tenant farmer if relevant, size of the farm, neighbors, type of boundary, plant size, and boundary markers. During the transect walk, farmers especially mentioned that ECOM supports them to obtain site plans for their cocoa farms. Documentation of land rights and tenant agreements are becoming more

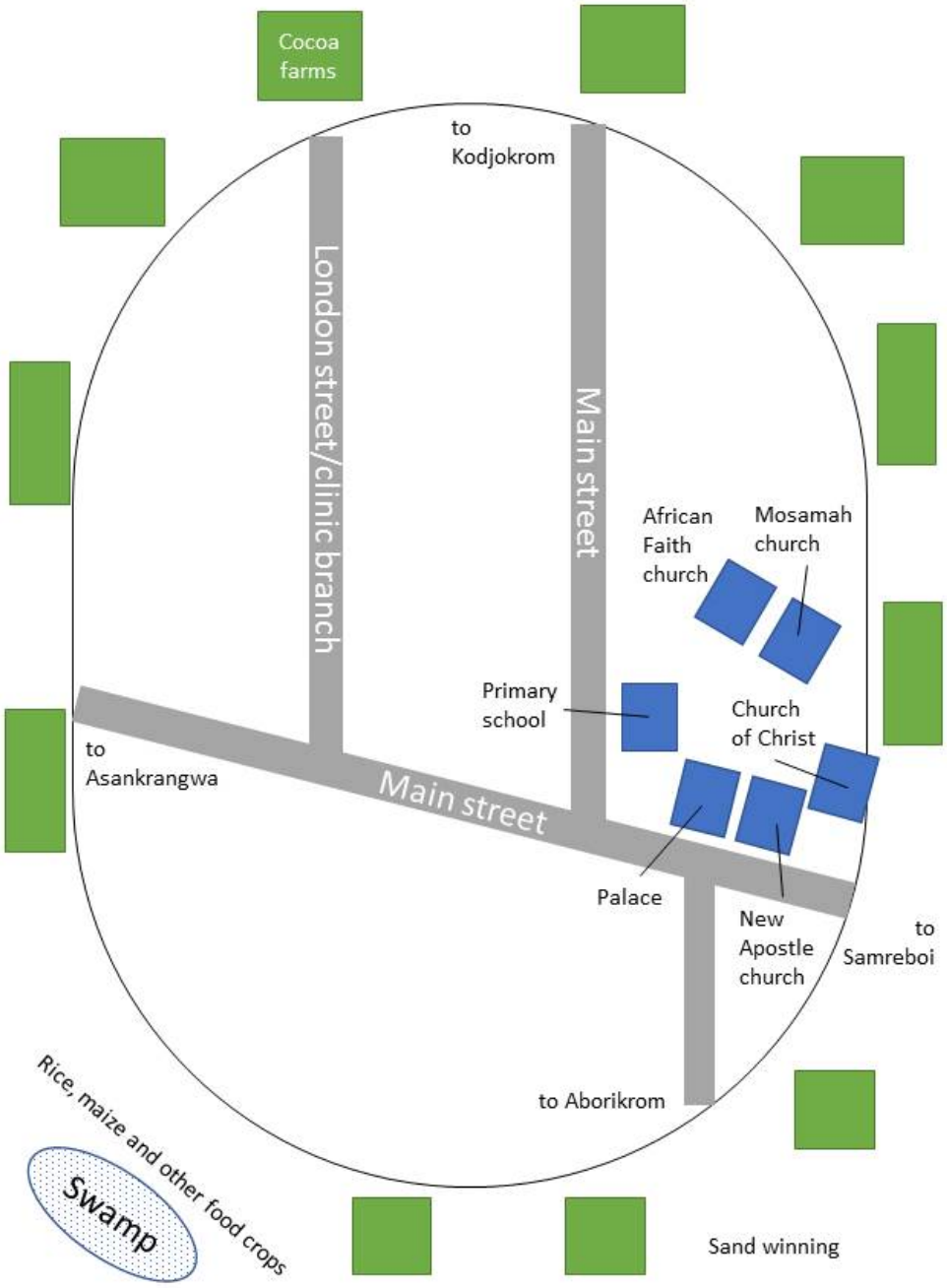
common as land scarcity and thus disputes become more common. It appears that land owners favor very one-sided written agreements (an example of one such agreement was shared by the town chief). *Abunu* documentation is done in Asankrangwa and the divisional chief must sign. Most outright land sales have some sort of written documentation, even if they are just sale receipts. There is a formal process by which the chief approves land sales and takes a cut of the sale price.

Determination of Community Boundaries and Tenurial Niches Within: Community boundaries are generally known, and some boundary markers identified: river, road and routes, bridge. However, during the community mapping, the LUPD team realized that the community in Yirase makes a clear distinction between settlement area and the village map; the settlement area is clearly demarcated, while the village boundaries are linked for the most part to individual land or farm boundaries. This means that to complete a proper village demarcation process, there might be a need to go first through individual farm mapping around the village boundary areas. The swampy areas constitute a particular resource niche, because it has a high concentration of fallows and food crop cultivation. While there are clear rules on cocoa farming restriction around the swamps, it is not yet very clear how those areas are managed and shared. However, because these are designated areas for food crop cultivation by the community (only because "cocoa doesn't grow into swamp"), women are the first users of these areas for farming and snails harvest, and youth for fishing. The community in Yirase does not seem interested by the ecological value of the swamp in general, few mention on the water quality in rivers in general

LAND USE PLANNING

Types of Community Land Use Planning: Yirase is organized around settlement and farming area. Land is spatially divided between settlements – residential areas where the population has settled since their arrival in the village and community services/facilities – and the linkage between the settlements and their agriculture practices and other natural resource functions. Within the settlement areas, there is a specific planning identifying housing, churches, schools, and a few meeting spaces. The settlement area in Yirase looks chaotic, while the Zongo community looks better organized.

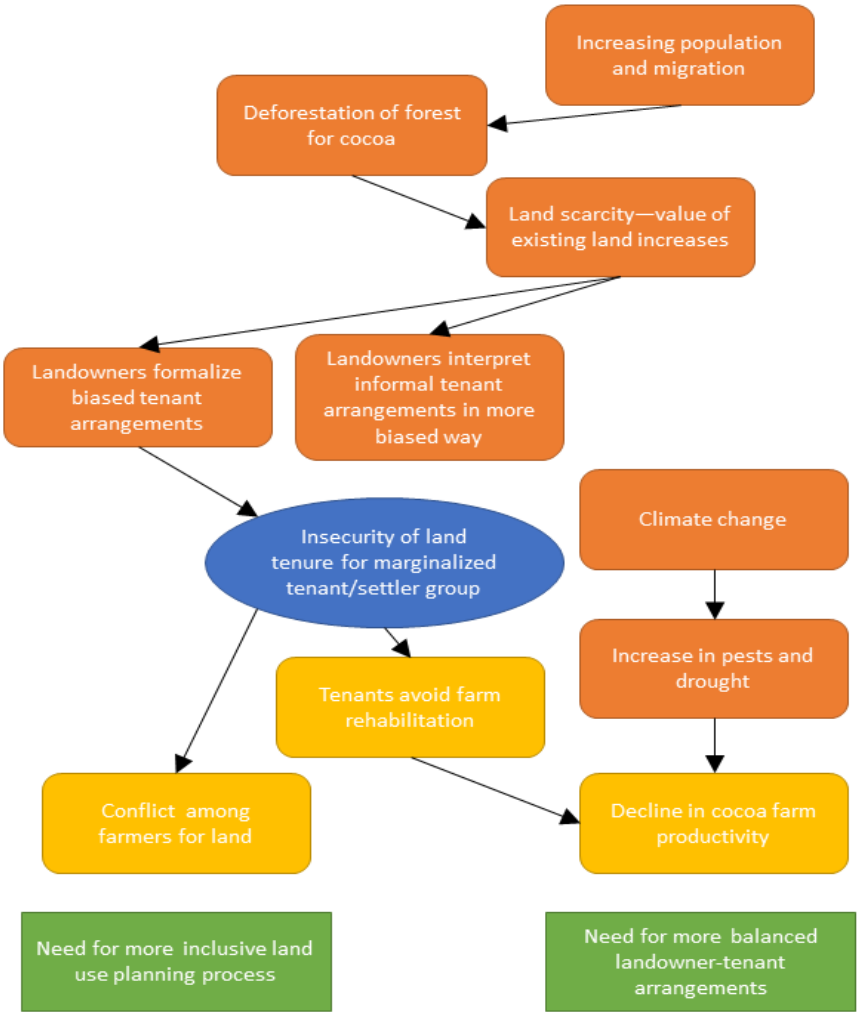
Figure A-1: Yirase Map Designed by Community During the Resource Mapping Exercise



This chaotic settlement space reveals the necessity of spatial optimization of rural settlements based on farmers' vision. The preference regarding land use is to focus on cocoa production, with a strategy focusing on improving productivity and fighting diseases within the same portion of land. Preserving land or developing strategies for sustainable land management is not part of the local thinking. There are by-laws covering a wide range of village-level rules and regulations which go well beyond land use issues and include matters such as education, water use, mining and pit restoration, and community work. However, there is no specific restriction for practices and no clear strategies for preserving naturally occurring trees. Cocoa buying companies like Fedco and ECOM, as well as Cocobod and government agricultural officers, influence land use in the community, as farmers follow their recommendations

Recommendations and Conclusions for Participatory and Inclusive Land Use Planning: The overall land tenure situation requires a need for a more inclusive land use planning process leading to a more balanced and formalized land owner-tenant arrangement. There is a need to develop a dialogue process between tenant farmers and land owners to define new rules for tenure agreements

Figure A-2: Causes and Effects of Community Dynamics on Land Use Planning in Yirase

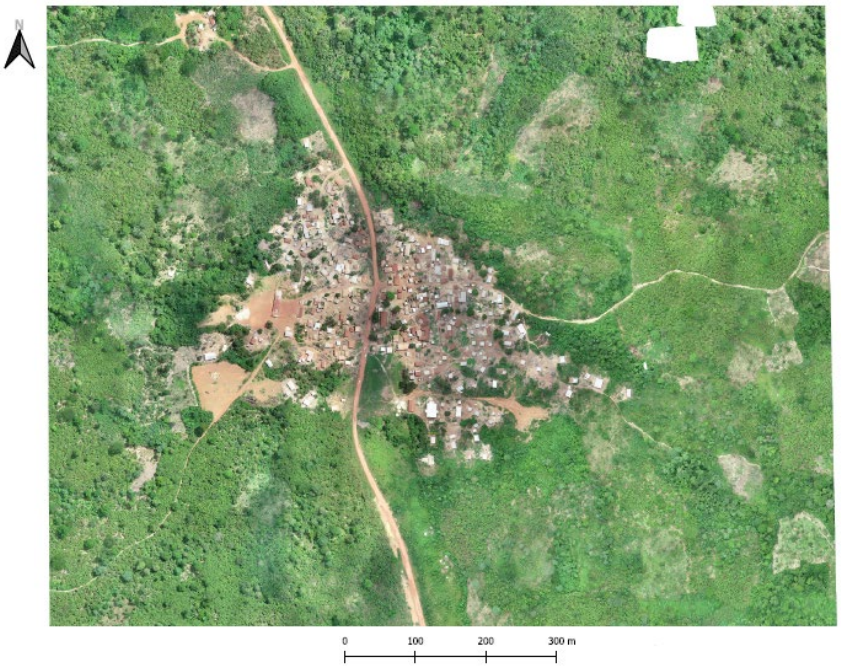


Source: Gabriel Sidman

DOMEABRA

SUMMARY DESCRIPTION

Domeabra was settled in 1963 by employees of the AT&P logging company which built the road through the area and established logging camps. The community mentioned three early settlers: Nanas Mesu, Surosu, and Sikaniseb. The original settlers were Wassa and had the land from the chief of Asankrangwa. Domeabra grew due to cocoa farming, as many settlers arrived in the village to obtain farm lands. Domeabra community divided their settlement history and activity into four major periods (the period before 1970 is considered as slow settlement with no major events):



Domeabra from the air
MERIDIA

- 1st period: From 1970, when grasshoppers and monkeys destroyed food crops, to 1983, year of the nationwide bush fire.
- 2nd period: From 1983 when devastating bush fire engulfed several regions of Ghana and led to a severe famine, to 1998, when the Asankrangwa Stool chief's death led to a renegotiation of *abunu* agreement.
- 3rd period: From the renegotiation of tenancy agreement in 1998 to 2008, marked by a phenomenon of child disappearance.
- 4th period: After the child disappearance period to present.

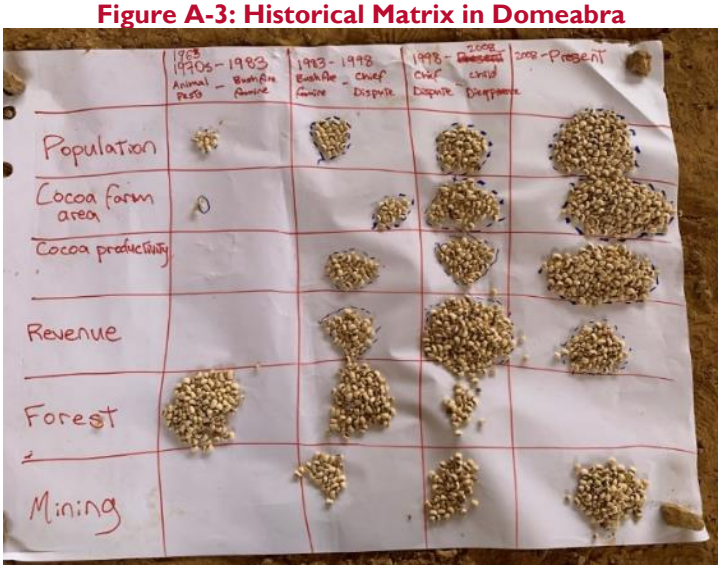
The first migrant farmers came for cocoa farming as workers in the first settlers' farms. Migrants today constitute the majority of the inhabitants of Domeabra and come primarily from the upper east region of Ghana. From the community perspective, land scarcity, unclear land tenure agreements, low productive inputs, and a new interest for gold mining heavily impact landscape and cocoa farming in the village and lead to conflict over land.

ENVIRONMENTAL DYNAMICS

Landscape Transformation: Since its creation in 1963, Domeabra has undergone a major change in structure due mostly to cocoa farming and gold mining. The landscape has evolved from a predominantly forest area with few orange trees plantations to a primarily cocoa production area with some settlements. This transformation was shaped by the interplay of changes at the local and regional levels. There is no primary forest left in Domeabra; some secondary forest exists, often in areas where the farmer has yet to plant or cocoa does not grow well. For the community, it exist only because the land owners are not able to organize appropriate shares of the land. Cocoa and food crop cultivated plots and adjacent shade trees and settlements are integrated in a mosaic-like production landscape. Farmers

do not tend to maintain biodiversity, not only within a cultivated area, but also in the few remaining natural ecosystems around swamps. However, they are conscious of the impacts of the loss of forest on the ecosystem services like increasing heat, drying up of small rivers, reduction of NTFPs and bush meat, and declining in soil fertility due to continuous farming on same piece of land.

Figure A-3: Historical Matrix in Domeabra



SABINE JIEKAK/TETRA TECH

Impact of Cocoa Farming: Domeabra's inhabitants are primarily cocoa farmers; as in Yirase, farmers have the same perception that cocoa productivity is declining due to a combination of factors lost from forest to inappropriate agricultural inputs. They raised the same theory and believe around pests/diseases and aging cocoa trees, and they also share the same distrust of Cocobod as in Yirase. While productivity per cocoa trees has dropped during the last five years, there is an expansion in farm size for same productivity and revenue. The decline of cocoa productivity led a more important investment in food crop farming, especially plantain, cocoa yam, oil palm, tomato, and okra. Rice farming is done in swampy areas. The community requests laborers to work in their farm; they are hired for an entire harvest or to work a specific area or by the day. Often these laborers try to set up their own farms and become tenant farmers.

Table A-2: Observation from Transect Walk in Domeabra, from Domeabra Main Road – Community School – Dedesua Road – Dedesua Farms

	Outskirts of Town	Cocoa Farms	*Galamsey* Site 1 (Bohwehw3)	Secondary Forest	*Galamsey* Site 2 (dig and wash)
Vegetation	Shrubs	Shade trees Cocoa Palm trees Cassava Plantain	Cocoa trees	Shrubs Agonomo tree 1st secondary forest fallowed for 15 years 2nd secondary forest fallowed for 20 years	Abandoned cocoa trees Shrubs
Trees	Asiakwa tree	Ofram tree Emmre tree Kotr3foro tree Pampayne tree	Cocoa trees	Ofram tree; shrubs; naturally grown trees	Abandoned cocoa trees Shrubs
Cocoa		Cocoa seedlings Five-year-old cocoa trees 15-year cocoa trees	Uprooted cocoa trees Infested cocoa trees	The secondary forest is surrounded with cocoa	Abandoned cocoa trees Shrubs
Documentation		Outright purchase but still		*Asidae* arrangement and their owning it forever	

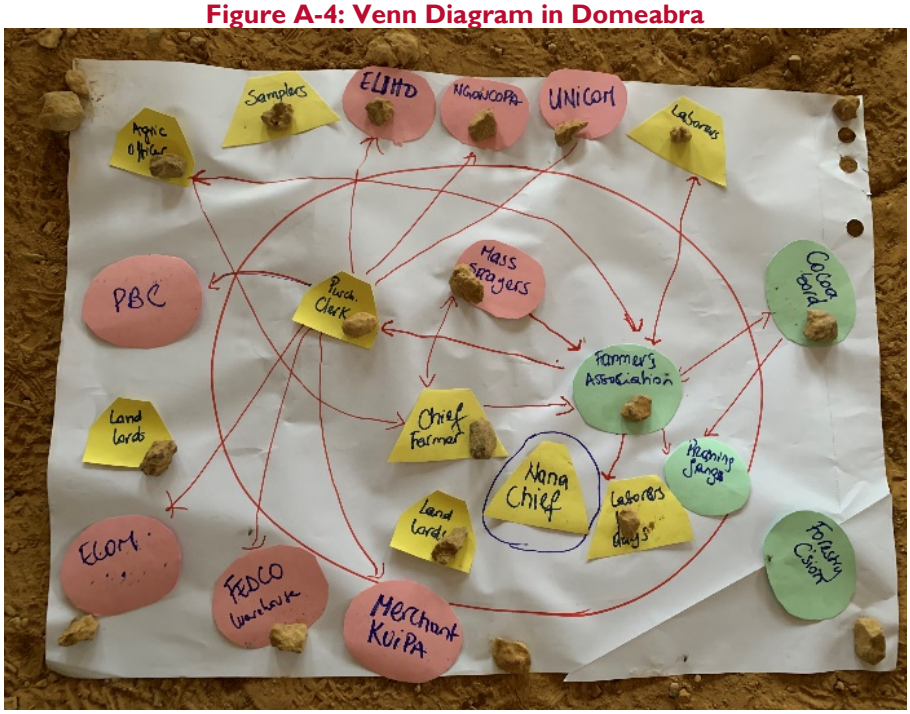
	Outskirts of Town	Cocoa Farms	*Galamsey* Site 1 (Bohwehw3)	Secondary Forest	*Galamsey* Site 2 (dig and wash)
		in the processing at Asankrangwa			

Gold Mining: Domeabra's population is interested and willing to engage in gold mining. Community members recognized that interest in mining increases as revenue in cocoa declines. The artisanal small-scale gold mining business dates back from the early settlement of Domeabra. It is happening in Tikor, Dedesua, and Nyame Nti, in a combination of low-tech enterprise using rudimentary or artisanal tools and some advanced mechanically and chemically intensive. Miners use the dig and wash method, including metal detector and chamfine machine. These methods leave the farm completely destroyed and the community is conscious that the liquid from mining is destroying cocoa farms. There is no real "abandoned" mining site in Domeabra, as some old dig and wash pits are sometimes revisited. *Galamsey* uncovered pit has left cocoa farms abandoned because it cannot be maintained. Women are involved in gold mining – they wash the debris to collect the gold residue. Farmers and youth mentioned that sand and gravel at the dig and wash site could be used for construction.

GOVERNANCE ISSUES

Traditional Governance Structures and Issues: As in all the region, land is administrated first at the family level by land owner with involvement of family heads, the village chief, and the paramount chief in Asankrangwa, who has supremacy over all the chiefs in the region. He plays an important role in land management and remains the custodian of community land on behalf of the stool chief. In Domeabra, the chief has recently died; there are elders and a caretaker, but no official chief at the moment. Considering that the majority of the population is settlers, the chief's role seems to be more occupied in managing tenurial conflict and doing some representation in stool activities than leading other village chief responsibility. Land owners have been mentioned as key actors in the village dynamic, but the participants to the Venn diagram session did not include much detail about the role. This can be explained by the fact that the participants, mostly tenant farmers wanted to recognize a specific place for land owners.

Figure A-4: Venn Diagram in Domeabra



GABRIEL SIDMAN/WINROCK INTERNATIONAL

Local Organizations Set from Governmental Decentralization Strategy: There is only the unit committee representing the formal local government structure in Domeabra, but the community does

not see the role as one of the main in the village dynamic. This can be explained by the fact that main inhabitants are tenant farmers who do not see any use of being deeply involved in some of the village dynamic. There is also a school management committee in charge of school and children's attendance issues.

Cocoa Actors and Organizations as Key Players: The people involved in the cocoa value chain are the critical actors in the community. From farmers to buyers to public and private agricultural extension agents, the roles and functions they perform at the community level greatly impact the village dynamics and agro-ecological practices. For general details, see description under Yirase. Community members complained that in the past, purchasing clerks, agricultural extension officers, district managers of purchasing companies, and samplers used to come to test dryness of cocoa in the field and provide some advice; now they stay at the depots where farmers have to go and meet them, giving a very different orientation to their relationship. Purchasing clerks purchase dried cocoa from farmers. Land owners monitor tenant activity in the farms. Some live in Domeabra, others in Asankrangwa. The mass spraying gang is composed of farmers. Wives support cocoa by caring for husbands and cooking. Motor riders transport beans from farm to town. There is a local farmers' group called Nyamenhyrakuo Farmer's Association, which has 35 members, including seven women. Members have been trained on farming techniques by extension officers, and pay dues and attend meetings. Major purchasing companies include Fedco, ECOM, PBC, Eliho, Unicom, and Merchant. Purchasing clerks who offer farmer financing are preferred. Some give spraying machines on credit. Conflicts occur between the purchasing clerks and the farmers. Farmers taking credit from a purchasing clerk are expected to sell their crop to that individual, but sometimes they sell to another offering a better price. Others seek to flee from the purchasing clerk seeking reimbursement. Agricultural officers played a major role in supporting farmers to decide which and how to plant shade trees. The farmers' group talked about the need to do other activities besides cocoa like bee keeping, but have not yet done anything.

Cocoa as Main Source of Income but Increasing Revenue from *Galamsey*: More than half of men's revenue comes from cocoa. For women, one-third of their revenue comes from cocoa; for youth, less than one-third of their revenue is from cocoa. Domeabra community mentioned that around 60 percent of revenue from cocoa is reinvested in cocoa farming (inputs, labor, food for workers). The price of cocoa is a great disincentive. Cocoa trees that are affected by community expansion are compensated using government rate. Cocoa farming is difficult but profits very little and revenues are seasonal, compare to gold money that comes fast: "what I can get in gold mining in one month, it will take me five years to get from cocoa," said a farmer in Domeabra.

TENURIAL ISSUES

Land Tenure: The tenurial issues in Domeabra are almost the same as in Yirase when it comes to the types of customary tenure arrangements, tree tenure, and perceived tenure security. Because Yirase is considered as vast farmland, some people in Yirase and Asankrangwa own land in Domeabra. *Abunu* farmers noted that when cocoa trees get old, they have to seek authorization from the land owner before rehabilitation. They also mentioned that this arrangement has changed over time; it used to be a permanent split of the land, with half for the for tenant. But now you have to see the land owner to rehabilitate. This change came from the regent of Asankrangwa; the old chief did not want the change but when he died the regent made the change. This change was implemented about 10 years ago. Now there is a written agreement explaining how the tenant must leave land when trees die. The Domeabra chief gave the land owner perspective on *abunu* agreements: the tenant only owns trees not land, the land owner still owns land. However, the chief recognizes that this interpretation of *abunu* agreements dates from 1998, when the former Asankrangwa chief died, as in the past farm sharing also included land sharing. Some feel that original agreements did not include the need to renegotiate access to land after old trees are cut. This issue of disagreement became a problem with more land scarcity; that is when

this rule was developed. Cordial relations between the tenant and land owner are important, and help avoid conflict. The chief compares renting a room in a house to the tenant-land owner relationship: "if you rent a room in your house the person becomes like a son to you, same with a tenant – land owner = father, tenant = son." Some think *abunu* agreements are for 50 years. Confusion remains about an *abunu* farmer transferring rights of cocoa trees to another person out of his family. As one land owner noted, "When the cocoa grows old, for the fear of losing the land, we leave it, even if we harvest only three pods from a tree, we can use that to buy salt – it is better than cutting the trees and losing the land to the land owners." This situation "makes us very uncomfortable," said one tenant. Tenant farmers mentioned that they pay a farm tax of about Ghc100.00 per farm per year (the tax has existed for 40 years), and they see in documentation and tenurial agreement renegotiation a potential way to increase in this tax. Tenant farmers insecurity over tenant/farm rehabilitation situation is an issue that we should note "in capital letters." Sometimes a land owner prevents a tenant farmer from converting a farm to gold mining, but the community also mentioned that *galamsey* revenue is divided into three and shared among the owner of the land, machine owner, and the extractors. If the gold is found in the tenant's farm, the land owner shares with him but if it is discovered in the land owner's portion, they do not share with the tenants.

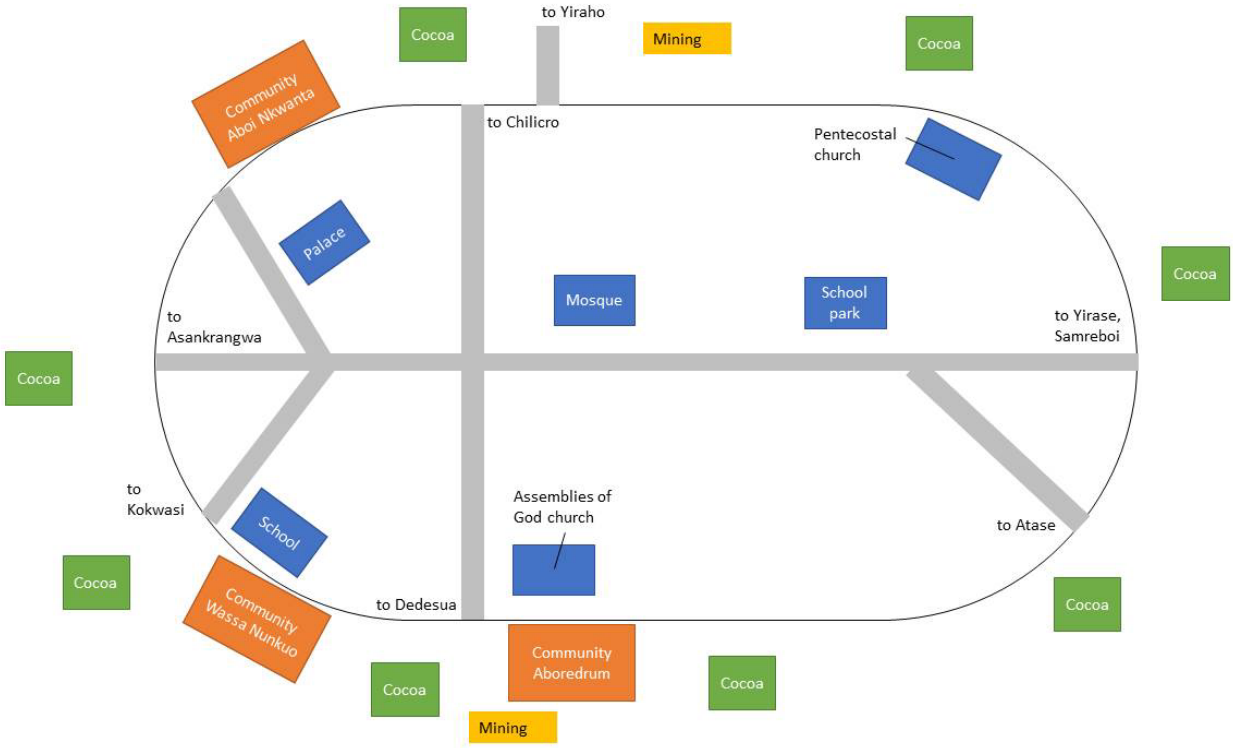
Tree Tenure: Tree tenure is also a major issue in Domeabra. The confusion on tree tenure status is even more important, as in Domeabra it is said that natural occurring trees belong to the land owner. A tenant gets rights over shade trees of his portion of the farm unless cocoa trees are removed; then shade trees are transferred to the land owner. This is only true for farmer-planted trees; if the shade trees mature while the *abunu* farmer is still on the land, the *abunu* farmer enjoys the shade tree. Otherwise, the tree become the ownership of land owner. The community has a closer relationship with the Forestry Commission than in Yirase. They mentioned the commissions as the institution that provides shade tree seedlings but shared different opinions on if the commission or an individual farmer owns the shade trees. From general perspective, it is hard to get the get permit for trees cutting or registration from the Forestry Commission, as they first must come inspect trees and do not let farmers cut all trees. Farmers pays a small compensation to Forestry Commission officers, "a little for water."

Previous Farm Mapping or Farm Rights Documentation Projects: From the various PRA activities, written documentation begun in 1998 and is linked to change in chieftaincy and the revision of tenancy agreement. The LUPD team could not determine the proportion of farmers or community member with any documentation. No *abunu* agreement was presented, but the community mentioned that *abunu* farmers usually do documentation after five years of *abunu* practice due to financial constraints. There is hunger for proper documentation, as some farmers believe that the documents will give them a form of security on their land.

LAND USE PLANNING

As in the case of Yirase, Domeabra is organized around settlement and farming areas. Land is spatially divided between settlements – residential areas where the population has settled since their arrival in the village and community services/facilities. The community has its own special way of organizing their land use, especially within the settlement areas. To obtain land for building one has to see the chief and the committee members, and they will allocate a portion for the individual with a receipt. There is a specific planning approach, especially for identifying housing, churches, schools, and meeting spaces. The school for instance was placed on flat land, to allow children to play without danger, as Domeabra is built on hills. The school land was initially an orange plantation belonging to Asankrangwa chief. The settlement area in Domeabra looks more organized, with many shade trees in the community.

Figure A-5: Domeabra Map Designed by Community During the Resource Mapping Exercise



Swamp areas are reserved for rice and maize farms. They use a portion of their land for animal rearing as well. Mining is done wherever they find gold, whether cocoa farms or marshy areas. There is no reserved land for future community expansion, neither for farming areas: "I will never allow my land to be used as a forest reserve," said a farmer who succeeded his late father. The total absence of planning the area for farming that constitutes the majority of Domeabra land shows the necessity to include sustainable planning of farming areas in the land use planning exercise and local practices. By-laws regulating wide range of village-level practices and sacred areas can be extended to farming areas.

SURESU NKWANTA

Suresu Nkwanta from the air
MERIDIA

SUMMARY DESCRIPTION

Suresu Nkwanta is a typical farmers' settlement that became a compact village. Located at a junction from Samaboy to Asankrangwa and Suresu, the village is surrounded by cocoa farms. The population range is less than 400 inhabitants, among whom 95 percent are tenant farmers, organized in two house settlements, one of which is comprised of a small cluster of households of some family members. There is a central cluster of buildings enclosed by fences. Outside the fenced areas are the fields used for cultivation or grazing. Each homestead typically consisted of a longhouse and multiple out-buildings. Suresu Nkwanta farmers seem to have some concern about achieving optimum yields of cocoa farms while maintaining the some forest features, from timber shade trees conservation to environmentally sound agricultural practices allowing the village to mitigate some of the landscape transformation impact seen in others villages.

ENVIRONMENTAL DYNAMICS

Landscape Transformation: The community in Suresu Nkwanta has been combining two environmentally sound practices: simple agroforestry in cocoa farms and crop fallow rotations. Farmers have been incentivized to adopt sound farming practices that help reduce the effects of climate change and preserve the environment, especially by maintaining some timber trees within the farms as shade trees. Farmers know that trees shield the cocoa plants from excessive sunlight and keep the soil moist during dry seasons and that tree also provide oxygen and good air. There are two pockets of primary forest in the village of Agreso neighboring Suresu Nkwanta, but the forests are not intentionally reserved and clearing is on-going.

Table A-3: Transect Walk from Suresu Nkwanta Roundabout to Akrensoh Neighboring Village

	Village	Nkwanta – Forest Road	Forest
Vegetation	Diversity of plants (herbs, fruit trees, vegetables, shade trees, coconut trees etc.)	Lots of trees on the edge of roads near swampy areas Old naturally occurring shade trees Swampy areas had cocoa farms, rice farms and maize farms Cocoa up-slope Rice and maize down-slope Fallow lands	Mixed levels tree canopies

Cocoa Farms	Cocoa farms surround the village Cocoa nursery in Nsiakrom	Mix of dead, young, fallow and rehabilitated farms A lot of naturally occurring shade trees Cocoa farms in swampy areas Inter-cropping in young farm: plantain, maize and cassava	Young cocoa farm on the edge of the forest Plantain farm at the edge of the forest
Documentation			Privately owned forest was bought/purchased from the Asankrangwa Chief but not sure if that interest in documented

Impact of Cocoa Farming: All the inhabitants of Suresu Nkwanta are cocoa farmers, with little perception of the impact of decreasing of forest cover on their farms. While cocoa productivity decreased in the village, it does not seem as important for community members as in Yirase and Domeabra. This is probably due to the fact that there are more environmentally sounds practices in their cocoa farms. Also, farmers not only left timber shade trees in their farm, but also do not clear unnecessary space around the farm, leaving a sense of well-preserved environment in the midst of cocoa farming. Fallow practices in cocoa farms that seem more common in Suresu Nkwanta than in other villages. However, the community still perceived the effect of the depletion of forest on weather with the increase of heat; they also linked heavy rainstorms. As a mitigation measure to the changes observed, the community planted some shade trees even before starting a cocoa farm, and leave a buffer zone at the river banks, creating riparian forest along the rivers. Many farmers allocate some portion of their cocoa farm for food crops (pepper, tomatoes, onions, cocoyam, etc.), that will later on be transformed in cocoa farms. Land that are not fertile for cocoa farming are used for food crop farming

Gold Mining: There is no *galamsey* in Suresu Nkwanta, as the community said that there has not been any positive test so far. However, youth are invested in mining in surrounding villages, especially in two sites in Yirase. The reason why youth mine are the same as the ones mentioned by the Yirase youth. They are aware of the negative consequences associated with *galamsey* but engage in it anyway because of financial constraints. However, the community and youth especially are aware that the long-term prospect of cocoa is better than *galamsey,* even if in the short-term mining is more profitable than cocoa. If gold is discovered in Suresu Nkwanta, the land will be mined regardless.

GOVERNANCE ISSUES

Traditional Governance Structures and Issues: Because most of the inhabitants of Suresu Nkwanta are tenant farmers, the village chief plays a greater role in land allocation and supervision of uses. But, because the chief does not live in the village, the real management power is left in the hand of the linguist (spokesperson) and the village elders, who rule the daily life and manage conflict within the village. Indeed there is a strong hierarchy in Suresu Nkwanta, preventing the chief from delivering messages directly to community: he first delivers any message to the elders who themselves share with the community. The linguist seems to be the most powerful person in Suresu Nkwanta, as he is the one interacting with everyone, on behalf of himself and as the spokesperson of the village. The queen mother plays the same role as the village chief and the linguist when it comes to all women's issues, except land issues.

Local Organizations and Community Groups: The unit committee is comprised of three members and plays the role of sanitation group, ensuring that the village remain clean. They work

closely with the youth group, whose main role is to perform communal labor when needed. The main cocoa actors play the same role as in other villages, mobilizing farmers for training on new techniques and providing inputs and farming advice. There is no farmers' association in Suresu Nkwanta, farmers work independently.

Main Source of Revenue and Management: In Suresu Nkwanta, revenue comes from cocoa farming, and gold mining for youth. The dynamic is the same as in Domeabra and Yirase, meaning that the farmers reinvest more than they actually earn from farming in inputs and labor the need to ensure the next farming season. It was however surprising for the LUPD team to learn that youth gain much more money, almost two-thirds of their annual revenue, from gold mining, even if mining does not occur in their village. Some farmers found themselves in a circle of indebtedness where the actually work to reimburse inputs obtain from previous farming season. Because they are migrant groups, many farmers recognize that they invest what they gain from cocoa in their hometown.

Table A-4: Seasonal Calendar from Suresu Nkwanta

	Jan – April (Dry Season)	May-August (Hardship season)	Sept - Dec (Flourishing season)
Environment & Climate change	Dryness Bush fire Famine Water scarcity	Rainfall Windstorm Flood Mosquitoes Famine	Flood Rainfall
Cocoa Production	Pruning Weeding Land clearing Mistletoe clearing	Planting (seeds and seedlings) Flowering of cocoa Black pod disease Minor harvest	Major harvest Black pod disease
Cocoa Harvesting			
Cocoa Revenue			
Cocoa Expenditure			
Income Allocation	Cocoa reinvestment	Other expenditures	
Income	Gold	Cocoa	

TENURIAL ISSUES

The tenurial issues in Suresu Nkwanta are the same as in Yirase and Domeabra; same types of customary tenure arrangements, tree tenure, but less tenure insecurity from tenant farmers. Most of the tenant farmers, however, got the land directly from the Asankrangwa chief, meaning that they need to go back to the Asankrangwa chief, which they actually avoid now because it will mean renegotiating the conditions of the agreement. Renegotiation of tenancy agreement started around five years ago in Suresu Nkwanta, very late compared to the other villages. As in other villages, tenant farmers contest the new interpretation of *abunu* agreements, and view them as a way to get rid of their farms. Suresu Nkwanta *abunu* farmers become land owners at a higher rate than in the other villages. During the Venn diagram exercise, the LUPD team noticed that out of 20 participants, 11 have some documentation for their land, among them four women. This documentation includes site plans, prepared by a surveyor and signed by the Asankrangwa chief. The community paid Ghc400.00 (around USD 75) for the surveyor, regardless of the farm size, and Ghc50.00 (around USD9) per acre to the chief. Those who purchase land for residential or agricultural purposes are given receipts as a form of documentation. There is also more hunger for proper documentation, as some farmers experienced a form of security provided by documents both on their farm and land. Indeed, in case of conflict, it is easily solved as they have proof of the farm size with details on boundaries. Suresu Nkwanta has the same issues as other villages for tree tenure. The community has a close relationship with the Forestry Commission, as they are close to Abodjousseh forest of Akrensoh, where there was a timber concession. They have been sensitized heavily on the importance of timber shade trees for wind break and shading. Farmers mentioned however that in a future scenario if they are not able to farm cocoa, shade trees can be used or construction. The community is fully aware that tree cutting from primary or secondary forest must be approved by the Forestry Commission.

NYAME NNAE

SUMMARY DESCRIPTION

Nyame Nnae was the pilot community for the TGCC program that helped leverage private sector funding to address land and tree tenure constraints that inhibit cocoa productivity and contribute to deforestation around smallholder cocoa farming in Ghana. The project carried on a tenure intervention based on community interest and factors like a high proportion of non-indigene farmers and a clear land constraint, focusing of the different types of tenure agreements. During the project, the boundaries of Nyame Nnae community were mapped and 190 farms were surveyed, and tenure rights documented, with 37 percent held by women. The LUPD team has a slightly different mindset when they conducted the study with the Nyame Nnae community. While the objectives were the same, the approach was more the one of a post-project assessment, focusing on comparing some of the findings from the three other communities with the situation in Nyame Nnae. In addition, Nyame Nnae is the only of the four villages bordering a forest reserve managed by the Forestry Commission with some caretaker role for the community. This is a major change from the other villages with almost nonexistent forest areas that show some disparities at local level. However, this leads to expressions of a lot of "official" views during the diagnostic: no *galamsey*, no use or entering of reserves, no sale of land, etc.

ENVIRONMENTAL DYNAMICS

Landscape Transformation: While the population of Nyame Nnae can't officially access the forest reserve for their livelihoods, the rely on forest products as a "safety net" or a form of insurance, as an important part of their subsistence and some cash income comes from exploitation of forest by timber concession or from direct exploitation of forest products for livelihood diversification, under the control of the Forestry Commission. Two-thirds of Nyame Nnae is surrounded by a forest reserve and the community argues that the timber concessions have degraded the reserve forest. They also mentioned pockets of secondary forest/fallows that are up to 20 years old. Even if the population does not have official permission to enter the forest reserve, they mentioned during PRA activities that they use the forest for bush meat – even as they recognize that there are fewer animals now that forest has been cut – canes for baskets, and a specific tree species for pestle confection. Cocoa farms are much closer to the forest reserve, at the point that some shade from reserve trees affect the cocoa. There is no buffer forest; the only gap between community cocoa farms and the forest is a fire belt of about a yard. The community expects that timber companies – Samatex, SMS, Amajaro (connected with Rainforest Alliance) will replant timber species after felling in the reserve. The community mentioned among the causes of forest lost cocoa, *galamsey,* logging, population increase, and bush fire. Nobody made an effort to protect the forest outside the reserve. A woman said that polygamy causes overpopulation and that she hopes she will not get beaten for saying that. A man said that "no entertainment" in the community leads to overpopulation. Bush fires caused by hunting damaged forest. One community member compared the reserve forest to a fallow because of degradation, and said the government is supposed to replant but just dumps seedlings and leave. Loss of forests causes less rainfall and water and more sunshine. The effect of its loss for them is lower cocoa and food crop production because of drought and reduction of bush meat.

Impact of Cocoa Farming: Cocoa farming take place very close to the forest reserve. Nyame Nnae community is primarily composed of cocoa farmers, who face the same challenges as the other farmers within the region. However, there is no clear relation for them between forest management and cocoa farming. Cocoa farms in Nyame Nnae have a high tree cover rate, shaded cocoa, and some secondary forests but community members cannot differentiate them. The community mentioned the existence of many fallows composed of abandoned old cocoa farms, when the farmer is old and can no longer work the farm, or when the farmer cannot afford rehabilitation. There is no fixed period for fallow; it can last as long as the farmer lacks the means to work the land. Nyame Nnae community faces the same issues

than the other community when it comes to cocoa trees: CSSVD, pests, bad seedlings, inappropriate rehabilitation techniques. The community mentioned that new rehabilitated trees start well (first five to 10 years) but become diseased quickly; the new trees are good for productivity but then drop off. They also mentioned a potential issue with soil, but they were not able to formulate it clearly. Because farms are so close to the forest reserve, the government has initiated rehabilitation of cocoa farms, but modalities and package are not clear to farmers. They continue to request better seedlings and more shade tree seedlings.

Gold Mining: Despite some clear wish to publicly deny it, there was general recognition that *galamsey* is a common livelihood activity in and around Nyame Nnae. Youth cocoa farmers especially act as gold miners in neighboring villages. The community prefers to show that *galamsey* is taking place out of the village boundaries, even if Nyame Nnae already has a clear village map with known boundaries. During the resource mapping exercise with the aerial map, participants were eager to slightly change the line of the river to ensure that the LUPD team would not mention that there is *galamsey* in the village. "We don't do *galamsey*, the Chinese do. The government has stopped half of them, but the others are still doing it," one community member said. But they also recognize that there is a lot of debt within the community; hardship and poverty without support drove them to *galamsey*. There is clear recognition that mining destroys the land and has negative environmental impacts, but they are more than willing to invest in *galamsey*. In addition, there is a governmental program to reforest *galamsey* sites; the majority of the participants in various PRA activities think is misguided as the reforestation occurring on farmers' land should be conducted by farmers and not paid youth, seedlings should be given to farmers directly.

GOVERNANCE ISSUES

Traditional Governance Structures and Issues: As in other villages, land is administered first at the family level by land owner with implication of family heads, the village chief, and the paramount chief in Asankrangwa, who has supremacy over all the chiefs in the region.

Predominant Role of the Forestry Commission: The Forestry Commission plays a major role in Nyame Nnae as it is bordered by forest reserve. They are in charge of administration of the areas around the forest reserve, to ensure there is no encroachment. The community members cannot enter the reserve without a permit from the Forestry Commission; however, they recognize that they often enter the reserve illegally. If they are caught by Forestry Commission officers, community members beg and bribe, often successfully, to be let go. Sometimes timber they have cut is confiscated, but in general the community described relations with the Forestry Commission as good and cordial. The presence of the Forestry Commission officers is problematic; in certain ways they are the chief power, as the chief does not have a say in conflicts related to the forest. To facilitate this cordial relationship, the Forestry Commission encourages the community to help protect the forest and has organized them to play a caretaker role. For instance, there was a case of fire within the forest and the community called the fire service and enter the forest to quench the fire.

Management of Revenue from the Forest Reserve: The community has a general perception that they benefit from the presence of the forest reserve in Nyame Nnae: improved roads, wind break, more rain, fresh air, employment by the timber companies, and Forestry Commission replanting schemes. In addition to that, the community, especially youth and women, recognize that they gain some income from their ability to diversify their livelihood: they can work as *abunu*, *abusa,* and as short-term laborers for the Forestry Commission and/or timber company, and artisanal miners. Short-term income is food crops and long-term income is cocoa farming. Most of the revenue of women and youth is reinvested in cocoa (inputs and labor) and also into household expenses; however, the investment in cocoa is not proportional to revenue received at the end of each season, so farmers are in a cycle of debt, especially

older male farmers. Women are the first caretaker in the household, spending income they get from cocoa, food cropping, and other sources income in household expenses (food, health expenses, children care). They use old cocoa trees for firewood and charcoal production. While women manage their revenue independently, part of the food crop money is managed by men on their behalf. Generally, the community members have a saving culture that is very different from other communities. Participants in the revenue analysis matrix mentioned a certain number of microfinance institutions and banks were they either keep their savings or obtained loans. Revenue from the forest (concession) are spent on community projects like roads, etc. Youth have organized into a group called Nobua to do collective labor in their farms. Laborers are usually paid on credit; that is, paid when the harvest comes. Loans from banks require a savings account in a particular bank to be able to access credit there. Sometimes open group accounts provide guarantees for each other. If you cannot repay a loan you get arrested. Most community members receive loans from banks; more men take loans than women. The interest rates are 3.5 percent per month. Sometimes couples will take out loans at several banks at once. Defaults are common but groups help in this case.

Figure A-6: Revenue and expenses matrix in Nyame Nnae

SABINE JIEKAK/TETRA TECH

TENURIAL ISSUES

Types of Customary Tenure Arrangements for Tenure Status: Most inhabitants in Nyame Nnae access land under *asidae*, *abusa,* and *abunu* farming. The same issues are present as in the other villages. There was however a vivid discussion on whether non-Wassa *asidae* farmers can host an *abunu* tenant, and how to solve *abunu*-land owner disagreement; suggestions were made to involve the paramount chief, with community members noting that opposing parties coming together to go talk to him with some outsider help would be good. Both men and women place priority on solving *abunu*/land owner disagreement above all other problems. Cocoa disease was the second most important issue cited; low priority was placed on solving/reviving forest. Women place higher priority on solving labor shortages. Land is scarcer now, but farmers are willing to accept Ghc15,000.00/acre in one-time payment to give up land for mining. This compares to 10 bags of cocoa per acre per year equals about GHS 4,000.00/acre/year income from cocoa. So mining is equivalent to about four to five years of cocoa income on average.

Tree Tenure: The majority of shade trees are naturally occurring; the community only started planting shade trees about four years ago. Once registered, farmers can fell trees and use, with permission from the Forestry Commission. Concessioners will come cut unregistered shade trees on farmers' farms. The government pays to plant trees on farms. Community members are hired to take small trees from the reserve and plant them elsewhere. A shade tree is only the farmer's if it is registered. The Forestry Commission can arrest people for cutting unregistered trees in farm, but often takes bribes in such a case. Community members would like more shade trees. A large majority of shade trees are naturally-occurring. They managed to grow from the original clearing of land to plant cocoa. The government has

engaged people to plant trees in *galamsey* sites and people's farms with no clarity of ownership. But the government does not register trees they provide. Registration is difficult; you need to produce a letter, but most farmers are illiterate. The Forestry Commission should come to do registration instead.

Previous Project and Village Boundaries: There was a positive view of the documentation provided in the pilot. Now tenant farmers are able to rehabilitate without problems from land owner. One woman who had land documentation and good relations with the land owner lost her land anyways when land owner died and relatives seized land. Community members expressed the opinion that project staff should go see chief to scale pilot to other areas. Despite having benefit from the pilot project, community were not able to clearly define the village boundaries other than rivers. This issue created a lot of argument and confusion and a major lesson learned for the LUPD team: the process of supporting community mapping should integrate a higher degree of community participation, with clear dialogue at various community levels. The printed map caused some confusion around boundaries and was hard to detect cocoa vs. forest.

REFLECTIONS ON LAND USE PLANNING

- Lots of satellite villages or houses around the area that are part of Nyame Nnae. These are older settlers who settled directly on their farms. Newer migrants tend to settle in the center of town.
- Marshy areas and *galamsey* sites are not the focus of cocoa cultivation; they therefore present good low hanging opportunity for land use planning and tree planting.
- The forest reserve is recognized on the map; it is not considered part of the community.

Table A-5: Problem and Intervention Matrix in Nyame Nnae

	Priority		Community Intervention	Outsider Support
	Men	Women		
Cocoa Diseases	●	●	Spraying, pruning (preventive measures), plucking affected pods	Mass spraying from the government Support from the United States government in buying chemicals Cocoa Research Institute to soil test the lands in the community The government should increase the price of cocoa or allow foreign buyers to purchase directly from farmers
Cocoa Pest	●	●	Injection of cocoa trees using the same method used in hospitals Both farms sharing boundaries should be sprayed Farmers should cut their cocoa trees at the same time during rehab	

	Priority		Community Intervention	Outsider Support
	Men	Women		
Labor			Youth form groups to help each other in their farms (exclusive to members of the group only) Loans from banks to pay laborers Some laborers weed on credits and are paid after farmer harvests cocoa	
Cocoa Inputs			Loans and reinvestment of their benefits from cocoa	
Depletion of Forest			Planting of trees in the cocoa farms and application of organic fertilizers	Government has employed some youth to plant trees on *galamsey* sites Government should send Forestry Officials to their farms to help register shade trees so they have a share in the cutting of trees.
Land Agreement			Chief of Nyame Nnae should consult Asankrangwa Chief for discussions on land tenure Community members (farmers) should and meet the chief in Asankrangwa Land documentation	The project team should collaborate with government to solve the issues of rehabilitation

ANNEX B: FIELD WORK CALENDAR

VILLAGE 1, YIRASE, MAY 27–31

	Day 1 (Mon, 27 May)	Day 2 (Tues, 28 May)	Day 3 (Wed, 29 May)	Day 4 (Thu, 30 May)	Day 5 (Fri, 31 May)	Day 6 (Sat, 1 Jun)
Morning	Arrival in the village	**PRA Tool:** Historical matrix **Entire Team**	**PRA Tool:** Transect walk –3 directions **3 Teams**	**PRA Tool:** Classification Matrix **Entire Team**	**PRA Tool:** Restitution- Village problem and intervention matrix	Debriefing, note compilations
Afternoon	Introduction to Land Use Planning Diagnostic **PRA Tool:** Village land uses mapping **Entire Team**	**PRA Tool:** Venn Diagram - Cocoa – **Team 2**	**PRA Tool:** Seasonal Calendar –rainfall-forest uses; Cocoa Farming activities and revenues (men and Women)	Focus Groups: Women Focus group **PRA Tool:** Theatre on conflict management practices	Debriefing, notes compilations	

VILLAGE 2, DOMEABRA, JUNE 3–5

	Day 1 (Mon, 3 Jun)	Day 2 (Tues, 4 Jun)	Day 3 (Wed, 5 Jun)
Morning	*Finalizing check lists*	**PRA Tool:** Historical Matrix *(max 1.5 hour)* *Debriefing (1.5 hour)*	*Transect Walk – Domeabra village to gold mining sites*
Afternoon	Community meeting- Introduction to Land Use Planning Diagnostic **PRA Tool:** Village land uses mapping *Debriefing*	**PRA Tool:** Venn Diagram *(max 1hour)* *Debriefing (1.5 hour)*	Presentation and discussion: model for land certificate and village mapping, USAID+ **PRA Tool:** Community Debriefing

VILLAGE 3, SURESU NKWANTA, JUNE 5–6

	Day 1 (Mon, 3 Jun)	Day 2 (Tues, 4 Jun)	Day 3 (Wed, 5 Jun)
Morning	*Finalizing check lists*	**PRA Tool:** Village land uses mapping *Debriefing*	*Transect Walk* – Suresu Nkwanta *roundabout to Agresso primary Forest*
Afternoon	Community meeting- Introduction to Land Use Planning Diagnostic	**PRA Tool:** Seasonal Calendar *(max 1.5 hour)* *Debriefing (1.5 hour)*	**PRA Tool:** Venn Diagram *(max 2hour)* *Debriefing (1hour)*

VILLAGE 4, NYAME NNAE, JUNE 6–7

	Day 1 (Thu, 6 Jun)	Day 2 (Fri, 7 Jun)
Morning	Community meeting- Introduction to Land Use Planning Diagnostic **PRA Tool:** Village land uses mapping using aerial map	**PRA Tool:** Village problem and intervention matrix **Community Restitution**
Afternoon	**PRA Tool:** Revenue Matrix **PRA Tool:** Problem tree	**PRA Tool:** Seasonal Calendar *(max 1.5 hour)* *Debriefing (1.5 hour)*

ANNEX C: CHECKLIST OF QUESTIONS BY OBJECTIVES AND TOOLS

General Objectives:

- To analyze land management practices for cocoa farming, in regard with other productive activities like gold mining, as well as the impact of community practices on their environment and GHG emissions.
- To identify ways to adapt existing land use planning approaches currently used in Ghana to the cultural and economic specificities of cocoa growing regions.
- To identify ways to connect rehabilitation services and land documentation to land use planning in a way that reduce deforestation and reduce and halt, or reverse GHG emissions.

Table C-1: RRA/PRA Tools for Information Collection and Analysis

Specific Objectives	Target	RRA/PRA tool
Contextual Description		
Land use pressures on secondary forest and forest reserves including conflicts around primary forests managed by Forestry Commission.		
• Existence and location of secondary forest and reserve forest in the community? • Distinction between primary and secondary forests? • Main activities leading to forest conversion within the community? (Agricultural expansion- large scale cocoa plantation, mining, etc.) • Access conditions for use of secondary forest and forest reserves? • Types of uses of secondary forests? Forest reserves? • Existence and type of common disagreements and disputes related to primary forests? • Source of disagreements and disputes? People/institutions generally involved? • Relation between the community and the Forestry Commission regarding access to forest and it products? • Role of the Forestry Commission and other governmental or local institutions in solving disagreements? • Implication of local institutions for managing natural resources when there is conflict?	Traditional leaders Unit committee members Assembly members Youth Women Miners if any Farmers' association	Village land use mapping Transect walk Venn diagram Focus group discussion Transect Walk
Presence and ecological and social dynamics of artisanal gold mining.		
• Existence of artisanal gold mining in the community and location of sites? • Profile of miners? (gender, indigenous community, non-indigenous, youth, etc.) • Stakeholders engaged in gold mining (in production- financing, and trading)? • History-timeline of artisanal and small-scale gold mining (ASGM) in the community? • Main reasons whereby people engage in ASGM? • Conditions to access land for ASGM gold mining?	Traditional leaders Unit committee members Assembly members Youth Miners if any	Village land use mapping Focus group discussion Ranking classification Historical matrix Seasonal calendar

Specific Objectives	Target	RRA/PRA tool
• Status and use of land after mining? • Income got by farmers by giving up their land for gold mining? • Social effects of gold mining within the community? • Products / chemicals used for ASGM and consequence on cocoa production? Food crops, water, soil, health? • Main benefits of gold mining in the community? • Chances of striking gold and the potential economical payoff? • Evolution of revenues over time?	Community leaders Key informants	
Experience with climate-smart agriculture and climate change		
• Most common natural disasters experienced in the village (any other than drought, flood and pests)? • Agricultural pests/diseases affecting the communities and consequences? • Measures to prevent or mitigate these disasters by community members? • Penalties/enforcement for over-use of pesticides or other regulated farm management practices? • Difference in revenue between traditional/old cocoa farms and rehabilitated farms if any? • Average production generated from each type of farm? • Incentives to rehabilitate farms? • Technical and financial support for farmers to rehabilitate farms? • Different farming practices to increase yields– modern vs traditional? • Integration of innovative practices in the farming system like bee keeping? Mushroom growing? Agouti raising? Other crops in more complex agroforestry systems?	Farmers' associations Youth groups Extension agents	Focus group discussion Venn diagram Seasonal calendar Historical matrix Problem ranking matrix - intervention ranking matrix
Economic and cultural value of secondary and primary forests		
• Services and benefits provided by primary forest and secondary forest? – timber, wood fuel, extraction of genetic material, protection of watersheds and the storage of carbon • Role of forest/ specific trees in traditional beliefs and practices? • Existence of protection measures for forest areas and specific trees for local practices purposes? • Changes in availability on some non-timber resources?	Community leaders Women's groups Farmers' association	Land use mapping Transect walk Focus group discussion
Tenurial Situation		
Types of customary tenure arrangements for cocoa farms including tenure status of shade trees on cocoa farms.		
• Rules for access/acquisition of land for cocoa production? • Types of tenure arrangements within the community? • Evolution of tenure arrangements for cocoa farming? • Conditions for transfer of farms and land under customary tenure? • Institutions/Person in charge of monitoring or enforcing tenure arrangements?	Community leaders Farmers' groups Settler groups Women's groups Youth groups	Village land use mapping Historical matrix Venn diagram Transect walk Focus group discussion

Specific Objectives	Target	RRA/PRA tool
• Actions in case of no respect of tenure arrangements? • Existence of shade trees and other crops in Cocoa farms? • Types and status of shade trees in cocoa farms? • Rules for felling and use shade tree as lumber? • Institution/Person in charge of monitoring shade trees?		
History of land use decisions, land tenure and customary arrangements including traditional farm fallow rotation cycles and management practices.		
• History of settlement on or specific portion of community land? • Main land uses in the community? • Main categories of land users? • Reasons/ justifications for determination of land uses? • Existence and conditions for fallow cycles – from primary forest-field crops-cocoa – and? • Evolution of spatial use of the land in primary forest, fallow, numbers of cocoa trees, space devoted to gold mining, land placed under field crop cultivation? • Trajectory in case of no more primary forests?	Community leaders Farmers' groups Women's groups Key informants	Historical matrix Seasonal calendar Venn diagram Semi-structured interview
Tenure status and economic value of secondary forests and communal rights over non-timber forest products on household lands.		
• Role of secondary forest in the community? • Products and services of secondary forest for the community? (fuel wood for subsistence use or commercial purpose? woods for charcoal production? Forest product used for traditional medicine? bush meat? etc.) • Duration of fallow and demand for agricultural/grazing land? • Importance of secondary forest for watershed management?	Community leaders Farmers' groups Women's groups Key informants	Village land use mapping Transect walk Seasonal calendar
Perceived tenure (in)security by different social categories and men/women.		
• Practice of leaving empty land without risk of losing the land? • Farmer's incentives to invest in their land/ farms? Long-term land investments, such as tree planting or terracing or cocoa rehabilitation? • Farmer's use of farm/land as collateral for additional investment resources? • Usages of land/farm as a marketable asset for investment in other activities? • Women ownership over land? • Change in village population and consequences on land for the last 2 decades? • Common land disputes for different social categories? • People/institutions involve in solving land disputes? • People/Institutions involve in enforcing solutions to land disputes?	Community leaders Settler groups Farmers' groups Youth groups Women's groups	Focus group discussion Historical matrix Venn diagram Problem ranking matrix
Previous farm mapping or farm rights documentation projects		
• Existence of farm maps in the community? • Existence and types of documentation on farms?	Community leaders Settler groups	Focus group discussion Transect walk

Specific Objectives	Target	RRA/PRA tool
• Process of acquiring the existing documents? • People/institutions/organizations involved in the delivery of such documents? • Cost of documentation and duration of the process? • Changes brought by these documents in farmer's life?	Farmers' groups Youth groups Women's groups	Venn diagram
Resource Governance		
Governance structures and social hierarchies (ethnicity, gender, and socio-economic categories) around land use and management including types of existing community level resource management regimes and enforcement mechanisms.		
• Land owner and land user profiles? • Main actors and stakeholders involved in regulating and making decisions about the land and forest resources and spaces? • Regulation of farming practices? • Person/institution in charge of land related dispute? • Existence of traditional beliefs that regulate/forbid land uses?		Venn diagram Focus group discussion
Determination of community boundaries and tenurial niches within; and mechanisms of village organization or governance within these boundaries.		
• Village boundaries markers? • Surrounding communities/villages? • Productive resources? • Owners and users of productive resources? • Addressing land uses issues?	Community leaders Community groups	Land use mapping Focus group discussion
Land Use Planning		
Types of informal and formal community land use planning		
• Land use planning meaning in the cocoa growing village? • Existence of local efforts to organize land uses and manage lands? • Presence of state institutions -roles and regulations on certain land uses? • Factors influencing land uses and land use change patterns? • Local community capacity to handle gold mining expansion? • Management of competitive interests over land uses • Community appraisal of the loss of primary forests and technical means to increase income diversification from various streams? • Dependence on cocoa variable markets? • Long-term goal for the landscape?	Community leaders Farmers' groups Women's groups Key informants	Transect walk Historical matrix Problem ranking matrix – Intervention ranking matrix Focus group discussion
Recommendations and conclusions for participatory and inclusive land use planning for the Wassa Amenfi West District.		
• Key people to engage in land management? • Capacity needs for better participation in land use process at village level? • Benefit sharing between land owner and land users?	Traditional leaders Unit committee members	Problem ranking matrix Intervention ranking matrix

Specific Objectives	Target	RRA/PRA tool
• Different community groups needs and interests? (tenants, women, youth, etc.) • Community goals and needs around land uses? • Conversion into agroforestry systems dependent and primarily focused on cocoa/agroforestry? • Maintenance of ever shorter fallow systems needed for food production? • Opportunistic gold mining for additional income?	Assembly members Youth Women Miners if any Farmers' associations	

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