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Coastal Sustainable Landscapes Project

Quarterly Report

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ACRONYMS AND ABBREVIATIONS

AFOLU	Agroforestry and Other Land Uses
ATEBA	Atebubu Beekeepers Association
BAC	Business Activity Center
BMP	Best Management Practice(s)
CA	Conservation Agriculture <i>or</i> Community Assistant
CCC	Climate Change Clubs <i>or</i> Community Conservation Committees
CCM	Center for Coastal Management (at the University of Cape Coast)
CBO	Community Based Organization
CDCS	Country Development Cooperation Strategy
CHED	Cocoa Health and Extension Division
COCOBOD	Ghana Cocoa Board
CREMA	Community Resource Management Association
CRI	Crops Research Institute
CRMC	Community Resources Management Committee
CSA	Climate Smart Agriculture
CSLP	Coastal Sustainable Landscapes Project
CSO	Civil Society Organizations
DA	District Assembly/ies
DCC	District Conservation Committees
DOFA	Departments of Food and Agriculture
EDIF	Export Development Investment Fund (of Ghana)
EMMP	Environmental Management and Mitigation Plan
EPA	Environmental Protection Agency
ESP	Environmental Sustainability and Policy for Cocoa Production in Ghana Project
FC	Forestry Commission
FCMCBSP	Fisheries and Coastal Management Capacity Building and Support Project
FMNR	Farmer-Managed Natural Regeneration
FON	Friends of the Nation (local NGO)
FORIG	Forestry Research Institute of Ghana
FSD	Forest Services Division (of the Forestry Commission)
FY	Fiscal (or Financial) Year
GAW	Greater Amanzule Wetland
GAWCCC	Greater Amanzule Wetland Community Conservation Committee
GDA	Global Development Alliance
GES	Ghana Education Service
GHG	Green House Gases
GIF	Gender Integration Framework
GIS	Geographic Information System
GOG/GoG	Government of Ghana
GSCDP	Ghana Supply Chain Development Project
ICFG	Integrated Coastal Fisheries and Management Project
IP	International Programs (of the USFS)
IPM	Integrated Pest Management
IR	Intermediate Result
ISP	Internet Service Provider
IUCN	International Union for the Conservation of Nature
LULC	Land Use/Land Cover
LUSPA	Land Use and Spatial Planning Authority (formerly TCPD)
M&E	Monitoring and Evaluation

METSS	Monitoring, Evaluation and Technical Support Services
MOFA	Ministry of Food and Agriculture
MOP	Manual of Procedures
MMDA	Metropolitan, Municipal and District Assemblies
MTDP	Medium Term Development Plan(s)
NBSSI	National Board of Small Scale Industries
NGO	Non-Governmental Organization
NRM	Natural Resources Management
NTFP	Non-Timber Forest Products
PAPA	Participating Agency Program Agreement
PMP	Performance Management Plan
PPP	Public Private Partnership
REDD+	Reduced Emissions from Deforestation and Forest Degradation
RMSC	Resources Management Service Center
SFMP	Sustainable Fisheries Management Project
SL	Sustainable Landscapes
SNV	Netherlands Development Organization
SOP	Standard Operating Procedures
STMA	Sekondi-Takoradi Metropolitan Assembly
TOT	Training of Trainers
TCPD	Town and Country Planning Department (now LUSPA)
UCC	University of Cape Coast
USAID	United States Agency for International Development
USFS	United States Forest Service
USG	United States Government
USGS	United States Geological Survey
VSLA	Village Savings and Loan Association
WD	Wildlife Division (of the Forestry Commission)
WR	Western Region
WRCF	Western Region Coastal Foundation

1. PROGRAM OVERVIEW/SUMMARY

1.1 Activity/Mechanism Overview

Program Name:	Coastal Sustainable Landscapes Project
Activity Start Date and End Date:	October 1, 2013 to September 30, 2018
Name of Prime Implementing Partner:	United States Forest Service International Programs
Contract/Agreement Number:	AEG-T-00-07-00003
Name of Subcontractors / Sub-awardees:	None
Major Counterpart Organizations	Ghana Forestry Commission (Forest Services Division, Wildlife Division), Ghana Ministry of Food and Agriculture, Ghana Town and Country Planning Departments
Geographic Coverage (cities and/or countries)	Six coastal districts of the Western Region of Ghana
Reporting Period:	January 1, 2018 to March 31, 2018

1.2 Program Description/Introduction

Ghana's Western Region faces multiple land use pressures in its six coastal districts. Inland and coastal forests are being cleared for commercial development, agriculture, cash crop development, charcoal, timber production, and artisanal mining. In all, these forces are posing significant threats to ecologically significant areas and biodiversity, including in-shore fisheries. High unemployment rates compound these pressures, exacerbating unsustainable natural resource management practices and reducing ecosystem services provided by the Western Region's natural areas. Off and inshore fisheries are on the verge of collapsing due to extreme rates of illegal fishing and the lack of political will to enforce existing laws.

Most land in the Western Region outside forest reserves, other protected areas and sacred groves has already been deforested and converted to agriculture. The current challenge is to find ways of taking pressure off the remaining forests and other natural areas while improving livelihoods.

Other anthropogenic pressures on the landscape, especially land use changes linked to developing oil and gas infrastructure, and a warming climate caused by increased atmospheric carbon dioxide, pose significant risks to the region's coastal landscapes. Climate change is also linked to jet stream fluctuations that cause irregular, more extreme, and unusual weather patterns and events. Changing rainfall patterns and intensities can lead to droughts in some areas and floods in others. In addition to storm events, other adverse impacts to the region from climate change include rising sea levels, salt water intrusion producing higher salinity rates of coastal water sources, changes in marine and terrestrial biological life cycles, and the likely extirpation of species.

The land cover maps below in Figure 1, prepared by the United States Geological Survey (2014), clearly show the trend in agriculture expansion and the loss of forest cover throughout Ghana. The rapid expansion of farmland threatens the remaining forests and natural areas and segments of the population that rely on these resources for their livelihoods. Many poorer rural inhabitants depend on natural products to supplement their income; frequently, these products are their main source of revenue. This is the case especially for youth, women and the elderly, and the loss of this income source equals a dramatic loss as it relates to food security.

USAID/Ghana’s Environmental Threats and Opportunities Assessment of 2011 identified the need for the Feed the Future (FTF) program to mitigate any possible negative effects on forests and other natural areas from agriculture expansion. That threat, together with increased demand for fuel wood and charcoal production, are the dominant drivers of deforestation. Moreover, health risks increase as the quality and quantity of water resources for human and productive uses declines as a result of the hydrologic functions of watershed catchment areas being disrupted by agricultural expansion, deforestation and mining.

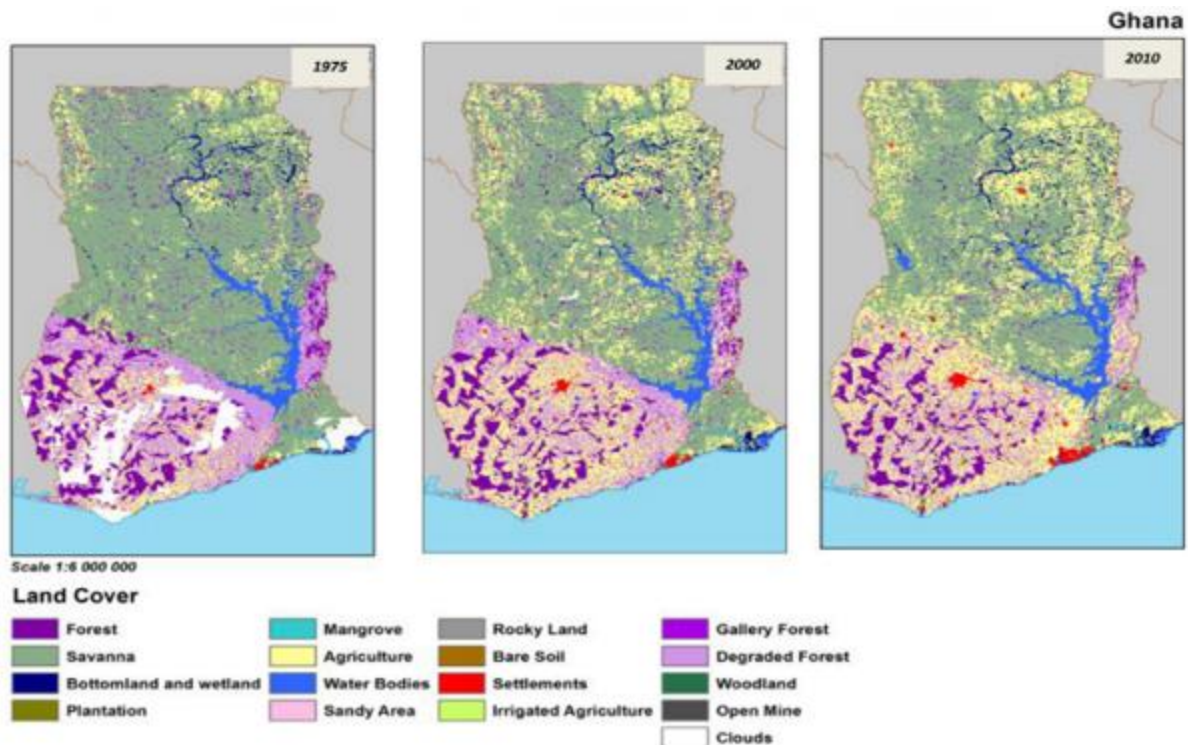


Figure 1. Ghana Land Cover Trends 1975-2010

To address these numerous threats to sustainability, USAID/Ghana’s Economic Growth office has developed natural resource interventions in Ghana’s Western Region. USAID’s main initiative, the Fisheries and Coastal Management Program (FCMP), has four components: (i) Strengthened enabling environment for decentralized fisheries and coastal governance, (ii) Increased use of applied science to inform decision-making, law enforcement and the implementation of management plans, (iii) Heightened public awareness of trends, challenges and successes in ecosystem management and stronger public demand for sustainable use and conservation, and (iv) Improved management of marine and coastal natural resources for multiple benefits.

The US Forest Service, under an inter-agency partnership agreement with USAID, manages one component of the FCMP, the Coastal Sustainable Landscapes Project (CSLP). The CSLP contributes in some form to all four components with special emphasis on component (iv). The CSLP activities target landscape level engagement with communities, non-governmental organizations, government of Ghana agencies, the private sector, and international partners, who live and work in the coastal area from the Cote d’Ivoire border east to Shama District.

The CSLP is responding to the USAID Sustainable Landscapes (SL) Results Framework by focusing on Strategic Objective 1: *Accelerate the transition to low emission development through investments in clean energy and sustainable landscapes*. The SL interventions will support the second development objective of ensuring sustainable and broadly shared economic growth in Ghana under the USAID/Ghana Country Development Cooperation Strategy (CDCS). The goal of the strategy is to support the Government of Ghana in realizing its goal of becoming an established middle-income country by 2022. In this regard, the CSLP works to support Ghana’s economic development agenda and strategies such as the Shared Growth and Development Agenda, Growth and Poverty Reduction Strategy (GPRS), and the Food and Agriculture Sector Development Policy (FASDEP II). USAID/Ghana’s Development Objective 2 also supports two US Presidential Initiatives related to the CSLP, including Feed the Future and Global Climate Change.

If successfully implemented, these efforts will lead to increased employment, improved livelihoods, better land management, increased soil fertility, and increased carbon stocks. Moreover, improved land management will reduce pressure on intact areas of remaining natural forests and wetlands thereby protecting their biodiversity and allowing for the continued development of opportunities linked to ecotourism.

To confront these growing threats mentioned above, the CSLP is working to improve carbon sequestration, forest management, and livelihoods in the six coastal districts of the Western Region (see Figure 2). The overall long-term impact of the project will be to *promote low emissions development in Ghana’s Western Region by strengthening community-based natural resource management and monitoring*. The project focuses on the coastal landscape, including mangroves, other wetlands, and forests and agricultural areas (within and outside protected areas) all of which are managed under a diversity of land tenure regimes.



Figure 2. The six coastal districts in Ghana’s Western Region

Ghana has seen numerous interventions related to forest conservation in the past, many with only limited success. CSLP’s primary activities are focused on community-level interactions that work to achieve low emissions development goals. The project’s activities have been established within communities where there is an existing and functioning community governance body such as Community Resource Management Associations (CREMAs) or similar entities. This history of community collaboration provided an entry point for the project to work with community members on a variety of livelihood activities. One such activity leverages the Village Savings and Loan Association (VSLA) concept, a significant aspect of the project. It is a social entrepreneurial concept that enjoys much success in other areas of Ghana. But it is a novel idea for communities of the Western Region’s coastal districts. With each passing year, enthusiasm and excitement builds with its implementation. The project uses it as a platform to help encourage and promote activities that maintain and increase forest cover with

native and existing tree species while also serving as a means of reaching a large portion of female farmers and household representatives. The CSLP is applying the VSLA concept to provide incentives for farmers and landowners to incorporate more indigenous species of trees on their land while helping provide seed funding for a revolving funding mechanism to work towards improved and diversified livelihoods.

CSLP's interventions have brought awareness among farmers, community members and government officials and substantially increased the understanding of these impacts among stakeholders in the Western Region during and since the project's first phase from 2013 to 2016. Climate smart agriculture activities and other resilient agricultural best practices are helping farmers adapt to this changing climate, reducing the need for high cost inputs, while aiming to sustain or increase productivity despite less predictable weather. In addition, conservation of secondary forest through activities such as beekeeping and increasing tree cover on degraded agricultural lands through farmer managed natural regeneration and enrichment planting has been increasing over the life of the project. The CSLP is building on this work by further connecting farmer groups with markets to increase value of their goods and thereby increase economic opportunity.

With successful implementation, these cumulative efforts will contribute to increased employment, diversified and improved livelihoods, better land management of existing natural resources, augmentation of soil fertility, increased carbon stocks, and avoided emissions of greenhouse gases. Moreover, improved land management and livelihoods will reduce pressure on intact areas of forest reserves and areas of high conservation value, protecting their biodiversity, allowing for ecotourism opportunities and enhancing the value of other ecosystem services within the value chains of the local communities.

2.0 SUMMARY OF RESULTS TO DATE

Table 1. Indicator targets and achievements

Standard Indicators	Baseline FY 2014	FY18 Performance					Annual Performance Achieved to the End of Reporting Period (%)	On Target ? Y/N
		Annual Target	Q1 FY18	Q2 FY18	Q3 FY18	Q4 FY18		
64.8-7 Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO₂e, reduced, sequestered or avoided as a result of USG assistance	0	6,400,000	--	4,459,871	--	--	70%	Y
4.8.1-6 Number of people with increased economic benefits derived from sustainable NRM and conservation as a result of USG assistance	0	1,800	--	1,659	--	--	92%	Y
4.8.1-26 Number of hectares of biological significance and/or natural resources under improved NRM as a result of USG assistance	0	2,100	--	1,129	--	--	54%	Y
4.8.1-29 Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance	0	8,500	1,798	2,548	--	--	51%	Y

4.8.2-14 Number of institutions with improved capacity to address climate change issues as a result of USG assistance	0	80	--	46	--	--	58%	Y
4.8.2-29 Number of person hours of training completed in climate change as a result of USG assistance	0	5,000	661	2,039	--	--	54%	Y
EG. 3.2-1 Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training	0	980	398	347	--	--	76%	Y
EG. 3.2-4 Number of for profit private enterprises, producers organizations, waters users associations, women's groups, trade and business associations (CBOs) receiving UGS food security-related organizational development assistance	0	88	65	8	--	--	83%	Y
E.G. 3.2-17 Number of farmers and others who have applied improved technologies or	0	504	183	83	--	--	53%	Y

management practices								
E.G. 3.2-18 Number of hectares under improved technologies or management practices	0	100	20	21	--	--	41%	Y
E.G. 3.2-20 Number of for profit private enterprises, producers organizations, waters users associations, women's groups, trade and business associations (CBOs) that applied improved organization-level technologies or management practices	0	60	23	9	--	--	53%	Y
C-1 Number of person hours of training completed in VSL modules as a result of USG assistance	0	5,000	1,314	2,796	--	--	82%	Y
C-2 Number of community sensitization sessions on climate change issues and/or NRM/biodiversity conservation as a result of USG assistance	0	60	18	22	--	--	67%	Y
C-3 Number of persons receiving start-up items for	0	100	77	--	--	--	77%	Y

improved NRM/ biodiversity conservation as a result of USG assistance								
C-4 Number of project-planted seedlings surviving in towns/communi- ties as a result of USG assistance	0	57,600	--	--	--	--	--	Y
Other VSLA custom indicators								
Number of active informal savings and lending groups							48	
Cumulative Amount (in USD) saved by informal Savings and lending (VSLA) Group							\$78,373	
Number of members of active in informal savings and lending groups							1,229	
Men							398	
Women							831	
Amount of funds loaned (in USD) in this fiscal year by informal savings and lending groups							\$62,790	

3.0 ACTIVITY IMPLEMENTATION PROGRESS

3.1 Summary of the Quarter

Now at the halfway point in its fifth year of implementation, the CSLP team is focusing on ensuring the various behavior change activities supported by the project can be sustained after activities come to a completion. To accomplish this, the CSLP staff and partners have been reaching out to key stakeholders to help hone their skills and knowledge relative to roles they will play for beneficiaries for years to come. In numerous cases, this same audience of government and traditional authorities is also pushing the project to address their own concerns about sustaining the progress and results they see stemming directly from the CSLP's actions. Less time is now being spent introducing new topics /technologies or in scaling up activities. Instead, project staff is increasing the time being spent with beneficiaries to monitor activities, provide hands-on coaching, and to understand and best address challenges as they arise to help ensure farmer confidence and greater adoption rates.

With this background in mind, the initial pages of this section highlight and summarize some of the activities completed during this second quarter of FY 2018. The bulk of the section provides details of specific activities conducted during the quarter as outlined in the FY 2018 Annual Work Plan.

Highlights

Cocoa shade tree cover restoration trainings benefited 222 farmers (119 men and 103 women) during the quarter across three districts from the Nzema East Municipality and Ellembelle District. One of the main drivers of deforestation in the Western Region is linked to agriculture commodities like cocoa and rubber production. The CSLP is working closely with farmers to nurture and replant economically viable shade trees to help restore tree cover and eliminate deforestation linked to the cocoa supply chain. Because cocoa trees grow best and yield most in the shade, this will boost farmer incomes. The system also provides significant environmental benefits such as maintaining soil fertility, increasing the supply of organic matter in soils, hosting pollinators, providing habitat for native birds and animals, and increasing the sequestration of greenhouse gases.

Two USAID Feed the Future projects, the Coastal Sustainable Landscapes Project and the Sustainable Fisheries Management Project, celebrated World Wetlands Day in Ghana's Western Region with Government of Ghana officials and Hen Mpoano—a local fisheries and coastal governance NGO supported by the SFMP and the CSLP. Also in attendance were the Western and Eastern Nzema Traditional Councils, the Ministry of Lands and Natural Resources, the Forestry Commission, the private sector, and development partners. World Wetlands Day is celebrated every year on the 2nd of February to raise global awareness of the value of wetlands to local communities, nations, and the planet. This year, the organizers helped to focus national attention on the importance of conserving the Western Region's Greater Amanzule Wetland. During the event, a commitment was received from the Western Regional Minister to support efforts for the GAW to achieve formal national conservation status. This move, if brought to fruition, will help protect the livelihoods of mangrove and wetland dependent communities, their 7,000 families, and the resource as a whole.

Three VSLAs conducted share out training during the quarter and the results continue to have very positive results. A first cycle share-out conducted for the *Koryele* VSLA at Kamgbunli (comprising 20 women and 4 men) yielded a payout to members of GHS 7,038 (US \$1,600). During the period, the group gave out loans totaling GHS 1,114 (US \$253) and realized an 18.4% rate of return on savings, far greater than that from any formal savings institution in Ghana. The VSLA is helping change women's stories across the landscape where CSLP is working, from one of being disadvantaged to being hopeful and empowered. Global experiences with VSLAs have shown that financially empowered women are a significant factor in overcoming poverty and help build prosperous communities. One of these Kambunli women is Zainab Yusuf Amoako, a 30 year-old mother of four and a widow. She has just received GHS 260 (US \$59) and cannot hide her joy. "I have enough money to

buy cement to plaster my house and I am going to do just that. Now my children will have a more decent place to sleep,” said Zainab. Many women like her have been empowered to start businesses to support their families and create wealth in their communities.

CSLP and its beneficiaries replanted 2,500 mangrove seedlings in Shama District. Mangroves play vital roles including conserving biodiversity, helping mitigate flooding, serving as breeding grounds for fish and serving as vital livelihood resources to communities where they are found. Research has revealed that a hectare of mangrove forest is worth up to US \$15,161 a year in disaster protection alone. In spite of these important services, the rate of destruction of mangrove forests is three times higher than that of terrestrial forests; over 50% of global mangrove forests have been lost during the last 35 years (FAO 2010). The replanting exercise in Krobo will help communities increase their resilience against flooding shocks and also help protect and ensure the livelihoods of mangrove and wetland dependent communities.

Unmanned Aerial Vehicle (UAV, or drone) technology was used in collaborative effort with the other USAID-funded projects (SFMP, UCC, Hen Mpoano and Friends of the Nation) to collect real time data on wetland and mangrove ecosystems in the Western Region. These landscapes provide a variety of ecological and economic services including: coastal erosion protection, water filtration, provision of spawning grounds for fish and shrimps. In the Western Region, they are the critical renewable resource that supports the livelihoods of thousands of households. The Ramsar Convention on Wetlands emphasizes the importance of immediate protection measures and conservation activities to prevent further loss of mangroves. The UAV (drone) allows for rapid collection of large amounts of data and provides a unique overview and database for mapping these areas. These data will help document up-to-date information with regard to the extent and condition of mangrove resources to aid effective community management as well as policy and decision-making processes by Ghana’s Land Use and Spatial Planning Authority, Environmental Protection Agency and other relevant institutions.

CSLP’s climate smart agriculture (CSA) beneficiary, Komfueku Junior High School (Shama District), has been selected by the Department of Food and Agriculture for government’s flagship program: *Planting for Food and Jobs*. Komfueku D/A JHS climate change club is currently searching for a bigger plot of land to accommodate the initiative. Ghana has a young age structure with about 57% of its population under the age of 25. In the face of declining natural resource livelihoods and projected population growth (Ghana’s population is projected to increase from current projected number 29.2 million to about 36.9 million by 2030), the government’s program seeks to spur recognition at the primary school level. The goal is to boost the interest of other schools and youth to pursue agriculture professions while helping to create a more food secure country and contribute to a sustainable agricultural sector.

Nineteen CSLP-trained beekeepers from 14 communities across five coastal districts in the Western Region participated in a four-day training tour in the Brong-Ahafo Region. The training tour provided the beekeepers an opportunity to interact with members of the Atebubu Beekeepers Association, observe practical aspects of beekeeping, and discuss with them the lessons they have learned from their 15 years’ worth of experience. At the tour’s end, the CSLP-supported beekeepers pledged to increase their own apiary efforts, and in numerous cases, also to increase their personal investments in the activity. Project monitoring since the study tour bears this out. Some have turned to their VSLAs for loans to construct more hives, others are doing this on their own and CSLP Community Assistants are reporting wider adoption of apiary best management practices.



Figure 3. CSLP-supported beekeepers and some members of Atebubu Beekeepers Association

The project initiated the first of several discussions among 55 community members (41 women, 14 men) to assess their access to land for food crop production in Nzema East Municipality. The meeting brought together women and landowners (41 women, 14 men) to discuss challenges women face in accessing land for food crop production. In the Western Region, land for food crop production competes heavily with cash crops (e.g., rubber, cocoa, and oil palm) leaving food crop farmers at a disadvantage. Landowners present promised to make more land available to women for food farming. In Ghana, women make up about 50 percent of the agricultural labor force but own only about 10 percent of land. Evidence from elsewhere indicates that if these women had the same access to productive resources as men, they could increase yields on their farms by 20 to 30 percent, raising total agricultural output in Ghana by 4 percent. In turn, this would reduce hunger by 12 to 17 percent. Women are, however, constrained by the most vital resource to agriculture—land. The project will continue to hold these discussions in other communities. With active monitoring it is hoped to contribute to greater land security for women and help increase crop yield and food security in the communities on the landscapes.

A food value chain networking workshop was held in Ellembele District that attracted 78 participants from CSLP climate smart enterprise groups, input suppliers, vegetable buyers and government officials. The climate smart agriculture (CSA) enterprise groups engaged with agricultural service providers and local buyers interested in their organic produce. Too often, rural farmers struggle with access to inputs temporally, economically and in the right quantities. And after harvest, mainly because they are not organized, they lack the capacity to either negotiate for better prices, or to store their produce until prices increase. Thus, many vegetable farmers struggle to sell their produce at a profit. This market linkage event, the first of its kind in the Western Region, provided capacity building and networking opportunities for participating enterprise group members to establish supply linkages and create networks between farmers, suppliers and buyers.

Table 2. CSLP training events¹ in FY 2018, Quarter 2.

Training title	No. of trainees		Type of trainees ²				Indicator	Comments and/or unique attributes of the training
	M	F	A	B	C	D		
Output 1: Increased incomes from livelihood diversification								
Village Savings & Loan Association (VSLA), Modules 2, 3, 4, 6, 7	114	281					Custom-1	Involves 19 VSLAs in 15 communities and includes peer/exchange learning; includes 8 new VSLAs formed
Climate smart agriculture (CSA) -- includes hands-on trainings for farmers and others	233	120					EG. 3.2-1	Trainees include 275 students & teachers in 3 Senior High Schools
CSA enterprise market network workshop	40	38					EG. 3.2-1	Initial workshop of vegetable enterprise groups, buyers & service providers
Food security	72	65					EG. 3.2-1	For farmers in 4 communities
Training tour for CSLP beekeepers to Atebubu (in Brong-Ahafo region)	14	5					4.8.1-29, EG. 3.2-1	Atebubu Beekeepers Association hosted
Output 2: Improved environment and natural resource management								
Wetland monitoring, Module 3	38	26					4.8.1-29	1 public school/ CCC; UCC pilot training
Wetland monitoring, Module 4	83	51					4.8.1-29	2 public schools / CCCs; UCC pilot training
Leadership and environment	36	23					4.8.1-29	1 public school. Led by teachers trained by CSLP
Cocoa shade tree cover restoration	119	103					4.8.1-29, EG 3.2-1	5 communities. Trainees include 24 male COCOBOD CHED staff
Training of Trainers (ToT): Environmental education on sanitation for teachers	38	19					4.8.1-29	Joint effort with EPA, WD & GES
Agriculture in schools	12	0					4.8.2-.29	For CCC teachers, collaboration with GES
NRM awareness training for CREMA members	36	29					4.8.2-.29	3 CREMA communities with Wildlife Division
Educational tour to Benya lagoon at Elmina and Fosu lagoon at Cape Coast	43	29					4.8.2-.29	Yabiw JHS CCC, Collaboration with UCC
ToT: sustainable conservation, mangrove harvesting, community rules for wetland management	81	18					4.8.1-29	Conservation committee members in 24 communities
Hands-on training on mangrove nursery establishment	33	35					4.8.1-29	3500 propagules nursed at Anyanzinli

¹ These represent the sum of the training events of the quarter. Some trainings occurred over multiple dates and venues.

²A: Producers B: People in government C: People in private sector firms D: People in civil society NGOs, CBOs, CSOs, research and academic organizations

3.2 Output 1: Increased Incomes from Livelihood Diversification

Table 3. Planned and implemented activities for Output 1 in Quarter 2 of FY 2018

Activities to be Implemented	Expected Outputs	Achievements	Outstanding Activity
<p>1.1 Intensified and diversified environmentally resilient land use technologies adopted by beneficiaries</p>	<ul style="list-style-type: none"> ● 3 enterprise groups supported and producing wholesome vegetables using climate resilient agricultural practices 	<ul style="list-style-type: none"> ● 7 CSA vegetable demonstration farms were established during the quarter 	<ul style="list-style-type: none"> ● Enterprise groups will be supported with linkages to input suppliers ● Members will be supported to establish individual farms
<p>1.2 Natural resource value chains improved</p>	<ul style="list-style-type: none"> ● Farmers and beekeepers have improved skills in the management of the farms, apiaries and marketing 	<ul style="list-style-type: none"> ● 19 CSLP beekeepers (including 5 women) embarked on a training tour to interact and learn from the Atebubu Beekeepers Association in the Brong Ahafo Region ● The CSLP-facilitated apiaries were monitored during the quarter and honey harvested from 20 ● CSLP, under the invitation of the Western Region MoFA office trained 29 Extension Officers and farmers in “Introduction to Beekeeping” ● A one day workshop was organized for 10 stakeholders in the CSA vegetable production chain to exchange and share information with CSA farmers 	<ul style="list-style-type: none"> ● Tour participants will be encouraged to mentor and provide information to other CSLP-supported beekeepers ● A catalogue of contact, location, telephone numbers and products or services they provide will be produced and distributed to enterprise group members
<p>1.3 Economic opportunities increased</p>	<ul style="list-style-type: none"> ● Community-based groups such as VSLAs and enterprise groups function effectively to 	<ul style="list-style-type: none"> ● 8 new VSLAs were established with a total of 211 members, including 150 women 	

	enhance the livelihood of members	<ul style="list-style-type: none"> ● With the support of the CSLP-trained Village Agents (VAs) all of the VSLAs were monitored ● Discussions among the VSLAs and the VAs concluded with a relationship agreement template to be signed between the VSLAs and VAs ● CSA input dealers were linked with farmers to help ensure sustainable supplies of inputs 	<ul style="list-style-type: none"> ● VSLAs that are nearing share out but with overdue loan repayments will be given more attention and strongly encouraged to repay ● There will be collaboration with the input dealers to plan on-farm demonstration of their products with farmers
1.4 Capacities enhanced for diversified livelihoods	<ul style="list-style-type: none"> ● Individuals, especially women, diversify their production to improve nutrition and income 	<ul style="list-style-type: none"> ● 137 people out of which 49 were women, received training in food security and climate change 	<ul style="list-style-type: none"> ● Interested farmers will be taken through CSA practices including post-harvest management trainings

Activity 1.1 Intensified and diversified environmentally resilient land use technologies adopted by beneficiaries

CSA Vegetable Production

The climate smart agriculture (CSA) technology is gaining more attention on the landscapes of the six coastal districts of the Western Region. The CSLP's persistence in promoting the technology and the increasing number of farmers who are adopting the best practices and having positive results is beginning to pay dividends. The farmers are becoming more aware that they cannot continue with the status quo of pumping excessive volumes of chemicals into the environment and the food that they are producing and all the while weakening their land's productive capacity. Farmers and communities show excitement about the concepts of CSA but admit their lack of skill and experience to adopt it more fully. This is often more frustrating because the current level of soil degradation now requires more aggressive and longer term action with organic fertilizer, mulching and management of pests and diseases to restore the soils to a more productive state. To encourage them to adopt and maintain best CSA practices, the CSLP is working to support farmers within enterprise groups, enabling them to work and learn the skills together.

During the quarter, two enterprise groups were established and set up group demonstration farms; a third group also was initiated right at the end of the last quarter and did not figure in this periodic accounting. The three

groups (noted in the table below) received classroom training about CSA best practices as well as periodic hands-on field training as a group on their collective demonstration farms. Topics included site selection for vegetable production, preparation of site for vegetable production, selection of planting material, preparation of compost and benefits of compost and Integrated Pest Management (IPM).

Enterprise Group Name	Membership		Size of Farm (ha)	Sales to date (GHc)
	Women	Men		
Elole Kuo	3	10	1.1098	Nil
Vegetable Growers Assoc.	-	6	0.558	Nil
Marsha-Allah	42	19	0.885	1,500.00

Practical, hands-on activities for the enterprise group members included nurturing seedlings on nursery beds, transplanting, mulching, diagnosing pests and diseases and the application of IPM. These are also opportunities when CSLP or DoFA extension officers meet them to provide support. These three enterprise groups are currently focused on the production of eggplant and cabbage. Through CSLP cooperation and coordination with the Western Region Coastal Foundation (WRCF) they each have received a set of solar (water) pump on a hire purchase basis so they can produce throughout the year.

Activity 1.2 Natural resources value chains improved

Beekeeping Training

In its quest to encourage farmers to practice reduced emissions from deforestation and forest degradation (REDD+), CSLP introduced beekeeping to the farmers within the six coastal districts in the Western Region. Beekeeping helps to diversify farmers' income through honey and other products' sales while also improving the



Figure 4. The CSLP-supported beekeepers together with members of Atebubu Beekeepers Association in the Brong Ahafo Region

yields from tree crops such as cocoa, oil palm and coconut and, to some extent, citrus, through enhanced pollination. With the added element of avoiding deforestation through long term fallows or not cutting secondary forest growth on their lands, farmers can make the conscious choice of not clearing or converting these lands for other purposes. Sites that are reserved and developed into apiaries may be considered as REDD+ areas as they remain a forest patch that can also be enriched with planting or natural regeneration for as long as they are used as apiaries.

Before it was introduced by CSLP in 2014, beekeeping was not common or an attractive livelihood for most farmers on the landscapes. In the past several years, the project has actively worked with more than 100 farmers to develop their beekeeping acumen and improve their apiary management. It has been a learning process both for project technical staff and the farmers in the landscapes of the coastal region. Beekeeping here is significantly different than other areas of honey production in Ghana due to the very moist climate and varying microsites. These challenges have been prominently featured in previous quarterly reports.

Interest in beekeeping is rising on the landscapes as the first adopter farmers are achieving success and producing honey where it was not previously available. To capitalize on this experience, the CSLP facilitated a training tour for 19 of its trained beekeepers (including 5 women) to interact with members of the Atebubu Beekeepers Association (ATEBA) in the Brong Ahafo Region. ATEBA, in existence for the past ten years, has been through challenges similar to those of the CSLP group. The training provided the opportunity for CSLP beekeepers to learn of ATEBA's successes and failures and to share their own more nascent experiences. Some of the events on the training tour included question and answer sessions, visits to the apiaries, practical honey harvesting demonstrations, honey processing, and a visit to a mango nectar producing plantation. An attitudinal change has been observed in the CSLP-supported beekeepers following the training tour. They learned that the challenges they were facing are not peculiar and that what is required is to know the factors that bring about the challenges and manage the apiaries to avoid those factors. They also learned that the knowledge they have so far is excellent and so they should take advantage and operate in confidence. They were told that the individual apiaries could have as many as 10 to 20 beehives in order to make the venture more cost effective and profitable. The beekeepers also learned to their amazement that they could construct beehives by themselves without the so-called precisions that have been prescribed for the Kenyan top bar hive including even the top bars.

Monitoring of the CSLP-supported apiaries by project-trained Community Assistants (CAs) continued during the quarter. Regular apiary monitoring became necessary when it was realized that a major cause of the frequent absconding of the bees was due to unhygienic hive and apiary environment. During the quarter, monitoring frequency was increased because the main honey harvest season begins in February (and lasts through May). More frequent monitoring by the beekeeper helps to ensure that the honey harvest is done at the right time. Again, the training tour helped reiterate this point and the beekeepers have shown much more diligence to this important factor resulting in cleaner apiary environments. In fact, following the tour, 50 CSLP-supported beekeepers have now earmarked a 100-meter radius around their hives where they will ensure that no agrochemical spraying takes place.

Apart from monitoring to ensure the application of Best Management Practices (BMP), 20 hives experienced their first harvest during the quarter and a total of 52 liters were collected. The beekeepers are both happy and convinced that they will have better yields with time as compared to when there were only brood combs in the hives last year.

Beekeeping Training for Government of Ghana Extension Officers

The Western Region MoFA has set the objective to help farmers diversify their income through non-traditional agricultural activities within the local assemblies. This is to help farmers become more resilient and not suffer unduly in case of crop failure. One venture decided on has been beekeeping. Thus, during the quarter, CSLP was invited by the regional office of MoFA to help with the training of extension officers and farmers in a Training of Trainer (ToT) fashion. The participants, comprised of 12 Agriculture Extension Agents (AEA) and 17 farmers, were selected from both the Jomoro Municipal and Ellembelle District Assemblies including one woman AEA. The participants were taken through the CSLP's introduction to beekeeping module. CSLP has pledged to continue to support the ToT trainees to roll out the trainings within their areas of jurisdiction as follow-up in order to ensure effective trainings.

CSA Vegetable Value Chain Actors Workshop

A number of CSLP farmers who have been practicing climate smart agriculture (CSA) vegetable production for the better part of three years are becoming more solidly convinced that CSA is the right way to go for producing vegetables for their families and market. A substantial number of them are still not able to produce the consistent volume that they desire due to limited access to necessary inputs and lack of information on potential markets and buyers. While the small-scale farmers face all these challenges, the CSLP has recognized that there are businesses

related to the CSA vegetable production value chain who complain about lack of patronage and reliable sources of produce.

In response the project organized a one-day workshop to pull all the actors within the vegetable production value chain together to share their products and services, demands and needs. The gathering brought together over 80 participants from restaurants, hoteliers, MoFA/DoFA regional and local assembly staff, NBSSI; food service providers to the mining, oil and gas industry; seed suppliers/sellers and enterprise group members/farmers. Each of these groups had a representative who shared what they do, how they do it and where they may be found.

The farmers from the CSLP-supported enterprise groups (including Hen Mpoano from the GAW communities) and the Western Region Coastal Foundation, expressed their concerns of inadequate supplies of inputs such as seeds, organic fertilizer and IPM products. On the other hand, buyers of vegetable produce expressed the lack of adequate volumes of organic vegetables and the fact that the sources that do exist are often very scattered and require aggregators to collect and deliver them. Another buyer concern was the fact that they needed wholesome produce that is not laden with harmful chemicals. Some of the buyers encouraged farmers to pay attention to farm hygiene, saying that they would like to visit a section of farms before they buy from them.

At the end of the workshop, farmers realized that there is huge market for organic vegetable produce and that they need to actively network, coordinate and link with other stakeholders such as middle men/women. Farmers also learned about other IPM products some of which were being produced in their backyard within the coastal districts of the Western Region and where to get them. Notable among them were the bamboo vinegar and new ones such as charcoal sand, lemon hydrosol, neem cake and oil, and sources of poultry wastes.

Activity 1.3 Economic opportunities increased

VSLA Formation and Monitoring

The Village Savings and Loan Association (VSLA) concept continues to spread across the landscape of the Western Regions' six coastal local assemblies. A VSLA is a group of people who save together and take small loans from those savings. The activities of the group run in cycles of approximately one year, after which the accumulated savings and the loan profits are distributed back to members. CSLP has adopted the VSLA with the objective of improving livelihoods through simple loan facilities available to community members constrained financially in their quest to adopt some of the introduced interventions. For instance, beekeepers who want to acquire more hives beyond the initial one hive provided by CSLP, can depend on the VSLA to meet those needs as well as others. Eight new VSLAs were established during the quarter, including one through CSLP grantee Hen Mpoano, with a total of 211 members of which 150 are women.

The 41 existing VSLAs on the CSLP landscape were monitored and received regular support during the quarter from the project's Supervisory VSLA Specialist and the project-trained Village Agents. During the quarter, six VSLAs completed the fiscal cycles (reached the "share out" stage) with two achieving this for the first time, one for the second time, and three for the third time. The return on savings for these three groups continues to outpace



Figure 5. Ankobra Farms representative sharing climate smart agriculture experiences with farmers at the value chain actors workshop

any savings rate that members could obtain at local banks (indeed any bank in Ghana). More importantly, the monies remain local and are actively used for small loans to individual members.

Cycle experience	Community	VSLA Name	Return On Savings (%)
One	Alloakpoke	Elole	11.60
One	Kamgbunli	Koryelle	18.80
Two	Fiasolo	Nyame Tumi	6.40
Three	Asonti	Nebeyin	23.29
Three	Fawoman	Nhyira	11.68
Three	Asonti	Asomdwe	21.30

Routine monitoring by the VSLA Supervisory Specialist and/or the project-trained Village Agents during the quarter revealed some management and operational issues. These were not necessarily new or unique, and included such practices as poor attendance, non-compliance with agreed upon by-laws of their constitution, and weak fund management.

From experience across all VSLAs in Ghana, it is evident that adherence to the group’s by-laws is what helps keep the VSLA strong and, as a group matures and resolves these issues, they appreciate the transparency and the benefits that the VSLA brings to them as individuals. To address some of these concerns, a one-day peer learning and experience sharing visit took place for representatives of four active VSLAs and representatives of two groups in the preparatory stage of forming a VSLA. These 96 representatives (36 men, 62 women) observed the regularly scheduled meetings of two well-managed VSLAs in the Jomoro Municipal Assembly. At each meeting, the visitors first observed the host groups’ meeting process from start to finish and then had the opportunity for questions from the visitors and discussions were allowed. It is expected that the visiting and poorer performing VSLAs will use the peer learning experience to implement better practices within their own associations. For the two new groups, the experience can provide lessons on how to effectively initiate and run their own associations. All six of the visiting groups will be monitored to see if the exercise has motivated them to be good performers.



Figure 6. Share out for Nyame Tumi Village Savings & Loan Association in Fiasolo

As noted elsewhere, the CSLP has identified and trained Village Agents (VAs) from within the VSLA group memberships to help insure sustainability and improve local capacities. The VAs are members of the VSLAs who have been trained to help their peer VSLA members to meet and maintain the standards expected of them. Not only are Village Agents selected to help train groups in the VSLA methodology but also to continue helping newly formed VSLA groups, providing an important element of sustainability in the process. With the increasing number of the VSLAs, their scattered geographic locations, and often very poor access during several months of the year it is very difficult to monitor all the VSLAs effectively. The VAs help

to fill this gap and are an important component of the project’s efforts to increase and improve local capacities in this microeconomic function.

The VAs support have been profound in facilitating the mobilization of new membership for new VSLAs through the self-selection philosophy and training in the VSLA modules, monitoring and training of active groups, providing conflict resolution within the groups and facilitating share out meetings, all in the absence of the CSLP Specialist. During the quarter, discussions were facilitated between the VAs and the various VSLAs resulting in a draft agreement template governing the services of the VA to the VSLA. Adapted from the VSLA Guide online, the agreement lists a number of roles and duties of the VA on the one part and the VSLA on the other. In effect, it is an agreed code of conduct and makes it clear that VAs have no right to request for gifts nor touch the VSLA money for any reason. This agreement will be signed between any VA and any VSLA that they will work for. Depending on the financial strength of the VSLA, agreements on token amounts to be given to a VA to cover their costs are certainly acceptable.

CSA Producers Link to Input Dealers

Inputs needed for CSA production are not as commonly advertised, displayed or as widely sold as most agrochemicals are within the economic centers on the CSLP landscapes. Some of the CSA agro input sources are present locally, but the CSA farmers do not know them. Until now, most of the farmers have depended on the CSLP staff to buy (and deliver) these products for them. This is not a sustainable model and the current circumstances have led the CSLP staff to initiate a series of steps to make them more self-sufficient as CSA farmers now that they are adopting the practices in larger numbers.

In preparation for the incoming major planting season therefore, CSLP organized a workshop for a section of the farmers where some input dealers were invited to talk about the services they supply. Five institutions participated in the meeting and explained their products (see table below) and supply chain strategies to the farmer representatives from the CSLP-supported enterprise groups.

Institution	Location	Products
Ankobra Beach Farm	Ankobra, Nzema East Municipal Assembly	Bamboo vinegar, charcoal powder
Essential Oils	Axim, Nzema East Municipal Assembly	Lemon hydrosol
Nvellenu Farms	Axim, Nzema East Municipal Assembly	Poultry waste
Green GRO	Accra	Neem oil, neem cake
TIKOLA	Takoradi and Accra	Certified vegetable seeds

Telephone contacts were set up and the list given to the farmers. At present, farmers will have to visit the suppliers’ locations to purchase the inputs because the volumes are small and not sufficient to warrant a delivery by the supplier. The farmers could do collective purchasing by sending an individual for a number of farmers. Some of the farmers took advantage and bought some of the products at the meeting. Plans are now being formulated for the institutions to demonstrate how to use the various products to the farmers on-farm, especially on the enterprise demonstration farms.

Activity 1.4 Capacities enhanced for diversified livelihoods

Food Security Training

Food security is critical within the six coastal local assemblies and Ghana as a whole, particularly in the face of climate change. The modes of food production will require change if people’s food needs are to be met from national, regional and local production sources. It has therefore become important to create awareness in people, especially the primary food producers, in order that they will be motivated to adopt the needed changes for Ghana to be able to meet its food needs.

A “Food Security and Climate Change” training took place in four communities across two municipal assemblies. The main objective of these events was to encourage farmers to approach food production with a different mindset—to not focus on income only, but also to think about ensuring sustainable production and supply of wholesome and nutritionally balanced produce. The farmers were exposed to the definition of food security and the pillars of food security. Having understood what food and nutritional security is, the training then ventured into discussions about what strategies can be adopted to achieve food security and the necessary pillars that need to be adhered to in the face of growing climate unpredictability. A total of 137 people participated in the training; 49 of the total were women.

3.3 Output 2: Improved Environment and Natural Resources Management

Table 4. Planned and implemented activities for Output 2 in Quarter 2 of FY 2018

Activities to be Implemented	Expected Outputs	Achievements	Outstanding Activity
2.1 Forestry and agroforestry interventions developed and practiced	<ul style="list-style-type: none"> Trees are integrated into community and farming landscapes to improve environment and with secure tenure 	<ul style="list-style-type: none"> 222 cocoa farmers (including 103 women) received training in cocoa shade tree cover restoration during the quarter ToT in cocoa shade tree cover restoration was organized for 24 field officers of CHED-COCOBOD In collaboration with the STMA, 2 Public Junior High Schools have been identified and are being supported to raise at least 6,000 seedlings of variety of species for urban planting in the STMA 	<ul style="list-style-type: none"> Cocoa farmers will be monitored and supported to identify commercial timber saplings and nurture as natural regeneration A monitoring schedule will be shared with trainees to support the trainees on-farm to train farmers
2.2 Carbon sequestration improved and effectively monitored	<ul style="list-style-type: none"> Carbon sequestration in CSLP enlisted sites monitored and calculated 	<ul style="list-style-type: none"> 371.74 ha of farms mapped during the quarter; 4.46 ha of the total was CSA farms 	

<p>2.3 Stakeholder Coordination strengthened</p>	<ul style="list-style-type: none"> ● Regional, district and community level stakeholders are updated on CSLP activities and feedback solicited 	<ul style="list-style-type: none"> ● 2 Western Regional stakeholders meeting were organized during the quarter ● CSLP updated MMDAs' staff of CSLP's implemented activities during the quarter at a joint meeting ● 26 Chiefs/Queens/Elders from CSLP communities received update of implementation within the quarter and made recommendations to CSLP 	
<p>2.4 Capacities increased in environmental resilience and natural resources management</p>	<ul style="list-style-type: none"> ● MMDAs and communities have improved skill in resources management and integrate spatial planning in natural resources management 	<ul style="list-style-type: none"> ● Spatial Planning needs of the MMDAs were assessed ● Over 6,000 mangrove seedlings were transplanted in Krobo in Shama District ● Agricultural science students and teachers in 3 senior high schools receive training in CSA vegetable production ● CSLP and DoFA agreed on modality for collaborating to sustain CSA activities ● In collaboration with the Wildlife Division, EPA and the GES, 2 ToT were organized for teachers during the quarter ● Quiz and football competition organized among CCCs ● Artwork tools were procured for Climate Change Clubs to 	<ul style="list-style-type: none"> ● Staff of relevant departments will be trained according to their defined needs in the ensuing quarter. ● A monitoring schedule will be instituted to monitor survival and why seedlings did not survive ● A selection of DoFA Extension officers will be supported and monitored on their CSA training to farmers ● ToT participants will be joined in the training of school children ● A selection of outstanding artwork

		<p>facilitate the creation of awareness posters on the environment</p> <ul style="list-style-type: none"> ● Wetland monitoring tour was organized for CCC in Yabiw to Fosu and Benya Lagoons in the Central Region ● 3 CRMCs of the Cape Three Points CREMA received training titled “CREMAs and their Environment” ● World Wetland Day 2018 was celebrated in collaboration with relevant stakeholders ● IEC materials such as T-shirts, facts sheets, press release and 2018 calendar were produced and distributed to communicate the objectives of CSLP 	will further developed and shared
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Activity 2.1 Forestry and agroforestry interventions developed and practiced

Cocoa Shade Tree Cover Restoration

Cocoa remains a major tree/cash crop that sustains the economy of Ghana. In the last few years, the COCOBOD of Ghana has started recommending the nurturing of a recommended number of trees per hectare in cocoa farms in order to avert the difficulties that have been associated with failing farms. Coupled with the review of tree tenure laws by the Forestry Commission and the Ministry of Lands, Forestry and Natural Resources, allowing farmers to own and benefit from planted trees, the trend is now reversing. The COCOBOD now produces cocoa seedlings for farmers free of charge but only on condition that they plant the recommended number of timber trees per acre. The situation has therefore created a huge potential for introduction of commercial timber trees into cocoa farms to enhance carbon sinks on the farms while also building resilience of cocoa farms, enhancing biodiversity and diversifying farmers income into benefits from timber. There is however a lack of know-how on the part of farmers and even the CHED-COCOBOD extension staff in the agroforestry practice of introducing trees into the cocoa farms and their management to ensure optimum yield of cocoa and timber for the farmers.

During the quarter in two separate events, 222 cocoa farmers (including 103 women) received training in cocoa agroforestry through its cocoa shade tree restoration (CSTR) training curriculum. The objectives of the curriculum are for the farmer trainees to:

- Understand the function and roles that trees play in cocoa plantations;
- Identify and select appropriate shade trees for restoring cover in the cocoa plantations; and,

- Know examples of practices and management of shade trees in cocoa farms.

There were practical sessions that enabled the trainees to practice the identification of tree saplings and estimation of planting distances. Farmers were also encouraged to become as conversant as possible with identification of naturally regenerated trees and shrubs for nurturing on the farms to maintain biodiversity. Management practices such tree spacing, thinning, pruning and singling of coppices were also highlighted.



Figure 6. Participant demonstrating the process of singling at the CSTR training in Asonti

In order to extend the skills beyond the CSLP operational communities, all the extension staff of the CHED-COCOBOD from the Aiyinase Cocoa District (14 participants) and the Elubo Cocoa District (10 participants), both of which are parts of the Jomoro Municipal Assembly, participated in the training of trainers (ToT) exercise.

These extension officers will now be monitored for the farmers that they train in turn within their respective districts and on the feedback they provide on the effectiveness of the ToT exercise.

Urban Forestry

CSLP has adopted urban tree planting as creating the opportunity for a local assembly such as the Sekondi Takoradi Metropolitan Assembly (STMA) which does not have as many tree crop farmers as the other five coastal assemblies of the Western Region. A carefully planned urban forestry program that covers the major streets, open areas as well as school compounds will enable these spaces to also contribute to carbon sinks favorably.

In line with this and coupled on the STMA's request, two schools have been identified through the Ghana Education Service Directorate of the STMA to help produce 6,000 seedlings earmarked for planting along the streets, open areas and some school compounds within the metropolis. This has become critical in the face of some schools have their roofs ripped off in recent past during storms.

Activity 2.2 Carbon sequestration improved and effectively monitored

Mapping of CSLP Intervention Sites

A total area of 371.74 ha of farm was mapped during the quarter across seven communities and comprised of two land cover types: cocoa agroforestry farms (367.284 ha) and climate smart food crop farms (4.46 ha). The details are below.

Local Assembly	Community	Cocoa (Ha)	CSA Farm (Ha)	Total (Ha)
Ellembelle District	Fiasolo	46.59	2.01	48.60
Ellembelle District	Adubrim	2.23	-	2.23
Ellembelle District	Ayawora	11.414	-	11.414
Nzema East	Asonti	233.85	-	233.85

Jomoro Municipal Assembly	Navrongo	-	0.80	0.80
Jomoro Municipal Assembly	Tweakor 1	21.91	1.65	23.56
Jomoro Municipal Assembly	Tweakor 2	51.29	-	51.29
TOTAL		367.284	4.46	371.74

UAV Flights in Akwidaa, Yabiw, Krobo and GAW communities.

CSLP has been involved in wetland monitoring and management as a component of its activities in communities. The goal is to enable community members and district assemblies to assess the extent of their wetland resources through mapping and then plan and implement sustainable management of selected wetlands. Some of the positive outcomes of these activities are the strong commitment of community members to carry out re-planting of degraded mangrove sites within some wetlands. The majority of these wetland activities are located in the communities of Yabiw, Krobo (Shama District), Akwidaa (Ahanta West) and across the Greater Amanzule Wetlands in Ellembele and Jomoro Districts.

Good quality, recent high-resolution imagery for these wetland and mangrove ecosystems are an important tool for assisting in the management and monitoring of these community sites. CSLP teamed up with the USAID-funded Sustainable Fisheries Management Project (SFMP) to collect aerial imagery for priority wetland locations using its SFMP's Unmanned Aerial Vehicle (UAV), or drone. The images/photos captured during these flights will be used to map and delineate specific sites and areas for a variety of community management prescriptions. The table below shows the sites that were flown, the number of flights and the amount of images that were captured.



Figure 7. Chis Damon (left), unmanned aerial vehicle pilot with the SFMP, preparing the UAV for a flight launch with support from Justice Mensah, Hen Mpoano GIS Specialist (Standing above the UAV) with Yabiw Climate Change Club members looking on.

Post-processing of the imagery and the development of derivative products is expected to be available next quarter. Examples of outputs to be derived from the imagery include elevation models with contours, delineated wetland/mangrove boundaries, assessments of the health and vigor of these ecosystems and locations identified for mangrove replanting or other community management interventions. All data products will be in a format that can be directly consumed by a Geographic Information System (GIS) for further analysis, visualization and archiving and will be shared with the MMDAs concerned in the Western Region.

Location	District	Date(s)	Flights	Flying hours		Images Collected	Area Surveyed (km ²)
				Per flight	Total		
Akwidaa	Ahanta West	26-27 Feb	3	2	6	25,205	6.1

Amanzule	Ellembelle	7-8-9 Mar	8	2	16	71,430	26.3
Ankobra*	Ellembelle & Nzema East	5-6 Mar	4	2	8	39,600	8.3
Pra/Anlo Beach*	Shama	1-2, 9 Mar	5	2	10	45,675	16.3
Yabiw	Shama	28 Feb	3	2	6	26,015	7.6
TOTALS			23		46	207,925	64.6

*Ankobra flights were specifically for the Sustainable Fisheries Management Project; Pra/Anlo Beach flights were predominantly for the SFMP as well, but also included some areas (e.g., Krobo) for the CSLP.

Activity 2.3 Stakeholder coordination strengthened

Western Regional Stakeholders' Update Meeting

To ensure greater sustainability of CSLP interventions occurring in the local assemblies, the project upheld the suggestion to have regular engagement with relevant stakeholders. The quarterly engagement offers the opportunity for CSLP to brief these stakeholders of the activities which were implemented in the previous quarter, elicit what challenges were faced, identify what support is required of the regional stakeholders as well as areas requiring collaboration in connection with activities for the ensuing quarter. These quarterly meetings have been useful in breaking through challenges faced at the local assemblies in relation to implementation.

During the quarter, two of such meetings took place with the stakeholders. This was because the first quarter's meeting was postponed into the second quarter in January due to inconveniences as a result of the holidays before the second quarter's event took place as planned. The two meetings as usual, each had an outstanding achievement worth noting. During the January meeting, the Regional Economic Planning Officer who represented the Western Regional Minister, conveyed the Minister's as well as the WRCC's gratitude to CSLP for the continuous good work and alerted the need for collaboration with CSLP for the execution of some of the government's flagship development programs meant to ensure food security as well as jobs for the people. CSLP took advantage during the second meeting which took place in March 2018, and which coincided with the World Forestry Day, to highlight the extent of devastation that has been occurring in the Cape Three Points Forest Reserve which happens to be Globally Significant Biodiversity Area (GSBA), by sharing some photographs taken by members of the CREMA surrounding the forest reserve. The other regional stakeholders shared stories they have experienced concerning the forest and this drew the attention of the Forest Services Division (FSD) of the Forestry Commission's participants. They therefore committed themselves to follow-up and deal with the situation to save the forest.

CSLP has created very strong relationships with the local assemblies because they are the direct beneficiaries of the CSLP interventions within their respective jurisdictions and are responsible for reporting on them in their quarterly and annual reports to the Western Region Coordinating Council. At the quarterly local assemblies' update meetings, the CSLP shares with each of the assemblies the achievements attained during the quarter and in some cases, field visits are conducted to create the opportunity for the farmers to interact with the government officials. These meetings also create the opportunity for the identification of areas of collaboration even among local government offices within the same assembly that hitherto had not been sharing information among themselves.

The second quarter update meeting of the MMDAs took place at the WERBA House in the Ahanta West Municipal Assembly and was attended by 30 government officials, including 4 women. Following the update from CSLP of the activities implemented during the quarter, the Business Advisory Centre (BAC) and the

Community Development Department from the local assemblies also made presentations on their specific activities conducted during the quarter.

Chiefs and Elders (Traditional Authorities) Updated on CSLP's Activities

Community chiefs in the coastal local assemblies of the Western Region are the legal custodians of land and to some extent the resources on the land. They are therefore critically important in the administration of land and by extension they are important stakeholders in CSLP interventions especially in cases where tenure security is required. Local chiefs and their elders are therefore briefed on quarterly basis on all implementation that are carried out on their land and CSLP seeks their cooperation and support as is necessary.

Twenty-six chiefs/queens and elders from CSLP implementation communities converged in the planned bi-annual traditional authority update meeting to receive an update of implementation for the first two quarters of FY 2018. The traditional leaders lauded the efforts of CSLP in helping to improve the lives of their fellow community members but also made a very strong plea to CSLP to facilitate and establish strong linkages between the farmers in the communities and the agricultural extension officers to make access to extension services easier with frequent visits.

The chiefs were also engaged on the need to make land easily accessible to CSA group farmers, especially women, in order to ensure greater food security in their communities. The chiefs pledged their commitment to such a laudable cause. However, they also expressed worry about a phenomenon where tenants/lessees refuse to honor the payment of rents and fees as agreed upon.

Activity 2.4 Capacities increased in environmental resilience and natural resources management

MMDAs Spatial Planning Needs Assessed

For the past decades, the Metropolitan, Municipal and District Assemblies (MMDAs) have been well versed in planning their physical infrastructure within their jurisdictions but are lacking in the planning for their natural assets. In fact, no opportunity is created for the discussion of the status of these assets, the values and services so rendered, what threats exist and how they may be sustained. For instance, most of the assemblies are losing all the urban wetlands through reclamation for physical development and so coupled with inadequate drainage, flooding is now a frequent phenomenon in the towns and communities during heavy downpours. It is, however, believed that a good understanding of the values of the resources, location, sizes and the consequences of losing the resources, will allow planners to be motivated to pay attention to them.

CSLP organized a meeting where the staff from the newly reconfigured and renamed Land Use and Spatial Planning Authority, LUSPA (formerly the Town & Country Planning Department), and the Physical Planning Departments from the six coastal local assemblies, gathered to share information about their areas of jurisdiction based on an outline in the invitation letter.

Throughout the course of the discussions, the following training needs were identified:

- Training in the use of GPS to collect real world data;
- Training in GIS to manipulate data from GPS units and perform further analysis;
- Understanding of what data standardization is and why it is necessary;
- Skills improvement for defining platforms and communicating spatial plans to local stakeholders;
- Skills improvement in facilitating governance rules/policy to more effectively implement spatial plans and the use/management of natural resources; and,
- An understanding of, and basic skills to facilitate the management and conservation of natural resources within the MMDAs.

The exercise led to the identification of interesting natural resources with some initial thoughts about how they may be developed to become beneficial to the districts. Some resources mentioned include the Ahunyame rock

formation, a 9 km stretch of sandy beach, mangrove forest and bamboo forests occurring in the Nzema East Municipal assembly that have not been mentioned in previous MTDPs.

Mangrove re-planting in Krobo

Krobo, a community in the Shama District located in the Pra River estuary, has lost a substantial amount of its mangrove resources due to unsustainable harvesting for use as charcoal/fuelwood. The community was motivated to undertake re-planting after the CSLP-supported volunteer group visited them from Yabiw. The visit created an awareness on the part of the community to conserve its mangrove resources in order to sustain the fishing industry, enhance biodiversity conservation, sequester carbon and help mitigate flooding and storm surges from the sea. The project supported their efforts to establish a nursery by providing polypots and securing matured mangrove propagules for nursing and eventual outplanting. With the support of the CSLP Community Assistants, they established over 6,000 seedlings of red mangrove which will be ready for planting late next quarter.

40 community volunteer members organized and transplanted the over 6,000 mangrove seedlings in three days. The planting was done at 5 meters by 5 meters once again with the support of the Community Assistants. The whole process from nursery establishment and management to transplanting was used as training grounds for the volunteer members such that they can manage their own processes with little assistance in the future. A monitoring plan will be put in place to assess the survival rate of the planting and aid in subsequent re-planting.

CSA Training for 3 Senior High Schools

The Ghana Education Service Senior High School agriculture curriculum, although strong, lacks the basic environmentally friendly, climate resilient farming ideas promoted by the CSLP. The students therefore do not gain knowledge of such concepts of integrated pest management. CSLP therefore planned to introduce these practices to the teachers and the current crop of students.

Participants from three senior high schools, 229 students (172 boys and 57 girls) and 42 teachers (39 men and 3 women) and four other school staff, were taken through the CSA practices during the quarter. Much of the emphasis was placed on the adoption of Integrated Pest Management (IPM) practices that includes good farm hygiene and the use of organic recipes in the control of pests and diseases. They were also taken through composting and the use of organic fertilizer such as poultry wastes, instead of more of chemical fertilizer which may have grave consequences on the environment and adversely affect productivity if not properly managed.

Activities of Climate Change Clubs (CCCs)

In view of the competing demands for lands for industrial and residential purposes against agricultural use, coupled with the conversion of food crops farms to purely cash crop farms by some farmers, there is growing concerns of food insecurity in the coastal districts of Ghana's western region. However, through the CSLP and Ghana Education Service (GES) effort at enhancing youth involvement in best agricultural practices, eight out of the 20 Climate Change Clubs (CCCs) formed in the various schools have established Climate Smart Agriculture (CSA) gardens. Within the quarter, one of the schools, Komfueku District Assembly (D/A) Junior High School (JHS), which won an award on Ghana's 33rd Farmers Day celebration, was selected by the Department of Food and Agriculture (DoFA) for Ghana's flagship program—Planting for Foods and Jobs. The school, with the active support of the Parent-Teacher Association (PTA), is currently searching for a bigger plot of land to begin operation. As Ghana's economy is dominated by agriculture, employing over 40% of the working population, this intervention with the youth will contribute to addressing the food insecurity issues in the region and assist the government to further improve the contribution of agriculture to the country's Gross Domestic Product (GDP).



Figure 8. Maize harvesting by Komfueku JHS Climate Change Club in 2017

DoFA Collaboration in CSA Monitoring

The CSA farming practices have garnered attention including at the National Farmers' Day celebration where CSLP takes advantage of the gathering and displays some posters and products of CSA activities. In order to reach people outside of the CSLP direct implementation communities, the CSLP adopted the ToT for extension officers of the DoFA directorates in the local assemblies. The objective is to build their capacity such that they are able to facilitate CSA trainings and support for farmers in their operational areas with or without the presence of CSLP.

In order to ensure that all the extension staff are practicing, training and monitoring according to the prescribed standards, CSLP has drafted a field check guide and a monitoring/reporting sheet for the extension officers. The guide covers areas such as approach to CSA monitoring, how to target farmers, highlights of the monitoring practices and description of key activities. In collaboration the district directors of DoFA, a select number of farmers have been earmarked for each extension officer and the officer is expected to monitor these farmers and report on their performance in the monitoring sheets for review. CSLP will monitor the activities of the extension officers to ensure that they are effective and efficient in their performance.

Environment and Sanitation ToT for Teachers

Environmental sanitation is a serious problem in Ghana with litter everywhere. One finds litter all over in streets and gutters and a little stroll to outskirts of towns and communities and seashores will also experience the sights of open defecation including many other environmental concerns. Many individual institutions have made efforts to tackle this worrisome problem with school kids in the bid to change behaviors while they are young. The CSLP, the Wildlife Division of the Forestry Commission and the Environmental Protection Agency (EPA) had separately facilitated the establishment of school clubs with the objectives to drive this attitudinal change in the students from the schools.

Through its regular quarterly regional stakeholders meetings, the CSLP realized that the three institutions were fostering similar initiatives but with slightly different focus. The three agreed to collaborate to provide stronger and more meaningful messages for students and faculty decided that a collaboration could be much more beneficial. They also contacted the Ghana Education Service (GES) regional office to agree on the idea and to work out the logistical arrangements of the trainings for schools across the six coastal districts. Meanwhile the CSLP, Wildlife Division of the Forestry Commission and the EPA worked together to develop into a single presentation for piloting in a ToT fashion. The outline of the tripartite presentation focused on the theme of the impacts of community sanitation of the natural environment. The second round of ToTs was implemented (see box on right) during this quarter.

Artwork tools for CCCs

Drawings are powerful communication tools for telling stories, expressing emotions and depicting situations. CSLP takes advantage of this principle and tests the climate change club members' understanding of the things they are exposed to by asking them to depict these in drawings and paintings as awareness creation posters.

During the quarter, some art making tools were provided for a number of climate change clubs. The items provided include cardboards, poster color sets, watercolor pencils, packets of pencils and crayons, permanent markers and setsquares. Sets of these were supplied to 16 out of the 20 school clubs. They will be monitored and the outstanding expressions will be selected and developed further.

Wetland Monitoring Tour

Coastal wetlands in Ghana continue to be neglected or exploited with little concern for the value that they play in providing ecosystem service functions to the nation's economic foundation. For the six coastal districts, this



Figure 9. A teacher trainee sharing a poem on sanitation

Environmental Education ToT on Sanitation

Ghana continues to be ranked negatively on global sanitation issues. In 2017, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) released a report in which the country was ranked as the seventh dirtiest country in the world. In a related report, 208 districts in the country were reported to practice open defecation. Likewise, the country is rated as the second on open defecation in Africa and UNICEF reports indicate Ghana loses \$79 million annually to the bad practice. To help reverse the issue, the CSLP in collaboration with the Environmental Protection Agency (EPA), Ghana Education Service (GES) and the Wildlife Division of Forestry Commission offered a trainer of trainers on sanitation for common sanitation issues in the coastal communities; especially littering and open defecation. Already, the trainees have composed songs and poems on the 4Rs of addressing sanitation; i.e. *Reduce, Reuse, Recycle and Responsible disposal*.

includes coastal storm surge protection, a flood mitigation role in estuaries and as a primary habitat for crabs, oysters, snails and as the important hatchery and nursery site for Ghana's demersal fishery. Local coastal assemblies have only recently been including these vital resources in any long term planning efforts, resources on which much of their local populations depend for their livelihoods.

The University of Cape Coast's Center for Coastal Management (UCC-CCM) drafted seven coastal wetland monitoring modules with the objective to enlighten school children about the role and functions that coastal wetlands play in relation the environment. CSLP collaborated with the UCC-CCM to pilot the draft wetland curriculum in two schools where there are climate change clubs.

Club members of Yabiw Methodist Junior High School have been taken through five of wetland modules named below, as designed for the UCC-CCM Wetland Monitoring pilot program. Each of these modules has fieldwork attached that aids the students in their observations of the wetland ecosystem along with associated forms for collecting data to monitor over periods of time. Due to the lack of laboratory equipment in the school in Yabiw, they were not able to try the water quality assessment as required. Also, within the vicinity of Yabiw, there is no lagoon wetland they could observe to enhance their understanding to help them appreciate wetland types other than the Pra River estuary in their own backyard.

During the quarter, the CSLP worked with the UCC-CCM in Cape Coast to conduct a tour of two lagoons by the students in Cape Coast (Fosu Lagoon which is a closed lagoon) and Elmina (Benya) Lagoon, which is an open lagoon. The tour was facilitated by personnel from the UCC-CCM who carried along sets of water quality assessment tools to enable the students to observe and try their hands with some basic measurements. A total of 63 students (37 boys and 26 girls) and 9 teachers (6 men and 3 women) participated in the tour. In both lagoon sites, they were helped to observe the two different types of lagoons, list of flora and fauna species, identified some threats to lagoons and measured some water parameters. They became excited at the end of the tour and are motivated to contribute to the sustainable management of Yabiw's wetlands.

Environmental Training for CRMCs

The Community Resources Management Committee (CRMC) is a sub-structure of CREMA responsible for activities at a community level. The Cape Three Points-Princess Town CREMA consists of 20 CRMCs. Although the CREMA has been in existence for about 10 years, it has not been as effective as it should be due to lack of understanding of the role of the CREMA as well as the roles of a member and/or executive. CSLP has collaborated with the Wildlife Division of the Forestry Commission who has the official responsibility for the CREMAs to create awareness for members particularly the community level executives known as the CRMCs. The objective is make members of the CREMA aware of their rights as a CREMA as prescribed in the national statutes as well as the CREMA constitution.

Beyond these, awareness has also been planned for the CRMCs to expose them to environmental management concerns and issues. During the quarter, three of the CRMCs underwent a training titled "CREMAs and the Environment". The CRMCs that were taken through the training were Asuboi (13 men and 12 women), Seremowu (15 men and 3 women) and Akatakyi (8 men and 14 women). At the end of each training, participants increased their understanding of the link between the environment and livelihoods. It was emphasized that a healthy environment is more likely to sustain livelihoods.

World Wetlands Day 2018

World Wetlands Day, celebrated on February 2nd, is aimed at raising global awareness about the value of wetlands for humanity. The 2018 Wetlands Day was therefore taken advantage of to create awareness on the Greater Amanzule Wetland (GAW) in the southwest of Ghana. The GAW is biologically rich and diverse system comprising tropical/terrestrial forests, swamp forests and mangrove forests covering approximately 50,000 hectares of land and water area. Despite its richness in biological diversity and as a coastal wetland, directly supporting livelihoods of thousands of fishers and farmers, the area has no formal conservation or protection

status. It is also important to note that indigenous customary practices for managing the wetland is also fast breaking down and thereby exposing the wetland to several threats especially with the recent oil and gas developments in the area.

In order to draw attention towards the significance of the GAW as a wetland resource, the national event of the World Wetlands Day 2018, was attracted and took place in a GAW community in the Western Region. This was through the strong collaboration among CSLP, the Wildlife Division Western Regional Office and Hen Mpoano. A local theme, “Wetlands for A Sustainable Future: Conserving the GAW” was a variation on the global one, “Wetlands for a Sustainable Urban Future”. Traditional authorities, chiefs and elders, members of the Community/District Conservation Committees, officials of the Jomoro Municipal and Ellembelle District assemblies, NGOs, Western Regional Coordinating Council and national level officers representing the Wildlife Division of the Forestry Commission, the Environmental Protection Agency as well as representatives of the USAID/Ghana and the University of Cape Coast. The keynote address was delivered by a representative of the Western Regional Minister who underscored the economic benefits of the GAW and hence the need to formalize its conservation status. The Minister also pledged his full support for the processes that will lead to obtaining such a status for the GAW.

IEC Materials

During the quarter some Information Education and Communication (IEC) materials were procured and distributed. The items included the regular CSLP Polo shirts and 2018 calendars. Others included t-shirts, fact sheets and a USAID-approved press release for communicating about the World Wetlands Day celebration in February.

3.3 Livelihood Strengthening and Improved NRM through Small Grants

This section discusses the major activities and progress being made by CSLP’s NGO grantee, Hen Mpoano (Our Coast). Hen Mpoano works with 25 Greater Amanzule Wetland communities, MMDA staff and traditional authorities in Jomoro Municipal Assembly and Ellembelle District Assembly using the grant to foster a stronger and lasting co-management structure for the wetlands and mangroves on this landscape. Hen Mpoano and CSLP staff work closely together to plan and implement activities and to mutually reinforce the technologies, capacity building and awareness expansion supported by both institutions.

Table 6. Planned and implemented Greater Amanzule Wetland (GAW) conservation activities for FY 2018

Activities to be Implemented	Expected Outputs	Achievements	Outstanding Activity
<p>Strengthening governance within GAW communities</p>	<ul style="list-style-type: none"> Improved community participation in mangrove wetland management in the GAW 	<ul style="list-style-type: none"> 12 GAW communities were supported to draft community rules for the management of their coastal mangrove wetlands The first joint GAW DCC for Jomoro and Ellembelle assemblies took place during the quarter to review GAW activities for the period 101 (including 16 women) community members received 	<ul style="list-style-type: none"> Drafting of community rules will be continued in the remaining twelve GAW communities More community level stakeholders

		training in sustainable mangrove management and harvesting	will be trained to spread the knowledge
Mapping of community wetlands	<ul style="list-style-type: none"> Community members are abreast with the extent and status of their wetland resources through spatial plan tools 	<ul style="list-style-type: none"> Adelekazo and Apataim completed the participatory mapping of their wetland during the quarter 	<ul style="list-style-type: none"> Maps will be printed and discussed with community to help in their planning and management
Restoration of degraded mangrove wetland areas	<ul style="list-style-type: none"> Wetland resources are sustainably managed and provide economic and environmental services to communities 	<ul style="list-style-type: none"> 3,500 mangrove seedlings have been raised in Anyanzinli and Metika nurseries for re-planting in the coming season 	<ul style="list-style-type: none"> More seedlings will be raised and also more community members will be trained to prepare more people for the re-planting exercise
Livelihood opportunities are improved within the GAW communities	<ul style="list-style-type: none"> Income generating activities are diversified in the GAW communities 	<ul style="list-style-type: none"> 78 farmers (including 60 women) received training in CSA vegetable production from Ampain and Mangyea 	

Strengthening governance within GAW communities

Community Mangrove Management Rules

In the past, mangrove resources, just like most natural resources, have been under the control of the chiefs who are the custodians of the land and community natural resources. These resources were managed by community beliefs and norms that over time often became branded as superstitious. The mangrove resources of some of the GAW communities have suffered huge losses due to the lack of regulation. In order to reverse the situation, Hen Mpoano, under its grant from the CSLP, facilitated the development of community level rules and regulations for the management of the mangroves with all the relevant stakeholders such as the CCCs, the community chiefs and elders, the youth involved in the harvesting of mangroves for sale to the fish smokers and the fish smokers.

The community agreed rules (which are quite similar with few variations) were shared with the paramount chiefs and the District Conservation Committees (DCCs) to ensure that none conflicts with any national law, traditional norms or assembly by-laws. The agreed rules will be



Figure 10. Stephen Kankam of Hen Mpoano, a local NGO and CSLP-grantee, explains the importance of wetland mapping to traditional authorities at the World Wetlands Day celebration at Ampain in the Western Region

enforceable under the backing of the assembly by-laws and traditional norms. The belief of all stakeholders involved is that, if the rules are effectively enforced, there should be an effective management of the resources.

For example, some communities have proposed that the wetland should be zoned as areas of sustainable use and areas of protection and that these zones should be clearly defined. Other communities, where livelihoods are highly reliant on mangroves and the size of mangrove forest does not make it feasible for zoning, have proposed closed and open seasons for mangrove-based activities.

Semi Annual GAW DCC Meeting

The preferred management structure for the GAW is a district committee whose objective is to coordinate the activities of all the CCCs within each district, ensure that the CCCs operate within the laws and by-laws of the district and also ensure that the GAW features in the plans and policies of the assembly. The nine-member committee for each of the assemblies is made up of district officers and assembly members. Initially, the committees were to hold quarterly meetings to deliberate on the activities of the CCC, plan and visit the CCCs to learn from their challenges and how they may be supported. The quarterly meetings seemed so frequent and therefore were extended to become semi-annual. It was decided that there should be a joint meeting in order to foster lesson learning and some positive competition between the two districts.

The first joint meeting between the Jomoro Municipal Assembly and the Ellebelle District Assembly took place during the quarter. The two committees were briefed on the activities so far conducted within the GAW communities, achievements and challenges since the last meetings of the committees. They also informed of incoming activities to seek those who might be interested in participating in those meetings.

The two assemblies informed the meeting participants that, for the first time, the activities of the GAW are reflecting in the drafted MTDP. Budgets have been allocated for activities such as monitoring of the activities of the CCCs, incorporation of the CCCs rules and regulations for mangrove management into the assembly by-laws and creation of awareness on the importance of the wetlands. This development is interesting to note in that it will greatly deal with the challenge of a seeming lack of interest in GAW activities by the assemblies'. Once they appear in the medium term plans, they will need to implement some activities there.

Sustainable Wetland Management Training.

The Community Conservation Committee (CCC) of the GAW management structure is responsible for all the community level actions necessary for the sustainable management of the wetland. The members of the CCC for each of the 24 communities comprising the GAW therefore need to have some caliber of skill in order to lead the whole community to achieve the community's wetland management goals. Over the last few years, they have received some wetland resources management trainings but it is important for some refresher to be provided from time to time which is determined by the particular CCC members' performance.

During the quarter, a selection of 45 CCC members (out of which 8 were women) from the 24 communities, received training as ToT in wetland management. Topics that were treated included sustainable harvesting of mangrove, sustaining community conservation effort and enforcement of community wetland management rules and regulations. Following the ToT, the CCC of Sanwoma and Azuleloanu organized a training for mangrove harvesters in their communities. A total of 56 harvesters, including 10 women, received the training. The trainees were excited and made comments such as, "We have realized that we now get more shrimps and fish than we used to. This shows that our conservation effort is yielding positive result".

Mapping of community wetlands

Adelekazo and Apataim Wetland Resources Mapped.

A good knowledge of the extent, the health and status of the mangrove resources has been found to motivate community members to enhance their efforts in the management of their resource. In some communities, it has

instigated a positive kind of competition among the people who strive to attain better achievements than the other community. The map of the resource also becomes a very important planning tool.

Hen Mpoano facilitated the participatory mapping of the mangrove forest resources of two communities during the quarter. The two communities are endowed with vast areas of pristine mangrove, swamp forest with rattan, raffia and bamboo and some terrestrial forest. The Total areas of the two communities' wetland resources are 242.27 Ha for Apataim and 286.20 Ha for Adelekazo.

Restoration of degraded mangrove wetland areas

Mangrove Nursery Establishment

In FY 2017, Anyanzinli of the Ellebelle District Assembly and Metika of the Jomoro Municipal Assembly mapped their wetland area and one important impact of that exercise was the motivation to carry out re-planting of the degraded areas. The mapping revealed that both communities had as much area degraded as 17.8 hectares (ha) for Anyanzinli and 3.7 ha for Metika. In the last year, Anyanzinli re-planted 2.5 hectares out of the total degraded mangrove area and Metika also re-planted 2.7 hectares.

In preparation for another re-planting this year, 3,500 mangrove seedlings were raised during the quarter in two separate community nurseries. The nursery establishment was utilized to provide hands-on training for 68 CCC members (including 35 women). Next quarter, more mangrove propagules will be collected and nursed to increase the number of seedlings for outplanting.

Livelihood opportunities are improved within the GAW communities

CSA Training for GAW Communities

Over 160 farmers received planting materials of improved cassava varieties for propagation and planting in order to improve the production of cassava in the area since it is an ingredient to many staple foods in the area. The new varieties are high yielding and early maturing and have been widely accepted by the people. In order to avoid the situation where the new varieties grow stunted because of low fertility, some of the farmers were introduced to CSA cassava production practices.

Seventy-eight farmers, predominantly women (60), from Mangyea in the Jomoro Municipal Assembly and Ampain in the Ellebelle District Assembly went through the training. It covered the selection of sites for cassava farming, ideal planting time and planting distances, application of organic fertilizer, farm hygiene and integrated pest management. Extra time was also spent dissuading the farmers from the use of harmful chemicals and the excessive use of chemical fertilizer in the growing of cassava.

4.0 IMPLEMENTATION CHALLENGES

The registration of trees either planted on lands leased/owned by CSLP farmer beneficiaries, or who encourage farmer managed natural regeneration on their lands continues to falter. The tree registration issue saw some progress beginning two years ago in work being led by the Forestry Commission and supported by international donors. This has been reported in previous quarterly reports submitted by the CSLP. This second quarter has seen no progress or movement. The government has been insisting that this is a critical element of tree tenure in Ghana yet the attention being paid is sporadic at best. If farmers could have assurance that the trees they manage and care for on their lands will have benefit to them at maturity, they are much more apt to embrace tree planting and management on their lands; without it, they are very reluctant. This is also why tree planting efforts fail because farmers have no incentive to nurture trees on their lands. The tree registration process, bureaucratic and cumbersome as it is, would provide insurance for farmers that at least some of the benefits would come back to them.

The climate smart agriculture practices (CSA) promoted by the CSLP has continued to gain momentum in the MMDAs where the project functions. The networking workshop conducted this quarter bore witness to that as does this quarter's recognition by MoFA of specific climate change club school gardens supported by the project and the MoFA requests for project assistance in training their extension agents in CSA best practices. The government's national program of *Planting for Food and Jobs* also provides a positive backdrop for assistance to farmers. But CSA adoption, especially in its initial stages requires extra effort and diligence on the planting/gardening site. This usually happens because the sites allotted for "trying" the practices are usually marginal at best as the farmer is not willing to risk his or her "best" land to try something new. The CSLP recommends selecting sites where the farmer can undertake the CSA practices for at least five years. And, as farmers who were early adopters are discovering, the sites and soils do improve over time. And where agrochemicals are not being applied the boost in production is also noticeable even beginning in the second year.

5.0 INTEGRATION OF CROSSCUTTING ISSUES AND USAID FORWARD PRIORITIES

5.1 Gender Equality and Female Empowerment

Project staff worked to follow through on the work of the gender consultant and completed the CSLP Gender Integration Framework (GIF). The framework emphasizes activities currently being implemented under the project's Annual Work Plan (FY 2018) and with other actions planned into FY 2019. The GIF was submitted to the AoR and the USAID/Ghana gender point of contact.



Figure 11. Meeting discussing women's challenges to accessing land for agricultural purposes at Asonti in the Nzema East Municipality

At the semi-annual update meeting with traditional authorities, chiefs and elders in attendance agreed with CSLP staff to examine opportunities to allocate land to women farmers. They cautioned that past allocations to men had many times resulted in non-payment of rent and also recognized that women were often more diligent than men with their accounting which was a factor in their favor on considerations of granting them access to land. Beginning in this quarter, the project staff is conducting a number of community meetings with women, chiefs and elders to further explore wider access for women. The traditional authorities also agree that VSLAs in their respective communities also are a positive element when considering providing land to women. One concern of the CSLP is that any land granted to women has sufficient productive capacity so as not to have the women farming on the poorest sites in the community.

5.2 Sustainability Mechanisms

Two stakeholders are very critical in ensuring that there is regular support to farmers, especially regarding CSA vegetable production practices; for the CSLP these are the assembly-level Department of Food and Agriculture (DoFA) Extension Agents and the CSLP-trained Community Assistants (see Section 5.5 below). During 2017, a pilot group of DoFA extension staff received training by the CSLP in the facilitation of CSA practices in conjunction with some lead farmers. These participants are being monitored in this fiscal year and other DoFA agents are being trained on the project landscapes. The strategy for FY 2018 is to follow up with these DoFA trainees to ensure they are able to lead similar trainings and support farmers to be able to practice CSA farming activities.

Activities such as these should be normal activities for extension staff, especially given the GoG's national emphasis on its flagship agricultural program *Planting for Food and Jobs*. Farmers require the encouragement, scientific knowledge and practical experience, and networking that extension agents should be providing. Sadly, at least in the Western Region, this is not the case. To date under this initiative, very little in terms of resources, manpower, training and funds for logistical support is reaching the region, let alone the MMDAs and the communities where it can make a difference.

Another important sustainability mechanism in relation to the various behavior change activities promoted by the CSLP is the presence of trained champions within each community. The Community Assistant model has been the component of the CSLP that allows farmers to receive more direct, regular guidance from a trained neighbor when the CSLP staff is not present in the community. The trained CAs have gained, and continue to gain, valuable skills themselves that are transferable to their community members. While some of the motivation for this work will end as the project ends, it is hoped that the capacities being built with targeted champions will help ensure greater sustainability. The successes reported elsewhere in this report about the greater interest in beekeeping and honey production has come about largely through the diligence of the CAs and their follow through with the beekeepers on apiary management and monitoring.

5.3 Global Climate Change

Although the funding source for the project is now the Feed the Future initiative, the initial climate change indicators used under the first phase of the project (funded with USAID sustainable landscapes funds) are still tracked. They continue to be an integral part of the CSLP's approaches in its work with area farmers, district and regional government institutions and traditional authorities, NGOs and private sector entities. Additional evidence can be found throughout this report in instances where the CSLP works with these groups on climate smart agriculture, estimating GHG emissions avoided on a variety of land cover types, monitoring wetlands and mangroves that sequester carbon in substantial quantities, and on broad climate change awareness issues in school clubs, with recognized conservation committees and with other community-based organizations.

The CSLP met twice during the quarter with the USAID-funded Integrated Resource and Resilience Planning (IRRP) Project. The initial meeting in Accra was to brief the project on the CSLP's activities linked to climate

change awareness and mitigation. The second meeting was part of a follow-up discussion to the IRRP Project's workshop with the MMDAs of the Western Region. This discussion focused more on next steps and how the CSLP was integrating its climate change-related activities at the MMDA level within the latter's Medium Term Development Plans.

5.4 Policy and Governance Support

Previously, environmental protection and conservation relied heavily on punitive actions or the threat thereof, to discourage people from exploiting natural resources. In more recent years, this has been seen to be largely ineffective especially as human populations have increased and some natural resources have dwindled. Therefore, new strategies are required that convince people of the need for managing the resources more sustainably. In Ankobra in the GAW area, individual mangrove harvesters focused and harvested from specific sites and never knew what other individuals did in neighboring sites. The participatory mapping process undertaken with the support of the CSLP has revealed to the local communities the overall health of their mangrove resources. Many communities have become alarmed at the extent of the degradation and are now much more motivated to undertake better management practices and support replanting and restoration efforts.

In order to avoid such recurrences, the participatory development of community rules and regulations for the management of the resources is vital. The rules drafted last quarter by the community conservation committees were linked to different management activities on the wetland landscapes. Several communities, for example, designated buffer zones where no mangrove harvesting should be done such as estuary and riverbank edges. Per the recommendation of the Traditional Councils, which is the council of all stool chiefs from the highest hierarchy to the lowest, the facilitation of this process aims to ensure everyone's involvement. During this most recent quarter, the rules developed by the community conservation committees received the backing from the MMDAs of Jomoro and Ellembelle, a significant accomplishment in the overall co-management process. Agreement was reached to write these guidelines into the MMDA bylaws and to ensure that the wetland and mangrove areas are incorporated in the Medium Term Development Plans of both assemblies.

Finally, as in previous quarters, MMDA officials regularly call on the CSLP technical staff to assist with technical trainings of their staff in specific areas (i.e spatial planning, climate smart agriculture, cocoa shade tree restoration technology, tree planting and greening at urban sites). Many officials work with the CSLP to ensure that the project's activities are well integrated in their MTDPs, are monitored and that the activities complement other actions on the ground in their assemblies.

5.5 Local Capacity Development

Another important sustainability mechanism in relation to the various behavior change activities promoted by the CSLP, is the presence of trained champions within each community. The Community Assistant model has been the component of the CSLP that allows farmers to receive more direct, regular guidance from a trained neighbor when the CSLP staff is not present in the community. The trained CAs have gained, and continue to gain, valuable skills themselves that are transferable to their community members. While some of the motivation for this work will end as the project ends, it is hoped that the capacities being built with targeted champions will help ensure greater sustainability. The successes reported elsewhere in this report about the greater interest in beekeeping and honey production has come about largely through the diligence of the CAs and their follow through with the beekeepers on apiary management and monitoring.

Similarly the Village Agents trained by the project to assist with monitoring, coaching and forming Village Savings and Loan Associations are a significant local capacity development component of the CSLP. The newer VSLAs are finding these individuals to be important community resources. The Business Activity Centers at the assembly level (under the National Board of Small Scale Industries, NBSSI) are taking note of the Village Agents and the roles that they are playing within their assembly. On the CSLP landscapes, others are gradually viewing

the VSLAs as important platforms for economic activity within the communities. Communities with VAs are richer for it.

The CSLP participated actively in the Climate Risk, Resilience, Mitigation and Adaptation Workshop for the MMDAs in the Western Region sponsored by the EPA, the National Development Planning Commission (NDPC) and the USAID-funded Integrated Resource and Resilience Planning (IRRP) Project (mentioned above under the climate change Section 5.3). The objective of the workshop was to raise awareness among the MMDA staffs of how climate change is a critical component of all that they undertake and plan for and around within their respective assemblies. With small changes in their perceptions and behaviors, activities that are planned for, financed and implemented can become climate resilient. The spatial planning work of the CSLP and the adaptations being made with community farmers that diversify their livelihoods (CSA, beekeeping, agroforestry, farmer managed natural regeneration, etc.), are all adaptation and mitigation strategies to improve climate resilience locally.

6.0 STAKEHOLDER PARTICIPATION AND INVOLVEMENT

The quarterly engagements with some key district and regional stakeholders have become very important sharing platforms and continue to yield impressive gains. Through the sharing of information at the stakeholder meetings, for example, it was realized that the Wildlife Division (WD), Environmental Protection Agency (EPA) and CSLP, all are facilitating the establishment of school clubs to increase environmental awareness. The decision to harmonize efforts led to the development of the Training of Trainers module for teachers (see a more detailed discussion below in Section 8).

The demand for scaling up and wider representation of CSLP's work with the Ghana Education Service and its support of climate change clubs has continued to increase during the quarter. The activities are cross-cutting in their impact. The GES, MoFA, the EPA, the Wildlife Division, the University of Cape Coast are all stakeholders that are engaging Ghana's youth across a variety of spectrums and topics. Climate Change Clubs supported by the CSLP work on establishing and reaping benefits from school gardens; MoFA gets involved. Other clubs work to understand the importance of wetlands and mangroves in their backyards, along the coast. They in turn engage the parents and others teachers at the schools to learn about the importance of water quality of these resources and how to go about managing them successfully for the long term. The youth are thoroughly involved and learning. At other schools, the importance of solid waste management and sanitation relative to environmental impacts were taken up with teachers by the EPA, the Wildlife Division, and the GES (see the discussion in Section 8). The CSLP has continued to be a catalyst and a supporter in engaging stakeholders undertaking these activities.



Figure 12. Hands-on learning session for Yabiw JHS Climate Change Club members during wetlands monitoring tour to Yabiw and Fosu Lagoons in the Central Region

During the quarter, the project again engaged its two USAID-funded sister projects, the Sustainable Fisheries Management Project (SFMP) and the Fisheries and Coastal Management Capacity Building and Support Project (FCMCBSP) at the University of Cape Coast. The two activities complemented the active wetland and mangrove focus of the project during the first quarter of FY 2018. In the first instance, the CSLP coordinated and collaborated on the unmanned aerial vehicle (UAV, or drone) flights over the Pra River and Ankobra River estuaries and in a half dozen other communities across four MMDAs of the wetland and mangrove zones of the Western Region. The imagery collected by the UAV will be available for use in the next quarter and provide the local communities information to make more informed management decisions on these areas.

In the second instance a CSLP-supported climate change club travelled to the Central Region to learn first-hand about coastal lagoons, their importance and management, their biodiversity and the issues that threaten them in Ghana. The University of Cape Coast's Center for Coastal Management supported by the FCMCBSP provided staff to assist with the study tour undertaken by the students and teachers from the Western Region. It was an excellent interactive learning activity for the students.

7.0 MANAGEMENT AND ADMINISTRATIVE ISSUES

Program Support Officer

A new Program Support Officer was hired early in the quarter. The new hire comes from a just-completed USAID-funded project and she is already adding value to the position. Her duties focus on logistical support at project training events, being responsible for the monitoring and administration of the CSLP's Community Assistants (numbering about 30), and for help with data entry linked to spatial information from participating farmer activities and other M & E data.

CSLP Environmental Management and Mitigation Plan and the CSLP Gender Integration Framework

A final update to the CSLP's Environmental Mitigation Plan was completed with a final vetting by technical staff in January. Similarly, the project's Gender Integration Framework (GIF), with inputs from the consultant report submitted in FY 2018 Quarter 1, was completed and also vetted with CSLP staff. Both documents were submitted to USAID/Ghana and became attachments to the CSLP's FY 2018 Annual Work Plan.

8.0 LESSONS LEARNED

Stakeholder engagement can be laborious and expensive on the broad CSLP operational landscapes. It is even more so when there are multiple stakeholders with varied interests and concerns. However, an effective stakeholder engagement by the project has yielded fruitful and invaluable gains. The engagement of the Traditional Councils within the GAW area, from the highest authority of the Paramount Chiefs to the individual community chiefs, initially sparked many resentments and registered diverse concerns. Once these concerns were addressed, the participation of a diverse group of stakeholders has grown along with a strong commitment to supporting the project. The traditional authorities, for example, are ready to attend meetings and provide very useful guidance and recommendations for successful implementation.

Likewise, the regular consultations with the Western Region Coordinating Council and the regional directors of the technical units is professional and, for the most part, allows productive and useful communication to flow in both directions. As the CSLP's work has become more known and valued, regional directors often refer us to their MMDA counterparts and underscore the importance of CSLP-supported activities in the MTDPs.

As the CSLP works to ensure greater sustainability of the technologies and practices that it promotes, many details about successes and particular lessons continue to evolve and enrich the experience of both the project

beneficiaries (farmers, fisher folk, and assembly personnel) and the project staff. For the latter, each lesson becomes an adaptation tool that the next CSLP-supported group also learns and adds to their own experiences.

The experiences that the project has had with both its beekeeping and its climate smart agriculture (CSA) activities are good examples. Both interventions have required time and commitment by both CSLP staff and practicing beneficiaries. None of the beekeeping farmers who received equipment had practiced beekeeping or apiary management before and their time remained focused on their “day job”, at least until a few of the hives began producing, now two years ago. The early adopters faced issues of absconding bees, insects attacking the hives, etc. The project undertook a formal assessment of these and other issues by a Ghanaian apiary specialist. As the farmers began to implement his recommendations in their apiaries, honey production began to pick up and so did the enthusiasm by the beekeepers and their attention to apiary management. But this quarter’s study tour to a “seasoned” beekeepers association in the Brong-Ahafo Region by some of the CSLP’s most veteran beekeepers was a “watershed moment” for this project intervention. Since their return, these CSLP beekeepers have embraced the knowledge that they gained and began to apply it on their own farms, even taking greater risks by investing in more beehives and dedicating more land area as apiaries. More active hives are being reported almost weekly and honey production and the sale of honey is on the increase across the CSLP landscape.

A similar experience also has happened during the quarter to the CSLP farmers who have been adopting the CSA practices promoted by the project. Farmers were already experiencing positive results from raising the organic produce: better tasting vegetables with longer shelf life than vegetables treated with chemical fertilizers and pesticides. Local market queens were, in many cases, very ready to buy their produce knowing that it did not spoil as rapidly as those from inorganic sources. The CSA farmers also now understood the health issues linked to agrochemicals; and the complementary food security training provided by the project also helped to bolster the importance of being able to give their families a healthier source of food that they could grow themselves. The enterprise groups formed around the CSA practices also helped to show them the power of an association in the local markets and also be more cognizant of operating a profitable business. The latest punch in the CSA arsenal came from the CSLP-organized workshop this quarter that pulled together (representatives of) the CSA farmers, CSA input suppliers, local buyers keen on having better access to organically produced vegetable, and Government of Ghana MoFA staff. All participants went away from the workshop with more enthusiasm and a better understanding of the local and regional actors in the organic supply chain network. And each affirmed their commitments to continue communicating and following up in a variety of ways to make the network stronger and better. The eyes of the CSA farmers, in particular, were opened to the fact that there is indeed a very interested and fairly large (even for the CSLP landscapes) market for organic vegetables.

One of the main lessons that the CSLP is drawing from these examples is that positive results do not necessarily happen overnight. There has to be grassroots experience that practitioners can bring to the table. Gaining this experience takes time, but once it is broad enough with a maturity that comes with the experience, then real efforts can be made to help ensure its sustainability. Knowledge that provides incentives for the CSLP farmers is starting small, but the early adopters are now convincing others that there is more money to be made and there is tested technology on their landscape that can diversify their livelihoods and their economic risks.

The CSLP’s work during the quarter with Wildlife Division of the Forestry Commission, the Ghana Education Service (GES), and the Environmental Protection Agency (EPA) has continued to enrich the experiences of all four groups. There is very little collaboration between GoG institutions at the regional and district levels in areas of common interest. The CSLP has played a catalytic role with these institutions to undertake training of trainers (ToTs), in this case junior and senior high school teachers in the region, focusing on the natural environment and solid waste management and sanitation in communities. Over the past two quarters, 110 teachers (74 men, 36 women) have participated in the topical ToT from 74 schools across 4 MMDAs. It is a win-win all around and the project is working to ensure that the seeds sown in this collaborative effort continue to grow and lead to other

topics of mutual interest where these GoG institutions can collaboratively raise awareness among the region's youth.

During the quarter, USAID supported a global webinar aimed at bringing together mangrove specialists to discuss the human dimensions of managing the resource. Organizers recognized that there is a wealth of information on the biophysical aspects of mangroves, with very limited emphasis given to mangrove governance, particularly the tenure dimensions in creating incentives for long-term mangrove protection. The CSLP Project Director joined three other mangrove specialists as a panelist to:

- Consider how inclusion of land and resource rights impacts the sustainability of mangrove-related programming
- Identify social and planning tools are USG-supported programs using to improve efficacy of these activities
- Share resources and case studies that have been developed to improve future programming

The full contents of the webinar, including references and other resources can be found via this link:

<https://www.land-links.org/2018/02/webinar-mangrove-forest-restoration-management-social-governance-dimensions/>

9.0 PLANNED ACTIVITIES FOR NEXT QUARTER INCLUDING UPCOMING EVENTS

The majority of the activities of the project will be business as usual for the technical team in this next quarter. Many of the trainings noted in this report will continue across communities and with the majority of the same stakeholders and partners. As was noted in the CSLP FY 2018 Annual Work Plan, this year is one of consolidation and reinforcement of ideas, principles and approaches to ensure that understanding is widespread and that adoption of best practices is solidified with farmers, community members, district assembly technical staff and other practitioners. Work with the CSLP grantee, Hen Mpoano continues with 25 wetland and mangrove communities to ensure that co-management of these important resources becomes part of the daily operating governance framework in the communities and the districts where they are located.

One main training will engage MMDA physical planners and selected technical department technicians. This training will involve two parts and also be offered in two separate venues for each part, i.e., a total of four training dates with two audiences. This effort will re-familiarize technical MMDA staff with the application and use of GPS units and accompanying software (QGIS) they can download and use for data manipulation and mapping attributes and spatial characteristic in their assemblies/districts. Hands-on practical exercises are a principal component of this training.

Collaboration with the Wildlife Division (of the Forestry Commission) will continue in the next quarter with training and awareness efforts for the Community Resource Management Committees of Cape Three Points Forest Reserve's Community Resource Management Associations (CREMAs). The trainings are highlighting the need for CRMCs as resource users and managers to promote effective natural resource management. This biologically significant area is under increasing threats from interests keen on robbing it of its unique timber and land speculators in its buffer zones. Exxon-Mobil's recent agreement with the GoG for a large offshore oil and gas exploration concession makes the Cape Three Points land a prime area for infrastructure development.

The CSLP's Environmental Services and Spatial Planner will attend the USFS International Seminar on Climate Change in May in Washington, DC and Davis, California. The Operations Director of CSLP grantee Hen Mpoano will also attend the same training.

10.0 HOW IMPLEMENTING PARTNER HAS ADDRESSED A/COR COMMENTS FROM THE LAST QUARTERLY OR ANNUAL REPORT

No significant comments were received from the CSLP's FY 2018 Quarter 1 report.

ANNEXES

Annex 1. Summary Results to Date

Indicator	Baseline		Unit of Measure	FY18	Quarterly Status – FY 18						Annual Performance Achieved to Date (in %)	Comments
	Year	Value			Measure	Annual Target	Q1	Q2	Q3	Q4		
4.8-7 Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO ₂ e, reduced or sequestered as a result of USG assistance	2014	0	Mt CO ₂ e	6,400,000	-	4,459,871	N/A	N/A	4,459,871	70%	On target	
4.8-7a Clean Energy												
4.8-7b Sustainable Landscapes						4,459,871			4,459,871			
4.8.1-26 Number of hectares of biological significance and/or natural resources under improved NRM as a	2014	0	Hectares	2,100	-	1,129	N/A	N/A	1,129	54%	On target. Akwidaa wetlands/mangroves under improved NRM mapped with UAV (drone). Analysis on total area (ha) ongoing	

result of USG assistance											
Biologically significant areas						762			762		
All other areas						367			367		
4.8.1-29 Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance	2014	0	Number (of person hours)	8,500	1,798	2,548	N/A	N/A	4,346	51%	Indicator on target and will be fully achieved.
4.8.1-29a Number of men hours					971	1,675			2,646		
4.8.1-29b Number of women hours					827	873			1,700		
4.8.1-6 Number of people with increased economic benefits derived from sustainable NRM and	2014	0	Number of people	1,800	-	1,659	N/A	N/A	1,659	92%	Our VSLAs (48 in total; incl. 8 formed this quarter) provide great financial support for the other livelihood activities (e.g. beekeeping, vegetable production) and as incentives for

conservation as a result of USG assistance											conservation activities (wetland/mangroves)
4.8.1-6a men						513			513		
4.8.1-6b women						1,146			1,146		
4.8.2-14 Number of institutions with improved capacity to address climate change issues as a result of USG assistance	2014	0	Number of institutions	80	-	46	N/A	N/A	46	58%	On target
Sustainable Landscapes, e.g., REDD+ capabilities						46			46		
4.8.2-29 Number of person hours of training completed in climate change as a result of USG assistance	2014	0	Person-hours	5,000	665	2,039	N/A	N/A	2,704	54%	On target
4.8.2-29a Sustainable landscapes men					355	1,336			1,691		
4.8.2-29b Sustainable landscapes women					310	703			1,013		

EG.3.2-1: Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training	2016	0	Number of people	980	398	347	N/A	N/A	745	76%	On target
Type of Individual											
Producers					243	119			362		
Male					127	51			178		
Female					116	58			184		
People in government					112	24			136		
Male					67	24			91		
Female					45	0			45		
People in civil society					43	204			247		
Male					22	116			138		
Female					21	38			59		
EG.3.2-4: Number of for-profit private enterprises, producers organizations, water users associations, women's groups, trade and business associations	2016	0	Number of groups	88	65	8	N/A	N/A	73	83%	On target

and community-based organizations (CBOs) receiving USG food security-related organization development assistance											
Type of organization											
Community-based organizations (CBOs)					65	8			73		
New					23	8			31		
Continuing					42				42		
EG.3.2-17: Number of farmers and others who have applied improved technologies or management practices with USG assistance	2016	0	Number of farmers	504	183	83	N/A	N/A	266	53%	On target
Producers					183	83			266		
Sex											
Male					84	30			114		
Female					99	53			152		
Technology type											
crop genetics					183				183		

cultural practices						43			43		
pest management						8			8		
soil-related fertility and conservation						10			10		
climate mitigation						22			22		
Commodity				Vegetables-eggplant, okra, pepper, Cassava	Cassava	Vegetables, cassava			Vegetables, cassava		
EG.3.2-18: Number of hectares of land under improved technologies or management practices with USG assistance	2016	0	Number of hectares	100	20	21	N/A	N/A	41	41%	Farm mapping with GPS units underway
Technology type											
crop genetics					20				20		
cultural practices						11.38			11		
pest management						3.1			3		
soil-related fertility and conservation						1.73			2		
climate mitigation						4.46			4		
climate adaptation											
Sex											
Male					84	22			106		

Female				99	39			138			
Joint											
Commodity (Vegetables- eggplant, okra, pepper, cassava)				Cass ava	Vegetab les, cassava						
EG.3.2-20: Number of for-profit private enterprises, producers organizations , water users associations, women's groups, trade and business associations and community- based organizations (CBOs) that applied improved organization- level technologies or management practices with USG assistance	2 0 1 6	0	Number of groups	60	23	9	N/A	N/A	32	53%	On target
Type of organization											
Community- based organizations (CBOs)					23	9			32		

C-1: Number of person hours of training completed in VSL modules as a result of USG assistance	2016	0	Person-hours	5,000	1,314	2,796	N/A	N/A	4,110	82%	On target
C-1aNumber of men hours					441	902			1,343		
C-1bNumber of women hours					873	1,894			2,767		
C-2: Number of community sensitization sessions on climate change issues and/or NRM/biodiversity conservation as a result of USG assistance	2016	0	Number of sessions	60	18	22	N/A	N/A	40	67%	On target
C-3: Number of persons/institutions receiving start-up items for improved NRM/biodiversity conservation as a result of	2016	0	Number of persons	100	77	-	N/A	N/A	77	77%	On target

USG assistance											
C-2a men					37				37		
C-2b women					39				39		
Institutions					1				1		
C-4: Number of project-planted seedlings surviving as a result of as a result of USG assistance	2016	0	Number of seedlings	57,600	N/A	N/A	N/A	N/A	N/A	N/A	Field monitoring & analysis underway for annual reporting.
Other VSLA Indicators											
Number of active informal savings and lending groups	2014	0	Number of groups								48
Cumulative Amount (in USD) Saved by informal Savings and lending (VSLA) Group	2014	0	Amount (in US \$)								\$78,373
Number of members of active informal savings and lending groups	2014	0	Number of people								1,229
Men											398

women					831
Amount of funds loaned (in USD) annually by informal savings and lending groups	2014	0	Amount (in US \$)		\$62,790

Annex 2. Stories From The Field

VSLAs: Turning family fortunes around

“Last year, my fish smoking business was crumbling so borrowed GHS 200 (or about \$ 45) to inject into my business. This kept my business alive and enabled me to take care of my sick husband and my five children.”



Zainab Issah Ek smoking fish on her kiln

Zainab Issah Ek, a 35-year-old mother of five children, has lived in Kambunli in the Ellebelle District all her life. Her five children are from her previous marriage. When her first husband died, the burden of caring for her children fell squarely on her shoulders. Without any money and family support, life became unbearable for her. “For six years I struggled to take care of the children. It was hard and I felt the whole world was against me for being a widow”, Zainab shared. In 2016, Zainab became married to an older man in her community with the hope of getting someone to support her and to take care of her children. Again, luck was not on her side.

“Not long after I remarried, my husband became severely sick. He has been sick to date, he cannot do anything,” said Zainab. The burden of taking care of the whole family once again rested on her shoulders. She started smoking fish to sell to supplement her meagre income from farming to get money but life was still hard.

Zainab did not hesitate to join the CSLP-supported Village Savings and Loans Association in Kambunli when they came to mobilize members. The association was formed in early 2017. “I had no room for doubts. I needed a lifeline and was CSLP handing it to me. I attended the sensitization meetings and liked what they told us. They carefully explained how the savings group was going to work and told us we were going to handle our monies ourselves,” Zainab explained.

“I have lived in this community all my life, so I know how transformed members of this group have become, especially the women. We are no longer mere farmers and housewives. We have also empowered women who speak with confidence, we own businesses and we support our families better now. Many people here want to be part of us now,” Zainab said. She added “I don’t have to worry about how to feed my family anymore.”

“Joining the VSLA was the best decision I have made. It has brought my family out of darkness into light. I took my first loan of GHS 300 (about US\$ 68) to buy a sewing machine for my 17-year daughter. She is learning to become a dressmaker, to go and learn how to sew,” Zainab said proudly. With tears welling her beautiful eyes Zainab continued, “I am grateful to CSLP for bringing me out of abject poverty. They have economically empowered me. I have developed a savings habit and do not spend all my money now. I invest some into my fish business and it is growing.” This year, Zainab doubled the amount of fish she buys to smoke from GHS 200 (about US\$ 45) to GHS 400 (about US\$ 90).



Zainab Issah Ek (right) selling smoked fish to her customer (left)

Women are agents of change. When equipped with the right opportunities and resources, they can lift their entire families and communities out of poverty. Since 2015, the USAID-funded and US Forest Service-managed CSLP has helped empower women through VSLAs by equipping them with the tools to turn financial independence into better lives; for themselves, their families, and their communities across the six coastal districts in the Western Region of Ghana. The CSLP currently operates 48 functional VSLAs in the 6 coastal districts of Ghana’s Western Region. Membership has surpassed 1,000 with almost 70% of the members being women.

One tiny patch: a woman's quest for food security

In Ghana, as many as 1.2 million people are considered food insecure including farmers and landless laborers. For attaining food security, access to adequate and nutritious food is required.

In 2016, the USAID-funded and US Forest Service-managed CSLP helped the project-supported D/A Junior High School climate change club to establish a climate smart agriculture (CSA) organic vegetable farm. The



goals for these club farms include increasing the number of youth interested in agriculture, adding insurance for long-term food security goals, and also encouraging students to share knowledge gained on CSA with their parents. Not only has the goal been achieved, it has also created a role model out of one teacher for the community.

Miss Christiana Agyeiwaa, a teacher at Asonti D/A Junior High School has become a model for farmers in Asonti to adopt climate smart agriculture. “I grow my own cabbage now. I can now eat healthily and stay strong,” said the teacher turned gardener Christiana Agyeiwaa. “Thanks to the knowledge I

acquired on climate smart agriculture from the CSLP.” This was not always the case for her.

“When I first moved here I wanted to do a little farming but it was difficult to get land. Most of the land had been used to cultivate rubber and cocoa. And because I did not come from here, I did not get anybody to give me land,” said Miss Agyeiwaa. For many people like her, living in the Western Region where land for food crop production competes heavily with cash crops like rubber, cocoa and oil palm leaves food crop farmers at a disadvantage.

“I paid close attention to what was taught when we were setting up our school garden. Not long after, our school garden began to take shape,” she noted. Although, the land was brown and not fertile, we did not apply any chemical fertilizers or pesticides.” It was impressive, she said, “It also made me realize that I can grow my own food too. And I could do it anywhere. I only had to care for the land”

“People still can't believe I did not apply chemical fertilizers and pesticides. They saw the land I used. It was brown and did not have nutrients,” she explained. Armed with knowledge she has acquired on composting, mulching, integrated pest management and the dangers posed by pesticides to her health, Miss Agyeiwaa carefully prepared a small patch of land in front of her house and planted cabbage.

At the time of our visit, the patch had 20 heads of cabbage that were almost due for harvesting. This move has been a positive example for her neighbors and farmers in the community. Miss Agyeiwaa says “my small garden has motivated other people to do same. So far 20 people have asked me how they can start. I am sure that if everybody cultivates something small in their homes, we can all feed ourselves and families will not go hungry. Farmers can also do this to improve their finances,” she added. Miss Agyeiwaa is ready to share her knowledge and experiences with others in the community to enable them to become food secure.

Since 2016, the USAID funded and US Forest Service managed CSLP has worked with local NGOs, government and private institutions, farmers and schools to improve people's economic wellbeing. CSLP has proudly contributed to improving rural livelihoods, encouraging entrepreneurship and raising student ambassadors for sustainable agriculture by promoting sustainable climate smart agricultural practices among 18 CSA enterprise groups with a population of over 400 farmers along with 8 school climate change clubs in the Western Region. Together, they are learning and applying their new knowledge on both their group demonstration farms and on their individual farms.

In Pursuit of a Green and Healthy Learning Environment

“Our school can now boast of a beautiful environment blended with different of trees. The trees serve as windbreaks and preventing the school roofs from ripping off during rain storms”, the students said excitedly. “They also give us shade to sit under during break periods,” said Stephen Mensah, a member of Komfueku D/A Junior High School Climate Change Club.



Students of Komfueku D/A Junior High School sitting under a tree planted by the schools' climate change club

Green environments are an essential component of a healthy human habitat. Since 2015, the USAID-funded and USFS-managed CSLP have used Climate Change Clubs interventions as a means to influence and reform the mindset of the students at the junior high school level on the importance of a clean, healthy environment and food security issues, and also foster in students a lifelong commitment to protecting their natural surroundings.

The Komfueku D/A Junior High School Climate Change Club was inaugurated in December 2015 with a club membership of 40 pupils and 8 teachers, including the headmaster of the school, with the slogan “Greening Our Environment, Our Priority, Our Future.” The club has been true to its slogan. In 2016, the club planted 65 tree seedlings supplied by the CSLP. The tree seedlings included *Acacia mangium*, *Senna siamea* and *Adenanthera parvovina* on their school’s compound. The result of planting the trees has been significant.

“When we started, we had no trees around here, and two years later we have a lot of shade trees around,” the students said. “Our classrooms are well ventilated and we have somewhere to sit and rest during break periods.” This result did not come without challenges.

“We faced a lot of odds. The soil is clayey mixed with gravel and the land is almost bare; stray domestic animals grazed on the few grasses on the school compound and erosion taken over the compound,” said Mr. Apire, one of the eight focal teachers of the club. Not discouraged, club members planted the trees and added grasses to check the erosion too.

Students could not hide their excitement as they shared roles they had played in the greening effort. “We brought loamy soil and animal droppings from our houses to fertilize places where we had planted the trees and grasses. We also brought buckets of water to water the trees and grasses regularly. This made it grow well,” the students said.



Climate change club members watering trees planted

According to the headmaster of Komfueku D/A Junior High School, Mr. Elliot Ntiako “Our students made significant improvement in relating with each other, and they become more responsible. They would inspect the trees without being asked to and report whatever they saw back to the teachers.” They could also understand better topics taught in class on environment and science related subjects,” said Mr. Ntiako.



Since 2015, the USAID funded and US Forest Service managed CSLP have formed 20 climate change clubs with a population of over 1,000 students across 5 coastal districts in the Western Region of Ghana. Climate Change clubs and more than 400 farmers across CSLP landscape have planted 45,500 surviving trees to help build resilience to climate change, contribute to the creation of climate knowledge and strengthen local capacities to meet them, each integral parts of implementing sustainable development.

Annex 3. Events Log

Date(s)	Event Type				Event Description	Comments/Observations
	M e e t i n g	T r a i n i n g	V i s i t a t i o n	O t h e r		
Jan 3	✓				Preparation for 2018 world wetland day celebration	First planning meeting. Collaboration by CSLP, Hen Mpoano & WD.
Jan 9	✓				Update meeting with district GoG stakeholders from 5 assemblies	Featured presentations by the Physical Planning Department (formerly TCPD) in all 5 districts
Jan 9-11	✓				Community meeting on rules for wetland management	Community initiated rules
Jan 9-12				✓	Assessment on mapped natural resources in each district	District specific; emphasis on 6 coastal districts
Jan 9-12		✓			VSLA trainings and monitoring	Groups in GAW communities
Jan 10		✓			Management of CSA site of CC Club	Akwidaa JHS CCC
Jan 10		✓			CSA monitoring	1 community
Jan 10-12		✓			Refresher training on cocoa shade tree cover restoration	For farmers in 3 communities
Jan 10-12		✓			CSA training for farmers	For cassava farmers in 3 communities
Jan 11		✓			Mangrove nursery monitoring	1 community
Jan 11				✓	Scaling up tree nursery	2 communities
Jan 12		✓			Training on wetlands for students	Akwidaa Junior High School CCC
Jan 12	✓				Preparation for world environment day celebration	Second planning meeting
Jan 16				✓	Monitoring of CSA farms	2 communities
Jan 16				✓	Mangrove monitoring	2 communities
Jan 16-17	✓				Monitoring of CCCs	Clubs in 5 schools in 5 communities
Jan 16-17				✓	Scaling up tree nursery	2 communities
Jan 16-19		✓			VSLA trainings and monitoring	Groups in GAW communities
Jan 16-18		✓			CSA monitoring	3 communities
Jan 17		✓			Management of CSA site of CC Club	Akwidaa JHS CCC
Jan 17		✓			NRM training for conservation committees	Hen Mpoano-led activity
Jan 18	✓				14 th Regional stakeholders meeting	With regional GoG officials
Jan 18				✓	Mangrove planting	Akwidaa

Jan 18-19		✓		VSLA trainings	Groups in 2 communities
Jan 19		✓		Training on wetlands for students	Yabiw & Akwidaa Junior High Schools
Jan 19	✓			Preparation for world environment day celebration	Third planning meeting
Jan 19-21			✓	Wetland mapping	Hen Mpoano-led activity
Jan 23		✓		VSLA monitoring	1 VSLA in 1 community
Jan 23-26		✓		VSLA trainings and monitoring	Groups in GAW communities
Jan 23-26			✓	Assessment on mapped natural resources in each district	District specific; emphasis on 6 coastal districts
Jan 23-24	✓			Monitoring of CCCs	Clubs in 4 schools in 4 communities
Jan 24-25		✓		CSA monitoring	3 communities
Jan 24		✓		Mangrove monitoring	1 community
Jan 24-25		✓		VSLA monitoring and trainings	VSLAs in 2 communities (include share out by 1 group)
Jan 25	✓			District conservation committee meeting	2 assemblies.
Jan 26		✓		Training on wetlands for students	Yabiw & Akwidaa Junior High Schools
Jan 29	✓			January activity review & February planning session	With CSLP-grantee Hen Mpoano
Jan 30-31	✓			Monitoring of CCCs	Clubs in 9 schools in Shama district
Jan 31		✓		Food security training	For farmers in 1 community
Feb 1				VSLA monitoring	1 community
Feb 2			✓	World Wetland Day	Held at Ampain. Collaboration by CSLP, Hen Mpoano, WD & SFMP.
Feb 6	✓			Meeting on drafting of curriculum on pesticide use	With EPA & DoFA
Feb 6		✓		Mangrove monitoring	1 community
Feb 6-7	✓			CSA field visit	Content gathering in 2 communities
Feb 7		✓		CSA monitoring	1 community
Feb 7	✓			Meeting with Physical Planning Departments	From 6 districts. Held at CSLP office
Feb 7-8	✓			Meeting on CSA monitoring	With DoFA in 2 districts
Feb 8		✓		Environmental education training	With EPA, WD & GES. ToT for teachers from 29 schools in Nzema East municipality
Feb 8		✓		Refresher training on cocoa shade tree cover restoration	For farmers in 1 community
Feb 8-9		✓		VSLA monitoring	2 communities
Feb 9	✓			CSA field visit	Content gathering in 1 community
Feb 9		✓		Training on wetlands for students	Yabiw & Akwidaa Junior High Schools
Feb 9	✓			Review of CSLP activities with USAID	Attended by CSLP Program Manager & CSLP Director

Feb 9	✓			Update with Isiah T at US State Dep't	AW & SD updated US State Dep't Env office on CSLP activities
Feb 9	✓			Discussed WR climate change adaptation status with IRRP project	AW & SD met with ICF's CoP and Climate Mitigation Specialist in Accra
Feb 13-14		✓		VSLA monitoring	2 communities
Feb 14-15		✓		Refresher training on cocoa shade tree cover restoration	For farmers in 2 communities
Feb 14			✓	Mangrove replanting	1 community (Krobo in Shama district)
Feb 15		✓		Training for CCC teachers	Held for 12 teachers from 5 CCCs. Collaboration with Jomoro GES
Feb 15			✓	USAID webinar on social & governance aspects of mangrove management	CSLP Director was a panelist
Feb 16		✓		Training on wetlands for students	Yabiw & Akwidaa Junior High Schools
Feb 16		✓		Exposure & Dialogue Programme Workshop	CSLP Assistant Director was an invited participant in Accra
Feb 20		✓		VSLA monitoring	1 community
Feb 20-21		✓		NRM training for CREMA	3 communities. Collaboration with WD
Feb 21		✓		CSA training for students	Kangbunli Senior High School
Feb 21	✓			Exposure & Dialogue Program discussion with its director, J. Hilgers	Examining collaboration with cocoa sector stakeholders
Feb 21		✓		Mangrove monitoring	1 community
Feb 22		✓		VSLA monitoring	1 community
Feb 23		✓		Training on wetlands for students	Yabiw & Akwidaa Junior High Schools
Feb 24	✓			CSLP, Hen Mpoano & FoN meeting with Chris Damon of SFMP	Focus on UAV flight in wetland areas
Feb 26-27			✓	Akwidaa wetlands UAV flight	Led by Chris Damon of SFMP. Collaboration by CSLP, Hen Mpoano, FoN & SFMP.
Feb 26	✓			Monthly technical meeting	Reviewed activities implemented in February and planned events for March
Feb 27		✓		Monitoring CSA site of CCC	1 school in Shama district
Feb 28		✓		CSA training for students	Shama Senior High School
Mar 1		✓		VSLA training and monitoring	1 community. Training for new group in Nzema East Municipality
Mar 1-2			✓	Pra estuary and Akwidaa wetlands UAV flight	Led by Chris Damon of SFMP. Collaboration by CSLP, Hen Mpoano, FoN & SFMP.
Mar 1-2	✓			Community meeting on rules for wetland management	Community initiated rules
Mar 1-2		✓		VSLA trainings and monitoring	Groups in GAW communities
Mar 2		✓		Training on wetlands for students	Yabiw Junior High School
Mar 2		✓		Apiary monitoring	1 community
Mar 7	✓			Meeting with Adubrim JHS CCC	Focused on quiz competition between the school & Asonti JHS CCC

Mar 7-9		✓		VSLA training and monitoring	2 communities; training for a two new groups
Mar 7-8	✓			Community meeting on rules for wetland management	Community initiated rules
Mar 7-9		✓		VSLA trainings and monitoring	Groups in GAW communities
Mar 8	✓			Meeting with farmers on access to land	1 community in Ahanta West district
Mar 8-9		✓		CSA monitoring	2 communities
Mar 9		✓		Training on wetlands for students	Yabiw Junior High School
Mar 9	✓			CSA enterprise group meeting	1 community
Mar 12-14		✓		Western Region workshop with MMDAs on climate change in MTDPs by USAID/IRRP	2-day meeting attended by CSLP Director. CSLP hosted IRRP (ICF) team for discussions on climate change
Mar 13			✓	Farm mapping	1 community by trained farmers
Mar 13			✓	VSLA data collection	1 community
Mar 13		✓		Mangroves monitoring	1 community in Shama district
Mar 13-14			✓	Mangrove nursery site preparation and filling of polypots	2 communities in Amanzule wetlands
Mar 13-16		✓		Educational training tour for beekeepers	Organized for 20 beekeepers to Atebubu in Brong-Ahafo Region
Mar 13-16		✓		VSLA trainings and monitoring	Groups in GAW communities
Mar 14		✓		Monitoring CSA site of CCC	1 school in Ahanta West district
Mar 14-15			✓	VSLA training and data collection	2 communities. Training was for a new group
Mar 15	✓			Community meeting on rules for wetland management	Community initiated rules
Mar 15		✓		Environmental education training	With EPA, WD & GES. ToT for 29 teachers from 15 schools in Ahanta West district municipal
Mar 15		✓		CSA monitoring	1 community
Mar 15-16			✓	VSLA data collection	2 communities
Mar 16			✓	CCC quiz and football competition	Between two schools in 2 districts
Mar 16		✓		Training on wetlands for students	In two public Junior High Schools
Mar 19	✓			Review & finalization of Gender Integration Framework (GIF)	By CSLP team members
Mar 20		✓		CSA training for students	Nkroful Senior High School
Mar 20-23			✓	VSLA data collection	6 communities
Mar 20	✓			Update meeting with district GoG stakeholders from 5 assemblies	Featured presentations by the BAC & CD Department in all 5 districts
Mar 20		✓		Training on sustainable mangrove harvesting	For conservation committees
Mar 20-22		✓		VSLA trainings and monitoring	Groups in GAW communities
Mar 21		✓		Mangrove monitoring	1 community (Yabiw in Shama district)

Mar 21		✓		Maintenance of CCC CSA farm	Akwidaa JHS CCC
Mar 21	✓			15 th Regional stakeholders meeting	With regional GoG officials
Mar 22		✓		CSA hands-on training for students	Kamgbunli Senior High School
Mar 22	✓			Semi-annual review meeting with GAW District Conservation Committee	Hen Mpoano led-activity
Mar 22		✓		Honey harvesting	1 community in Shama district
Mar 23		✓		Training on wetlands for students	In two public Junior High Schools
Mar 24		✓		Educational training on wetlands for students	1 public Junior High School. Trip to wetlands in Cape Coast and Elmina. Collaboration with UCC.
Mar 26	✓			Monthly technical meeting	Reviewed activities implemented in the quarter and planned for April
Mar 27		✓		CSA ToT monitoring with DoFA	Shama district
Mar 27-28		✓		Apiary monitoring	2 communities
Mar 28	✓			Update meeting with traditional authorities	From CSLP intervention communities; excluding Amanzule wetland areas
Mar 29		✓		Veggie enterprise groups, buyers, service providers workshop	First time engagement by all concerned parties. Discussions on both vegetable production and value chain. Held in Ellembelle district.