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SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP) ANNUAL PROGRESS REPORT



October 1, 2017 – September 30, 2018

THE
UNIVERSITY
OF RHODE ISLAND
GRADUATE SCHOOL
OF OCEANOGRAPHY



Hen Mpoano



Friends of the Nation

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Cover photo: Felicia Mensah, a fish processor, smoking fish on an *Ahotor* Oven at the Central and Western Fishmongers Improvement Association (CEWEFIA) fish processing center in Elmina, Central Region.

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ACRONYMS

AOR	Administrative Officer Representative
CBFM	Community Based Fisheries Management
CBFMP	Community Based Fisheries Management Plan
CDCS	Country Development Cooperation Strategy
CEWEFIA	Central and Western Region Fishmongers Improvement Association
CLaT	Child Labor and Trafficking
CoP	Chief of Party
COTVET	Council for Technical, Vocational Education, and Training
CRC	Coastal Resources Center
CSLP	Coastal Sustainable Landscapes Project
CSO	Civil Society Organization
DA	District Assembly
DAA	Development Action Association
DCPC	District Child Protection Committee
DFAS	Department of Fisheries and Aquatic Sciences
DOPA	Densu Oyster Pickers Association
EG	Economic Growth
F2F	Fisher-to-Fisher
FAO	Food and Agricultural Organization of the United Nations
FC	Fisheries Commission
FEU	Fisheries Enforcement Unit
FFP	Fishers Future Plan
FMOCC	Fisheries Management Operational Committee
FoN	Friends of the Nation
FSSD	Fisheries Statistical Survey Division
FtF	USAID’s Global Feed the Future Program
FWV	Fisheries Watch Volunteers
FY	Fiscal Year
GAO	General Accountability Office
GIFA	Ghana Inshore Fishermen's Association
GITA	Ghana Industrial Trawlers Association
GIS	Geographic Information System
GNCFC	Ghana National Canoe Fishermen’s Council
GoG	Government of Ghana
GPS	Geographic Positioning System
HM	Hen Mpoano
IR	Intermediate Results
IUU	Illegal Unreported Unregulated
KEEA	Komenda- Edina-Eguafo-Abirem
LoP	Life of Project
MASLOC	Microfinance and Small Loans Center

M&E	Monitoring and Evaluation
METSS	Monitoring Evaluation Technical Service Support
MOFAD	Ministry of Fisheries and Aquaculture Development
MOU	Memorandum of Understanding
MPU	Marine Police Unit
MSMEs	Micro, Small and Medium-scale Enterprises
MTDP	Medium Term Development Plan
NAFAG	National Fisheries Association of Ghana
NAFPTA	National Fish Processors and Traders Association
NFMP	National Fisheries Management Plan
NGO	Non-Governmental Organization
NMFMP	National Marine Fisheries Management Plan
NOAA	National Oceanic and Atmospheric Administration
NRM	Natural Resources Management
OCA	Organizational Capacity Assessment
PMP	Performance Management Plan
SFMP	Sustainable Fisheries Management Program
SNV	Netherlands Development Organization
SOPs	Standard Operations Procedures
STWG	Scientific and Technical Working Group
TFN	Tigo Fisheries Network
UAV	Unmanned Aerial Vehicle
UCC	University of Cape Coast
URI	University of Rhode Island
USAID	United States Agency for International Development
USG	United States Government
VSLAs	Village Savings and Loans Associations
WARFP	West Africa Regional Fisheries Development Program
WDACL	World Day Against Child Labor

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1. PROGRAM OVERVIEW / SUMMARY

Program Name:	Sustainable Fisheries Management Project
Activity Start and End Date:	October 22, 2014 to October 31, 2019
Name of Prime Implementing Partner:	Coastal Resources Center, University of Rhode Island
Agreement Number:	AID-641-A-15-00001
Name of Sub-awardees:	Central and Western Fish Mongers Association (CEWEFIA) Development Action Association (DAA) Friends of the Nation (FoN) Hen Mpoano (HM) SNV Netherlands Development Organization Resonance
Major Government Counterpart Organizations	Ministry of Fisheries and Aquaculture Development Fisheries Commission
Geographic Coverage	Ghana: Central Region, Western Region, Greater Accra Region, Volta Region
Reporting Period:	October 1, 2017 – September 30, 2018

1.1 Program Description/ Introduction

The USAID/Ghana Sustainable Fisheries Management Project (SFMP), a five-year project (October 2014-October 2019) is aimed at rebuilding marine fisheries stocks and catches through adoption of responsible fishing practices. The project contributes to the Government of Ghana's fisheries development objectives and US Government's Feed the Future Initiative. Working closely with the Ministry of Fisheries and Aquaculture Development and the Fisheries Commission, USAID/Ghana SFMP aims at ending overfishing of key stocks which are important to local food security through the achievement of the following intermediate results:

- Improved legal enabling conditions for co-management, use rights and effort-reduction strategies.
- Strengthened information systems and science-informed decision-making.
- Increased constituencies that provide the political and public support needed to rebuild fish stocks.
- Implementation of applied management initiatives for several targeted fisheries ecosystems.

More than 100,000 men and women involved in the local fishing industry are expected to benefit from this project and tens of thousands of metric tons of additional high-quality low-cost food supply from fisheries can be regained via improved and sustainable management of the marine fish stocks in Ghana's waters.

The Coastal Resources Center (CRC) at The University of Rhode Island's Graduate School of Oceanography is the lead implementer of the SFMP and works in consortium with other international and local partners, including SNV Netherlands Development Organization, Resonance, Hen Mpoano (HM), Friends of the Nation (FoN), the Central & Western Fish Mangers Improvement Association in Ghana (CEWEFIA), and Development Action Association (DAA).

The project complements and coordinates closely with two other sister projects in the USAID/Ghana Coastal Program Portfolio: The Coastal Sustainable Landscapes Project (CSLP) and the University of Cape Coast/Department of Fisheries and Aquatic Science (UCC/DFAS) Institutional Strengthening Project.

The SFMP builds on the best practices and lessons learned from the USAID-Ghana's Integrated Coastal and Fisheries Governance Program, known locally as the *Hen Mpoano* (Our Coast) initiative. In this follow-up, SFMP is focusing efforts on small pelagic fisheries along the entire coastline as well as the demersal fisheries and essential mangrove fish habitat in the Western Region. Additionally, improvements in the value chain of smoked fish, important to tens of thousands of women fish processors will be supported. The project is also adopting deliberate steps towards reducing child labor and trafficking in the Central Region of Ghana.

Key government clients of this project include MOFAD, FC and the Regional Coordinating Councils and associated districts in the Central and Western, Greater Accra and Volta Regions. The Marine Police are also being provided with direct support to build their capacity. Additional direct support is provided to the University of Cape Coast and a number of local NGOs and women's associations that are active in fisheries management issues and serve either as core or supporting partners in the implementation of this project.

This annual report updates project progress through Year 4 (October 1, 2017 to September 30, 2018) and provides information on how partners are contributing to the achievement of project targets and how these achievements will be sustained to meet the overarching goal of SFMP.

1.2 Summary of Results to Date relative to FtF and other USAID Standard Performance Indicators

This section provides a summary of the results achieved in Year 4 based on PMP targets and in relation to the project goal and intermediate results targets. These are summarized in Table 1. Table 1 shows the FtF standard indicators on which SFMP reports. However, for a full list of indicators (FtF, other standard USAID indicators, and custom indicators) and narrative on each, see Annex 1.

Table 1: Summary of Results to Date on FtF standard Indicators

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
PROJECT GOAL: REBUILD TARGETED FISH STOCKS VIA ADOPTION OF SUSTAINABLE PRACTICES AND EXPLOITATION LEVELS											
PROJECT GOAL INDICATORS											
Number of hectares in areas of biological significance and/or natural resource showing improved biophysical conditions as a result of USG assistance (EG 4.8.1-1)	Biophysical assessments, landing data, maps	2015	0	N/A	N/A	N/A	N/A	N/A	Tracked	No target in 2018	Results versus target will be tracked in FY19.
1.a Biomass to produce MSY (B_{msy}) (Project Indicator)	Project record and surveys	2015	0	0	2017 biomass is low at $B=21,750$ MT.	N/A	N/A	Biomass declining (2017 Biomass is low at $B=21,750$ MT.)	Stable /increasing (Assumes major management measures put in place)	LoP Target not yet met as biomass is declining, and not yet stable or increasing	Biomass continues to fall as MOFAD/ FC failed to implement any actions to reverse the decline
1.b Fishing Mortality at MSY (F_{msy}) (Project Indicator)	Project record and surveys	2015	0	0	2017 fishing mortality is $F= 0.88$	N/A	N/A	Fishing effort continues to increase (2017 fishing mortality is $F= 0.88$)	Stable/ decreasing (Assumes major mgt. measures put in place)	LoP Target not met and fishing mortality is still increasing	Fishing mortality continues to increase as MOFAD/ FC failed to implement any actions to prevent increased fishing effort
Number of indirect project beneficiaries (number), the percentage of which are female (percent)	Project record and surveys	2015	0	N/A	N/A	N/A	905 (fishers applied seasonal closed season at Densu and Pra estuaries and users of Ahotor oven)	905 (fishers applied seasonal closed season at Densu and Pra estuaries and users of Ahotor Oven)	Counting 130,000 if the close season or second fishing holidays is adopted	1%	This was not achieved because the national closed season was declared then postponed and a second fishing holiday requested by the canoe sector was not adopted by MOFAD/ FC (or any other new

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
											management measure). For marine fisheries no new mgt measures implemented in FY18.
IR1: POLICY: STRENGTHENED ENABLING ENVIRONMENT FOR MARINE RESOURCES GOVERNANCE											
Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of USG assistance in each case: (FTF 4.5.1(24)) 1. Analysis 2. Stakeholder consultation/public debate 3. Drafting or revision 4. Approval (legislative or regulatory) 5. Full and effective implementation	Copies of laws, policies, strategies, plan or regulation	2015	0	Step 1 ongoing	Step 1 ongoing	Step 1 ongoing	Step 1 ongoing	Step 1 ongoing	Fish Act –Step 3	N/A	Targets not fully achieved. CLaT strategy, Co-management Policy, Densu, Pra and Ankobra CBMPs were submitted for approval. Only the Gender strategy has been approved and now in early stages of implementation.
				Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed.	CLaT strategy–Step 4	N/A	
				Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Co-mgt. policy –Step 4	N/A	
				Step 4 completed	Step 4 completed	Step 4 completed	Step 4 completed	Step 4 completed	NMFMP-Step 4	N/A	
				Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Pra (CBMP) - Step 4	N/A	
				Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Ankobra (CBMP) -Step 4	N/A	
				Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Step 3 completed	Densu (Oyster Plan) Step 4	N/A	
				Step 4 completed	Step 4 completed	Step 4 completed	Step 4 completed	Step 4 completed	Gender Strategy -Step 4	N/A	
IR 2: SCIENCE & RESEARCH: INCREASED USE OF SCIENCE AND APPLIED RESEARCH TO INFORM DECISION-MAKING, LAW ENFORCEMENT AND THE IMPLEMENTATION OF MANAGEMENT PLANS											
SEE CROSS CUTTING INDICATORS											
IR 3: CONSTITUENCIES: CONSTITUENCIES AND POLITICAL WILL FOR POLICY REFORM & IMPLEMENTATION BUILT											
Number of information products disseminated in local media reports, radio shows, conference	Sample of reports	2015	0	15	15	26	10	66	63	105%	Indicator target over achieved due to closed season engagements.

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
papers, and research studies (Project indicator).											
IR 4: APPLIED MANAGEMENT: IMPROVED MANAGEMENT OF MARINE RESOURCES											
Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (EG 4.8.1)	GIS Maps, policy documents	2015	0	N/A	N/A	N/A	3,215 hectares	3,215 hectares	3205 hectares	100%	Indicator results are tracked annually. Mangrove replanting at Densu exceeded it targeted hectares.
Number of DAs supported with USG Assistance (Ghana CDCS, IR 2.3 indicator)	Project records, mgt.t plans	2015	0	6	6 ongoing	6 ongoing	6 ongoing	6	5	120%	Target achieved and ongoing assistance to DAs.
Improvement in fisheries enforcement and prosecutorial chain to counter IUU fishing (increase/decrease in prosecutions and percent that lead to conviction) (Project Indicator)	Project, police, district attorney, and FEU records	2015	0	unknown as data not received yet	N/A	N/A	N/A	Unknown as data not received yet	Increasing	N/A	Will be reported in FY19 from southern and western commands through qualitative assessment
Number of climate vulnerability assessments conducted as a result of USG Assistance (EG 4.5.1)	Assessment reports	2015	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No target for FY 18. Target for LOP of 2 met.
Number farmers and others who have applied new technologies or management practices	Project records	2015	0	0	0	0	905 M-406 F-499	905 M-406 (45%) F-499 (55%)	100,000 (assumes national closed season or other)	1%	Target not achieve because the national closed season was not implemented by FC. The current results

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
as a result of USG assistance (FtF 4.5.2)									measure for canoes/small pelagics adopted)		captured Densu and Pra Estuaries closed seasons.
Number of micro, small and medium enterprises (MSMEs), including farmers, receiving business development services from USG assisted sources (FtF 4.5.2)	training participant records, lists of micro-enterprises supported	2015	0	37 M-37 F-0	179 M-4 F-175	535 M-80 F-455	229 M-9 F-220	980 M-130(13%) F-850 (87%)	950	103%	Indicator target was over accomplished. Most MSMEs activities were implemented in Q3.
Value of agricultural and rural loans as a result of USG assistance (RAA) (WOG) EG.3.2-6	Private sector financial records, program data	2015	0	0	\$771	0	\$528	\$1,299	\$37,723	3%	Target Not achieved. The MASLOC loans for ovens and seed capital is still in the process and other financial institutions failed to provide loans as anticipated.
Number of micro, small, and medium enterprises (MSMEs), including farmers, receiving agricultural-related credit as a result of USG assistance (RAA) EG.3.2-3	Private sector financial records, program data	2015	0	0	5	0	4	9	100	9%	Target Not achieved. The MASLOC loans for ovens and seed capital is still in the process and other financial institutions failed to provide loans as anticipated.
IR 5: GENDER											
SEE CROSSCUTTING INDICATORS											
IR 6: PUBLIC PRIVATE PARTNERSHIP											
Value of new private sector investments in	Private sector financial	2015	0	\$15,046	0	\$200	\$250	\$15,496	Tracked, no target	N/A	Indicator Target on track.

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
select value chains (FTF 4.5.2-38)	records, program data										
Number of public-private partnerships formed as a result of Feed the Future assistance (S) (FTF 4.5.2(12)_	Project documents	2015	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No target for FY18 LoP target of 2 already achieved in FY17
IR 7: CAPACITY DEVELOPMENT											
Number of institutions with improved capacity to develop and implement managed access fisheries management plans	Project records, capacity assessment reports	2015	0	0	0	1	0	1 (100%)	19 (16 Ongoing, 3 New added)	100%	NAFPTA midterm assessment delayed in FY17 and was done in FY18. Baseline OCA was conducted for the 3 new in FY18. Final assessment to be done for the 19 in FY19.
Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations(CBOs) receiving USG assistance (RiA) (WOG) (FTF 4.5.2(11)	Project document	2015	0	2	3	1	6 Ongoing	6	6 (2 new- NAFAG & GIFA)	100%	Target achieved. support is ongoing to producer organizations throughout the year

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
Number of members of producer organizations and community based organizations receiving USG assistance (S)(FTF 4.5.2(27))	Project documents	2015	0	285 M-22 F-263	557 M-41 F-516	816 M-184 F-632	1,515 M-884 F-631	3,172 M-1,131(36%) F-2,041 (64%)	2530	125%	Target over achieved. Due to closed season announcement, scope was extended to engage more GNCFC and NAFPTA members during Q4.
CROSS CUTTING INDICATORS											
Number of days of USG funded technical assistance in NRM and/or biodiversity provided to counterparts or stakeholders (EG 4.8.1-28)	Trip reports, project records	2015	0	76 days	143 days	247 days	348 days	814 days	770	106%	Indicator target was achieved because local experts were engaged in addition to international experts.
Number of people receiving USG supported training in natural resources management and/or biodiversity conservation, and climate change, disaggregated by gender (EG 4.8.1-27/4.8.2-6)	Project training reports and participant lists	2015	0	117 M-55 F-62	1,256 M-696 F-560	1,244 M-679 F-565	263 M-129 F-134	2,880 M-1,559 (54%) F-1,321 (46%)	3,124	92%	Indicator target not achieved. FWV activities were cancelled by FC and some of the activities did not met the targets.
Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance (FtF 4.8.1-29)	Project training report.	2015	0	1,278 M-544 F-734	12,125 M-6622 F-5503	13,328 M-7,635 F-5,693	3,549 M-2,020 F-1,529	30,280 M-16,821(56%) F-13,459(44%)	42,328	72%	Indicator target not achieved. FWV activities were cancelled by FC and some of the activities did not met the targets.

Indicator	Data Source	Baseline Data		Quarterly Results – FY 2018				FY 2018		Annual Performance	Comment(s)
		Year	Value	Q1	Q2	Q3	Q4	Annual Cumulative Actual	Annual Planned Target	Achieved to Date (in %)	
Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) EG.3.2-1	Project training report.	2015	0	154 M-92 F-62	1435 M-700 F-735	1,779 M-759 F-1,020	492 M-138 F-354	3,860 M-1,689 (44%) F-2,171 (56%)	4074	95%	Indicator target not achieved. Some activities were cancelled by FC and others did not meet the target participants.
Number of individuals who have received USG-supported degree-granting agricultural sector productivity or food security training (RAA) EG.3.2-2	Project training report.	2015	0	5 ONGOING M-1 F-4	5 ONGOING M-1 F-4	5 ONGOING M-1 F-4	1 ONGOING M-1 F-1	5 M-1(20%) F-4(80%)	5 M-1(20%) F-4(80%)	100%	Indicator target achieved. 4 students graduated in Q3 and 1 continuing.

Note: The Results Performance Column depicts level of achievement expressed as a percentage of Actual versus Planned. Additional description and explanation is provided on each indicator as well as on indicators with high variance from the target in Annex 1.

2. ACTIVITY IMPLEMENTATION PROGRESS

2.1 Summary Progress Narrative & Implementation Status

The main goal of SFMP is to rebuild key marine fisheries stocks for local food security with targets of increased biomass and reduced fishing pressure expected over life of project. Key to achieving these targets is the adoption and implementation of specific management measures to reduce fishing capacity and effort. At the end of Year 4, stock assessments conducted by the Science and Technical Working Group showed that the biomass of the small pelagic fish stocks, SFMP's primary target stocks, continues to decline and fishing effort continues to increase. The declining biomass and increasing fishing mortality (effort) trends cannot be reversed or stabilized until the Fisheries Commission and MOFAD put into place some form of management measure or, ideally, multiple measures. While expected, this did not occur in FY 18 but the outlook that measures will be put in place in FY19 is good.

Progress towards implementing significant management measures in the fisheries sector in Ghana were highlighted in dramatic fashion in Q4 of FY18 when a nationwide closed season was announced by MOFAD and rescinded shortly thereafter following a letter to the President from the Ghana National Canoe Fishermen's Council (GNCFC). The experience is generally considered by all stakeholders to be a near miss in terms of finally bringing all the various stakeholders together in a coherent and timely manner to take long overdue, urgently needed, and coordinated action for sustainable management of small pelagic fisheries stocks.

For key institutional actors, failure to achieve the desired closed season brought into focus very concretely their own capacity and performance gaps, and the challenges they have to more effectively fulfill their institutional roles and responsibilities going forward. SFMP institutional assessments and capacity development support provided to date have contributed strongly to realizing improved performance among partnering institutional actors, and to the greater urgency and clarity of vision key institutions have about what they want to accomplish relative to the progress they have made and the changes they still need to make if they are to lead transformative change in the sector.

In FY18, another opportunity presented itself to reduce fishing effort but, like the closed season, it was not realized. Fisher-to-Fisher Dialogues supported by SFMP led to a consensus among the canoe fishermen in all four coastal regions and the Ghana National Canoe Fishers Council (GNCFC) for the adoption of an additional weekly non-fishing holiday along the marine coastline. This management measure is included in the approved National Marine Fisheries Management Plan as a key action. This action was approved by GNCFC membership and its executive council. However, in April, one week before the announcement of this decision by executive leadership of the GNCFC, the announcement was blocked by the Minister of Fisheries and Aquaculture Development over worries that an additional non-fishing day announced in April would hinder government efforts to declare the planned national one-month long closed season in August.

The government's effort to declare a one-month closed season was complicated by the public and industry perception that the official declaration three weeks before the closed season was to start did not provide sufficient time to prepare as required by law. Many did not consider three weeks as a 'reasonable notification period'. From MOFAD's perspective, discussions in radio, television, and print media, meetings with stakeholders, and public presentations specifically notifying them of the coming closed season in the months leading up to the official announcement met the 'reasonable notification' standard. SFMP suspended many other planned project activities in order to put all hands on deck to support the Ministry on this communication drive which was too little and too late due to the short notification period.

From a private sector perspective, the Ghana Industrial Trawlers Association (GITA) resisted the closed season based on the fact that the ministry had already closed the industrial trawler fishing for three months in the last 12-months period (November 2017 and January-February 2018). Additionally, GITA members had already purchased licenses for the proposed closed season period in August 2018 and denying them of fishing during a period for which they had already paid fees was a ‘takings’ issue and placed undue and unjustified financial burden on industrial trawl companies.

Eventually, one week before the August 2018 closed season was to begin, the government relented under pressure and postponed the closed season until 2019. As one official described it; “The paddle broke the pen.” referring to the political power of the canoe fishermen to get the President and cabinet to override the Minister’s closed season declaration.

Although eventually postponed until FY 19, the declaration of the closed season elevated the issue of an eminently collapsing artisanal fishery to members of parliament, district and regional governments, fishers in the artisanal sector, and inshore and industrial fishing sector actors. The importance of the issue is revealed through the fact that numerous consultations were conducted in the office of the president on the issue. This level of engagement signifies that for the first time Ghana’s collapsing small pelagic fisheries are in forefront of the national agenda, a major achievement for the USAID’s support through SFMP.

Although there is reason for optimism that a 2019 closed season declaration will be successful, it will remain challenging. As evidenced by the voice of canoe fishermen, fish processors, and industrial trawler owners, there is considerable outreach and consensus building that still needs to be accomplish before a 2019 closed season can be successful. USAID’s SFMP project plays an important role in catalyzing the surrounding public discussion and supporting the government to carry out its roles effectively. Currently, SFMP is scheduled to end as the 2019 closed season period is coming about. This removes USAID support at the most critical time in the process of achieving a successful 2019 closed season.

The focused level of effort that went into supporting the declaration of an additional non-fishing holiday and the declaration of the closed season, two key management measures targeted for adoption in SFMP’s LoP strategy, affected progress in other SFMP fisheries policy and management efforts. At mid-year, there was a major shuffling of senior MOFAD and Fisheries Commission (FC) staff who served as close partners with SFMP. As a result, revision of the National Fisheries Act and formally establishing an official fisheries sector science and technical working group were delayed. Approval stalled on a draft co-management policy that was completed at the end of calendar 2017. Community-based fisheries management plans for Ankobra, Pra and Densu estuaries are completed in draft but cannot be gazetted until the national co-management policy is adopted. In addition, plans to register and emboss all canoes operating in the marine artisanal fishery and a planned moratorium on new entrants into the artisanal sector slowed as the government focused on the closed season for all fleets. With these activities not completed, the issuing of identity cards to all canoe owners and then connecting these identity cards to the national database for subsidized fuel purchases was also delayed. These policy targets are now shifted to Year 5.

While lack of adoption of the measures listed above is disappointing and must be achieved to meet the goal of the project, SFMP still performed well in Year 4 in terms of achieving performance targets in intermediate result areas of the program. In FY 18 (Year 4), 3,215 additional hectares of biological significant and/or natural resources came under improved management due to progress towards implementing actions in the three community based management plans for the Densu, Pra and Ankobra estuaries. In addition, 980 (87% female) micro, small and medium enterprises (MSMEs) received business development services,

\$1,299 of rural loans were provided, 3,860 people (56% female) received productivity or food security training, and 30,280 hours of training in natural resources management and/or biodiversity conservation were delivered. Along with others successes, these achievements significantly contributed to progress toward SFMP's overall goal.

Additional areas of progress are worth noting. SFMP contributed to increased private sector/government interaction around illegal Unreported and unregulated (IUU) fishing and discussions with the trawler industry on the need for new fishing gear regulations related to revision of the National Fisheries Act. SFMP played a significant role in increasing coordination between various development partner funded projects and MOFAD/FC. Capacity developed among non-governmental organizations, particularly women's organizations, focused on post-harvest processing and child labor and trafficking.

Progress was made toward adoption and implementation of management measures required for rebuilding fisheries stocks important to rural and highly vulnerable populations in estuarine areas of the coast. Community-based management plans are in final draft for the Pra, Ankobra and Densu estuaries that were developed jointly by local communities, regional Fisheries Commission staff and local NGOs that demonstrate application of co-management concepts in line with the draft national policy. These community-based management plans will be bundled with the draft co-management policy when submitted for cabinet approval in Year 5.

While not fully completed, SFMP supported the Ghana National Canoe Fisheries Council into the final stages of national registration of all canoes in the artisanal fishing fleet. When completed in Year 5 it will mark the first step toward capping and ultimate reduction of overall artisanal canoe fishing effort. In FY19 (SFMP Year 5), the process of registering and embossing all existing canoes will be completed and when entered into a national database will be connected to purchases of subsidized fuel ('premix'). Use of individual identification cards will enable more effective enforcement, greater control of the distribution of subsidized fuel, and eventually the capping of new entrants into the artisanal fishing sector followed by reduction of the actual number of boats licensed to operate. An additional national weekly fishing holiday (non-fishing day) in all regions was approved by the National Canoe Council and Fisheries Commission and is awaiting public notice by the Ministry. While this was blocked in Year 4 by the minister, SFMP will continue to support adoption in Year 5.

SFMP successfully launched two public-private partnerships providing micro-insurance and small-scale voluntary savings plans using mobile phone mobile money platforms that eventually can help those most impacted by seasonal closures. Over 3,700 persons have already signed up in the pilot phase of the micro-insurance program in the initial few fishing communities engaged with a cumulative savings of over US\$51,466 in their accounts to date. Based on the reenergized relationships with the Fisheries Commission and GITA, and these new platforms for helping fishers, fish processors and their families to better weather the loss of income during a closed season, conversations on an annually recurring, sector-wide fisheries closed season are expected to progress well in Year 5.

SFMP continued to work toward capacity development of the University of Cape Coast and the Fisheries Commission, and provided continued support for a Masters and PhD student hosted at URI. Three Masters students completed their degrees and returned to Ghana in Year 4, bringing increased analytic and scientific skills into the government and university systems for informed decision making. Two PhD candidates at UCC, also supported by SFMP, are completing their research while conducting extension activities with women's groups on community-based management implementation. URI hosted a group of 5 UCC PhD students for a semester abroad in the Fall of 2017 and other batch is currently at URI for the Fall 2018

semester. While most of their support is provided under the UCC - USAID institutional strengthening project, CRC identified URI faculty mentors and runs a 1 credit integrative research and outreach seminar class one a week for all Ghana students at URI.

Early in Year 4, a learning exchange to the US was conducted for MOFAD/FC staff including the deputy minister, chief director, director and deputy director levels (all new high level senior government staff) and private sector representatives to encourage cooperation on establishing a closed season, establishing new fishing gear regulations, and revision of the Ghana National Fisheries Act. Participants interacted with NOAA, regional fisheries management councils and fishermen in the Atlantic regions of the US.

Looking forward, Year 5 will be a critical year for putting in place the fisheries management actions that define SFMP's overall life of project goals of rebuilding key marine fisheries stocks for local food security and reducing fishing pressure. While we are optimistic, certain risks remain. Renewed and energized cooperation with government partners could be threatened by government cabinet reshuffling which often happens near the middle of administrations. A change in the minister for MOFAD would require building new relationships. Already, two rounds of senior staff reshuffling in Year 4 are requiring adeptness to maintain momentum. Parliamentary budget allocations to MOFAD and FC for the 2019 (calendar) fiscal year will have a significant influence on the ability of these organizations to respond to fisheries policy and management actions.

SFMP continues to support progress against child labor and trafficking in Ghana. SFMP's direct support to MOFAD resulted in the Minister signing of a ministry-wide Anti-Child Labor and Trafficking Strategy (CLaT) strategy in July 2018, followed by training for 18 Fisheries Commission directors and division heads on strategy and action plans/budgets development. SFMP supported fisheries sector group associations (NAPTA, GNCFC, GITA, NAFAG) through trainings and workshops with particular emphasis on detecting, reporting and prevent occurrences in their fishing activities and communities. A multi-stakeholder visit to Kpando Torkor in the Volta Region was led by SFMP team members to learn about the Torkor model, developed by General Agricultural Workers Union (GAWU), hailed as a successful model for engaging communities in Ghana to fight CLaT. The Torkor Model is hinged on organizing and mobilizing fish workers (including fishermen and fish processing women) and employers (boat/canoe owners) to fight CLaT by equipping them with the knowledge, skills and motivation to combat child labor. Learning exchange participants then led a workshop in the Central region to share what they had learned and to start development of a similar strategy to address CLaT in the central region.

Strengthening the capacity of the District Child Protection Committees (DCPCs) continued, with an emphasis on them implementing components of the National Fisheries Anti-Child Labor Policy by mainstreaming activities into their Medium-Term Development Plans (MTDP) 2018-2021. Participation in workshops expanded to include members of the DCPCs from the respective districts in the Central Region, District Coordinating Directors, Planning Officers, Finance Officers and Budget Officers. It promoted joint planning among the ten districts to develop implementation plans for anti-CLaT programs.

In collaboration with DCPCs, SFMP organized durbars to sensitize beneficiary communities to CLaT issues and support the DCPCs to actively implement their local action plans. Durbars were used to introduce the DCPC members to their communities and provided a platform for the DCPCs members to sensitize the communities on the implications of CLaT.

Advocacy training for Anti-CLaT policies and laws was organized for media personnel to enhance their knowledge and reporting on CLaT issues. Support from SFMP continuously

leverages the important role of media in communicating to larger numbers of people and to achieve behavior change by eliminating the belief that child labor and trafficking is acceptable.

As part of activities to mark World Day Against Child Labor Day (WDACL), SFMP organized an inter-schools quiz competition on CLaT. The competition received support from traditional leaders, district assembly leaders, and other institutional stakeholders. The competition featured 4 Junior High Schools (JHS) from 4 fishing districts. The objective of the inter-school competition was to raise awareness of student, teacher and the general public about CLaT, and reinforce actions that could be taken to fight CLaT at all levels. In collaboration with FC and the Ghana Education Service, SFMP also visited pupils in two schools (Wesley Methodist Girls Basic School and Philip Quacoo Boys Junior High School) located within fishing communities in Cape Coast. Students were directly engaged along with their teachers, and anti- CLaT materials were distributed.

As part of the WDACL celebrations, SFMP worked with the Ministry of Employment and Labor Relations to support 4 primary schools to produce a float parade through the principal streets of Cape Coast on the theme, “Resist child labor; improve the safety and health of young workers towards achieving Sustainable Development Goal (SDG) 8”. The desired outcome was to increase awareness in the fight against CLaT aimed at achieving TIER 1 status in the US State Department’s Trafficking in Persons Report.

Empowering women is essential for sustainable growth of Ghana’s fisheries industry. To support women’s empowerment, SFMP provided a number of trainings in leadership and conflict management using an approach called the ‘Hownam Dialogue’. Hownam is a local name for fish processors that gives identify and ownership of the process to fish processors.

This approach has proven an effective tool in strengthening the capacity of fish processors and their associations. Hownam Dialogue then were conducted in the Western, Central, and Greater Accra regions, facilitated by women leaders from local groups who benefited from the earlier trainings. This peer-to-peer approach empowers and enhances social cohesion among the trainees.

Parallel to the start of the Hownam Dialogue, SFMP supported the creation of a new Gender Network has been formed to bring together civil society organizations and government agencies working in the area of gender. The purpose of the network is to create synergies and greater understanding of the role gender plays roles in the fisheries sector. The network serves as a focal point for women’s empowerment representatives in various roles who are working to create an enabling environment for women in the fisheries sector. The Gender Network had its 3rd annual meeting (20 members including 9 males) on December 5, 2017 at the Ampomaah Hotel in Accra. An activity plan for the group was developed focusing on supporting MOFAD to implement its Fisheries Sector Gender Mainstreaming Strategy and discussed ways to leverage MOFAD’s budget allocations under the World Bank funded WARFP project to implement the 1st phase of the strategy.

Currently, SFMP is scheduled to close at the end of the FY19 US government fiscal year. This timing requires field activities to wind down earlier in the FY19, preventing SFMP from being operational as the 2019 fisheries closed season is nearing and being implemented. SFMP support plays an important role in closed season communities, and in biophysical and socio-economic monitoring of the results of a sector-wide closed season. USAID is the main development partner supporting MOFAD and FC and losing this support increases the risk of another unsuccessful attempt for a closed season after so much momentum has been gained.

Winding down of funding and closeout of activities presents risks to SFMP's main sub-recipients. Significant, measurable capacity development support for local sub-recipients has produced much more effective organizations working at local, district, regional and national levels. However, several sub-recipients (particularly DAA and CEWEFIA) do not have non-SFMP sources of revenue sufficient to sustain them at current levels of activities and staff post-SFMP. Support for business development planning is programmed to start by the end of the first quarter of FY19 (Year 5) including creating linkages with organizations offering potential sources of new funding. This is particularly important for DAA which was a major sub-recipient of funds and construction support that resulted in a new post-harvest training center being built.

Finally, as with all development projects, there is a risk of losing key technical staff in the final year of funding as project staff look to reposition for the future. Loss of key technical staff would present challenges to effectively meeting the demands of a final project year, particularly one in which achievement of policy and management successes is critical to achieving the overall life-of-project goal.

2.2. Highlights of Year 4 Accomplishments

IR 1: Strengthened Enabling Environment for Marine Resources Governance

Planning for revisions to the Fisheries Act gets underway

In 2015 under the previous administration, the Ministry of Fisheries and Aquaculture Development (MOFAD) received Cabinet approval to revise and consolidate the National Fisheries Act and related regulations to ensure that emerging issues in the sector are addressed. The law was last amended in 2002. A multi-stakeholder technical review committee was mandated to steer the process of getting amendments to Parliament within reasonable time. This objective was not met by the time the previous administration exited in January 2017. During the transition process, the new administration pledged to continue with fisheries law reforms. However, the change in leadership, low levels of funding and a reshuffling of senior technical staff in 2018 all contributed to a delayed process. In addition, it was not clear that the previous administration's Cabinet approval was sufficient under the new administration to move forward.

In the Year 4 work plan, SFMP proposed to support the Ministry in its consultations to collate inputs from stakeholders as part of the legal reform process. Working with other development partner projects, this was started but additional consultations both within and outside government is necessary. Additionally, MoFAD requested the UN Food and Agricultural Organization (FAO) to support its efforts in the legislative review process. An agreement was reached between MOFAD/FC, FAO and SFMP on a roadmap to present a new fisheries bill to the Parliament of Ghana by July/August 2019 as illustrated in Figure 1 below

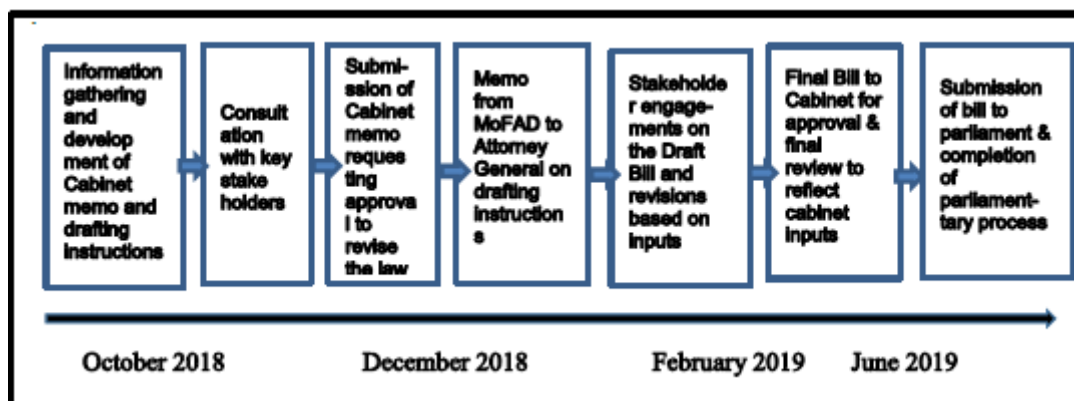


Figure 1 Timelines for delivering a Fisheries Bill to Parliament

Initial contacts were made with members of the Parliamentary Select Committee on Agriculture, Fisheries, and Food Security, various key district assemblies, CSO/NGO representatives and other stakeholders in the sector to align with this process. A website was created in which to consolidate related laws, decrees, regulations, conventions and other relevant documentation (<http://rhody.crc.uri.edu/gfa/>). It will provide a single consolidated resource site to aid in the revision of the law. This website is publicly available with editorial authority limited to key SFMP staff and consultants.

Ghana's fisheries law will be amended in the coming year to address current global and emerging fisheries management trends. A three-day workshop was held with stakeholders in the fisheries sector to introduce issues with the current law and solicit inputs to inform the review process. Stakeholders agreed new areas such as quotas, removal of input subsidies, reduction of fishing effort and other conservation measures be consideration in any

amendment to the law. The meetings also created the opportunity for the officials of Fisheries Commission and the Fisheries Enforcement Unit (FEU) to inform participants on the status of the implementation of the NFMP including the closed season for trawlers, canoe registration and embossment, etc.

A co-management policy framework finalized and ready for approval

One of SFMP's main policy and management initiatives is the devolution of fisheries management authorities to regional offices communities. This fisheries collaborative management (co-management) approach is a strategy for managing fisheries where authority for decision making is shared between government and resource users. It is an accepted international best practice in fisheries management and proven to be more effective than top down command and control management systems as currently practiced in Ghana. The Government of Ghana however, through many of its policy statements and documents, has indicated its intention to adopt and implement co-management as a tool for fisheries management.

In year 4, SFMP supported MOFAD/FC in the final review of its new co-management policy with the objective of submission to Cabinet in the last quarter of FY18 for consideration (as required by law). However, due to competing priorities, MOFAD is yet to approve and endorse the final draft co-management policy to the Cabinet. In addition, once the co-management policy is approved by Cabinet, changes in the National Fisheries Act are needed to fully enable its implementation. While this process is being completed, SFMP worked with the FC national and regional staff, resource users, and local NGOs working in three of Ghana's largest estuaries (Ankobra, Pra and Densu) to develop co-management plans demonstrating and providing case examples of fisheries co-management in Ghana. When the final draft is completed by the end of the first quarter of FY19, SFMP will support the public consultation and distribution of the Policy and work with FC to develop an operational guide for the replication in other locations.

Strengthened law enforcement units prepared and capable to deter illegal fishing

Following announcement of the August 2018 closed season in line with the National Fisheries Management Plan, SFMP organized a series of closed season educational workshops in collaboration with MoFAD/FC to educate key stakeholders such as coastal metropolitan, municipal and district assemblies, fisheries prosecutors, enforcement agencies, members of the judiciary, media organizations and selected journalists. These workshops also engaged and brought fisheries issues to the attention of consumers in terms of understanding the status of the fish they depend on for food, and the urgent need to implement measures to address impending stocks collapse. The intent here is to bolster support for and legitimacy of the closed season and boost voluntary compliance with the closed season.

In line with objectives laid out under SFMP's IR 1 on strengthened law enforcement, Marine Police Unit officers have been seconded to the Fisheries Commission to support the Fisheries Enforcement Unit (FEU) to undertake regular sea patrols and inspection of fish landing sites. SFMP has been working closely with the Marine Police Unit (MPU) of the Ghana Police Service to strengthen their capacity for effective fisheries deterrence. SFMP supported the MPU to develop and implement Standard Operating Procedures, improve planning of field work, and practical field exercises such as rescue swimming, safety protocols and offshore launching and inspection protocols.

The Ministry of Fisheries and Aquaculture Development empower women

Women play a significant role in economies all over the world and in Ghana the story is not different. In many households, they are the bread winners and contribute significantly towards the family's upkeep. They are usually the main caregivers for the family including food, income, and care for children but haven't had a strong voice in local decision making. For women fish processors along Ghana's coast, lack of voice historically put them at a disadvantage. As fish stocks dwindled over the past 20 years to the point of imminent collapse, their lack of voice in fisheries management decisions was frustrating as they watched their main source of income disappearing. Increasingly, they recognized the need to organize and gain skills required to contribute to fisheries management decisions and make informed decisions about their future in the Ghanaian male-dominated culture. Now, the narrative is changing.

USAID's Sustainable Fisheries Management Project began collaboration with Ghana's Ministry of Fisheries and Aquaculture Development (MOFAD) and the Fisheries Commission (FC) to build the capacity of women fish processors to organize, play a more significant role in fisheries management decisions, and gain the financial knowledge and negotiation skills to be more confident in their roles as income earners and family providers.

With USAID's support, SFMP began working with MOFAD and the Fisheries Commission to develop a new approach for supporting women in Ghana's fisheries sector. By December, 2016 a new Fisheries Sector Gender Policy was signed by the minister and with continuing SFMP support the Fisheries Commission set of on a new course to mainstreaming gender into its operations. The new policy created new avenues for government access to financial and human resources to enhance individual contributions and promote equitable and sustainable development through greater inclusion of women.

IR 2: Increased Use of Applied Science to Inform Decision-Making

The Science and Technical Working Group provides critical scientific information for a closed fishing season

The SFMP project continued to support the STWG which includes academic, government and public representatives. During FY 18, the STWG engaged MOFAD on the status of the small pelagic stocks and the urgent need to implement a seasonal closure for all fleets in the month of August. The justification for an August closure was based on scientific findings which confirmed August as the peak upwelling and spawning period for stocks at risk. Local knowledge from fish processors revealed they had reduced profit due to the large quantity of harvested gravid (egg bearing) fish during August. While the STWG meeting in February 2018 recommended a closed season in August, the STWG also recommended that ample time be given to fishers in order to help them prepare adequately for the closure. The report from the STWG became the reference document used by MOFAD to justify the declaring an August 2018 closure. Once declared, the STWG participated in public presentations, including radio and television discussions, in support government action while recognizing that the short notice given was problematic. The STWG report meets a requirement of the Fisheries Act that management decisions be based on sound science. There were few debates over the science justifying the closed season thereby indicating the validity and trust most stakeholder representatives had in its findings.

Stock assessment of the small pelagic fisheries shows continuing declines

The FSSD updated the status of the stock for small pelagic and demersal stocks. The results were reviewed by the STWG and presented to the FC. Small pelagic fish stocks continue to deteriorate since the start of the project and were considered severely overfished. Fish biomass is declining due to excess fishing effort that keeps increasing due to the open access regime in the artisanal fisheries. Over 14,200 canoes were registered in 2017 as opposed to 12,700 in 2016 without any catch control measures. Fishermen are spending more time at sea in search of fish, using longer and deeper nets, costing fishermen more money and less profit. The rebuilding fishing mortality target was estimated at $F=0.4$ while the biomass target is estimated at 300,000 tons. The STWG estimate that the stock will likely collapse by 2022-2023 if the current open access and no catch controls are maintained. However, if fishing mortality is reduced to $F=0.4$ (56%), the stock biomass could increase and was projected to recover by 2030.

Table 2. Status of the small pelagic stocks relative to target reference point indicators

Biological reference points	2014	2015	2016	2017
Biomass (tons)	32,910	30,000	21,750	19,450
Fishing mortality	0.74	0.80	0.88	0.91

In 2017, the SFMP-supported Scientific and Technical Working Group (STWG) completed analysis of available scientific information on the stock status of the small pelagic species from 2016 and concluded that if the status quo is maintained the stocks could collapse by 2020 (Figure 5). The STWG also determined that stocks could be rebuilt if sound management practices were put in place, (Figure 6).

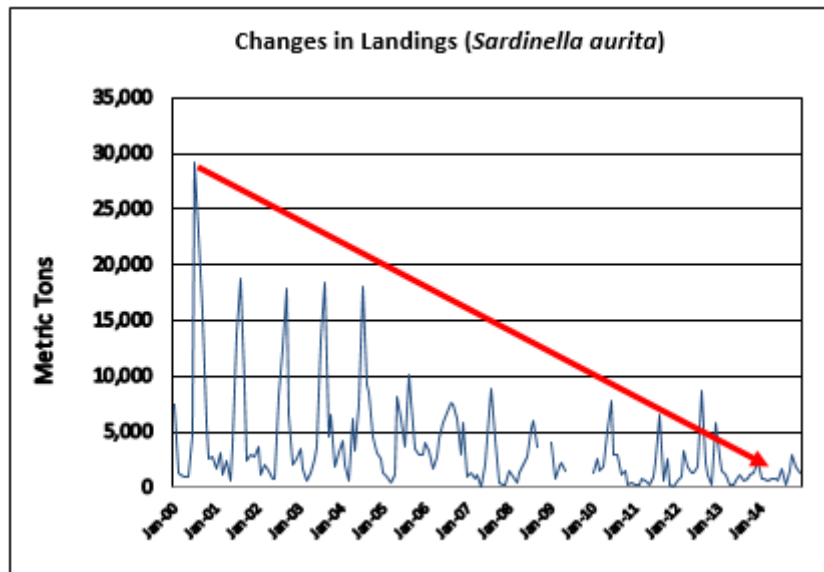


Figure 2. Changes in landings over time

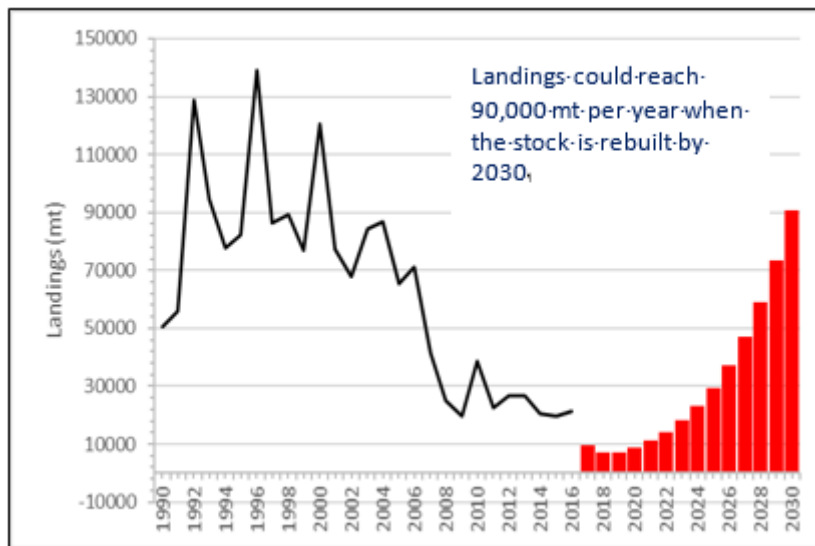


Figure 3. Projected changes in annual landings under a F=0.4 scenario

Fisheries Commission capacity to prepare annual stock assessments achieved

A special training in advanced fish stock assessment and management was completed at CRC from April 1 to June 30, 2018 for Mr. Emmanuel Dovlo and Mr. Reynolds Obeng of FC-FSSD. The participants were selected based on performance through a series of in-country trainings in stock assessment. The main purpose of the advanced training is to enhance the knowledge and skills of FC/FSSD staff in population dynamics and bio-statistics as applied to fisheries management and provide FSSD with self-sufficiency in conducting future stock assessments and management evaluation reports. The participants were able to prepare and lead, upon their return to Ghana in July 2018, the status of the stocks and the technical evaluations to the STWG and FC. It involved the status of the stocks for small pelagic and demersal stocks and the evaluation of the various fisheries management measures including the fishing closed season.

UCC and SFMP cooperate to build capacity for extension in fisheries management

In collaboration with UCC's extension unit at the Center for Coastal Management, SFMP organized a three day fisheries leadership course for committee members of the Pra, Ankobra and Densu community-based fisheries management demonstration areas. The course was organized to equip committee members with skills to identify and resolve emerging conflicts/disagreements in their respective communities related to fisheries management actions. The training provided an opportunity for residents from all three areas to share experiences and lessons learned since the adoption of co-management in their communities. During the training, committee members identified areas of future potential conflicts and drew up action plans on how to address them.

Technical capacities of the Fisheries Commission and local partners in use of GIS strengthened

Although Geographic Information Systems (GIS) technology has revolutionized geographic analysis in fisheries resources management, GIS applications for collecting, analyzing and managing data in Ghana's fisheries sector is still nascent. In order to enhance uptake of GIS technology in collecting and managing fisheries data, SFMP trained 16 (6 females and 10 males) zonal officers of the Fisheries Commission and 8 (2 females and 6 males) M&E officers of SFMP and its implementing partners in the use of mobile phones and Global Positioning Systems (GPS) for spatial data collection and analysis. As a result of the knowledge and skills gained from this training, fisheries officers are now able to collect and process data with GPS units and mobile devices, analyze basic data on fisheries, and produce customized maps with new and existing data.

High resolution spatial data is necessary for improving place-based management of fisheries resources. During Year 4 maps were produced and geospatial analyses conducted in support of stakeholder management of the three community-based fisheries management demonstration sites at Densu, Pra and Ankobra estuaries. Furthermore, a program wide database was developed for USAID and METSS to strengthen the spatial focus of M&E documentation at the mission.

Use of Unmanned Aerial Vehicles (UAVs) provides high resolution data and maps to support local spatial planning and applied research needs

SFMP conducted a coast-wide aerial survey targeting key SFMP areas in the Ankobra, Pra and Densu estuaries, and three USAID/CSLP mangrove monitoring sites in Yabiw, Akwidaa and Amanzule river estuaries, plus the Iture wetlands for UCC. Over a 2.5-week period, SFMP conducted a total of 34 flights covering 35 mi² with almost 300,000 images collected. All imagery was collected using the new Bramor UAV and the MicaSense 5-band multispectral camera. On the 36th flight, a malfunction happened during launch and the Bramor fixed-wing UAV crashed. The onboard computer did not reveal any error on the part of the SFMP team and no warning was sent to the computer to prevent the launch. After discussions with the maker, it is likely that the crash resulted from a confluence of 2-4 different events but it was not possible to determine definitively the cause of the crash. The UAV was shipped back to its maker and repaired at no cost to the project although SFMP was asked to cover shipping costs.

However, the products of the UAV surveys that were completed provided information on current extent of mangroves in the surveyed areas, levels of encroachment and exploitation within the mangroves and changes in landscape from other causes. The information produced directly fed into SFMP's calculations for monitoring of replanted mangroves areas and

supporting management decisions for the future. Aerial surveying activities were a team effort between SFMP partners and other USAID regional projects (CSLP, CCM).

Genetic Analysis of the Sardinella helps address regional management needs for transboundary fish stocks

Exploited small pelagic fish populations that perform transboundary migrations is a common situation in the Atlantic Ocean of Africa, as obviously no fish is stopped at or by any country border. The seasonal migratory nature of these species across multiple political boundaries presents a major challenge for fisheries assessment and management. Coastal countries that share the same fish stocks cannot claim full jurisdiction over any particular stock. The impact of a single country's management plan to maintain sustainability may be negatively influenced by the lack of action of another country. The ensuing spatial and institutional mismatches can frustrate management efforts and exacerbate issues of non-compliance as fishers migrate, and ultimately can lead to conflicts, overfishing and declining stocks. Determining the boundaries of fish management units or the ranges of various fish stocks is a critical piece of information for formulating regional management strategies. DNA analysis is an emerging scientific approach to determining the range of such regional stocks.

A genetic study of small pelagic fish stocks in West Africa was led by a Ghanaian graduate student at the College of Environment and Life Sciences of the University of Rhode Island in collaboration with fisheries research institutes from twelve countries between Morocco and Angola. The study also included the Norwegian EAF Nansen project and the Food and Agriculture Organization. The purpose of the study is to improve the understanding of stock units and establish, if possible, the boundaries of genetically isolated populations along the Atlantic African coast as a contribution to regional harmonization of fisheries management of key stocks. The analysis was conducted by a graduate student from the University of Cape Coast (Ghana) as part of her Master degree in Biological Sciences, and as part of SFMP's capacity development program with UCC.

This genetic research is a first in Africa for sardinella, and a key food species in Ghana. Once the study is complete, it will provide important information for management and better direct the rebuilding of the overfished stocks in Ghana. The results will be forthcoming as soon as the URI Master's Thesis of Evelyn Takyi is completed in December 2018.



Figure 4. A harvest of sardinella, a regionally shared stock in need of regional management, and a map of range of small pelagics through more than a dozen countries

IR 3: Improved Constituencies and Political Will for Policy Reform and Sustainable Use Practices

SFMP raised national awareness of fisheries issues through media outreach

SFMP continues to employ behavioral change communication through broad stakeholder engagements and constituency building activities to achieve a wide range of results. Key messages developed with partners and government were broadcasted through local media to inform project beneficiaries and stakeholders about intervention activities and solicit public support for addressing Ghana's declining fish stocks. Project staff provided interviews with the radio, television and print media to discuss vital issues on fisheries. Key information education and communication materials such factsheets, success stories, project strategic documents, issue briefs, research studies and posters were produced and distributed to stakeholders highlighting issues and relevant information. Major public events such World Fisheries Day, World Rural Women's Day and World Day against Child Labor and Trafficking were supported and provided high profile opportunities to education the public on related issues.

To enhance the capacity of media personnel (news editors) on key fisheries related issues, a number of outreach events were organized for journalists that included visits to project sites in the Western and Central Regions. Field trips to projects sites included a combination of education and training on central issues and interaction with beneficiaries to learn directly from resource users about concerns and successes.

When the Ministry of Fisheries and Aquaculture Development declared a closed season for all fishing fleets (excluding tuna vessels), six hundred copies of the National Fisheries Management Plan were reprinted and distributed to support the effort. Through the use of the MailChimp Platform, over four hundred stakeholders directly received project and media updates on weekly basis during the lead-up to and after the postponement of the closed season. Stakeholders also received regular broadcast messages (SMS and voice) through the 'M-notify' platform on key fisheries issues in English and local dialects of coastal fisherfolk. The CivicCRM data base, created by SFMP to track its contacts, is increasingly being used to obtain additional descriptive information about fisheries sector stakeholders and will be used in an expanded information and education campaign in Year 5.

The successful implementation of the country's marine fisheries management plan, which outlines several effort reduction measures to address the decline of small pelagic stocks, requires effective collaboration between MOFAD/FC and the key stakeholders whose livelihood depend on it. Ownership of the management plan and its subsequent implementation in collaboration with fishers, fish processors and consumers requires a good understanding of the content of the plan. When fishers own management initiatives, it relieves government of the enormous task of engaging over 150,000 fishers and enforcing burdens that are virtually impossible given the lack of resources of enforcement units in Ghana.

Fisher to fisher dialogues generate new possibilities for fisheries recovery

The continued decline of artisanal fisheries stocks is eroding the foundations on which coastal livelihoods have stood for hundreds of years. Based largely on three species of small pelagic fish - anchovies, mackerel and sardinella – artisanal fish are commonly referred to as 'the people's fish' because of they are inexpensive and available throughout the coast and inland. Artisanal fishing accounts for over 80% of all fish landed in Ghana, supports around 30,000 fish processors and 150,000 fishers along the coast in direct employment, and contributes to the livelihoods of an estimated 2.5 million more who are indirectly employed

in the trade. They are a key food fish, providing over 60% of protein intake nationally, with much higher rates in coastal communities. The primary reason for declining fisheries stock is overfishing – more and more boats chasing fewer and fewer fish.



Figure 5. Seth Abotsi, regional chairman of the Ghana National Canoe Fishermen Council (GNCFC) speaking at fisher-to-fisher dialogue session in the Volta region.



Figure 6. Fishers participating in fishers to fisher dialogue meeting, Volta region

The increasing number of boats (canoes) in the artisanal sector is the result of unrestricted access for new entrants into the fishery, and no complete registration and licensing system for those already in the sector as prescribed in Ghana's National Fisheries Act and its National Fisheries Management Plan. USAID's Sustainable Fisheries Management Project is working to address this and other problems by bringing together government, fishers and fish processors in Fisher-to-Fisher Dialogues across the coastal zone to discuss solutions.

Seth Abotsi, regional chairman of the Ghana National Canoe Fishermen Council (GNCFC) says, "With support from USAID's Sustainable Fisheries Management Project this Fisher-to-Fisher Dialogue program is the first time the Fisheries Commission and fishers are working together to clean up the artisanal sector canoe registry since the inception of the registration and embossment program. It is the first significant step to address the issue of too many boats on the sea." The Fisheries Commission, SFMP and Ghana Canoe Fishers Council hope to have completed the complete updating of the national canoe registry by December 2018.

But that's not the end of the cooperation. Working with the Minister of Fisheries and Aquaculture and the Director of the Fisheries Commission, there is hope that a moratorium on new entrants to the canoe sector will be declared before the end of January 2019. Once the moratorium is declared, USAID's SFMP will support the Fisheries Commission to issue identification cards to all registered canoe owners and, with cooperation from the National Premix Subsidized Fuel Committee, link the unique canoe identification cards to the purchase of subsidized fuel. Starting at the beginning of Year 4 SFMP worked diligently with the Fisheries Commission and Premix fuel committee to reach this point and the year of hard work is now paying off. Seth Abotsi continues, "With this intervention almost complete many fisherfolk are optimistic about the reducing the high pressure on the people's fish stock to reverse the decline. We now are working with government to ensure that our fishes come back".

The Fisher-to-Fisher Dialogue is building trust between government and stakeholders by providing a channel for direct communication. One of the main topics of discussion in the Dialogues is about the contents of the National Fisheries Management Plan which was previously not well known in fish communities. Now, government and fishers regularly discuss how fishers themselves can become involved in the implementation of the National Fisheries Management Plan, which includes declaring an additional weekly non-fishing day in all coastal regions.

In the Volta Region, fishers have taken action on this NFMP provision. With the leadership of Seth Abotsi, Volta Regional Chairman of the Ghana National Canoe Fisheries Council, fishermen have decided not to wait for other regions. They moved forward with their own regional declaration to include both Saturday and Sunday as weekly non-fishing days in the Volta region to contribute to reduction of fishing pressure in Ghana. They now are soliciting support of the Fisheries Commission and Ministry to codify the additional non-fishing day, along with declarations in other regions.

In 2018, the government showed its willingness to take action to avert collapse of artisanal fisheries by declaring a one-month closed season for all fishing fleets. However, there was not sufficient support among fishers and fish processors and the closed season was postponed to 2019. In addition to canoe registration, issuing of identity cards, linking the identify cards to subsidized fuel purchases and declaring a moratorium on new entrants into the sector, the Fisher-to-Fisher Dialogues will continue in Year 5 to include building commitment for its implementation in 2019.

IR 4: Applied Management

Consensus forming on need for a closed season, canoe registration and second fishing holiday

While the closed season implementation has been postponed until 2019, the Fisher to fisher dialogues are continuing discussions and building support for other management measures, which combined with the closed season, can start the process of stock recovery. Fishermen have agreed to support a second fishing holiday as called for in the national plan, and are supporting the cap on canoe registration which is also in the national plan. The registration process is incomplete and SFMP is supporting the Fisheries Commission with that process in Year5.

Fisheries co-management promises sustainable future for fishing communities

Co-management, the practice of government and communities working together to manage natural resources, is long recognized as the most effective way to ensure sustainability of local resources. This is particularly true in countries that have limited financial support for staff in the field. Without the cooperation and support of local communities their job of protecting resources becomes almost impossible. Co-management ensures that people are able to meet their current livelihood needs while still protecting key species and habitat for the future.

In Ghana, fishing communities face increasing challenges to meet their current needs. Poverty is increasing as fish stocks decline and there is little opportunity to think about preserving resources for future generations. Unsustainable fishing practices are often carried out by the people whose very livelihoods depend on the wise management of these resources. Helping communities to effectively manage their resources is critical to stop poverty from increasing and food security and livelihoods to improve.

The USAID Sustainable Fisheries Management Project, funded through the US government's Global Feed the Future program, brings together government institutions, communities, fishermen and fish processors, civil society organizations, and other key stakeholders to support the adoption of co-management of fisheries resources in coastal communities of Ghana's four Western, Central, Greater Accra and Volta coastal regions.

Progress is visible in the development and implementation of community-based fisheries management in three estuarine systems in Ghana. With fish supplying over 60% of national protein uptake, and a higher percentage in some coastal villages, highlighting the challenges and successes of the members of communities already implementing community-based co-management are important visible and tangible demonstration for other communities that depend on fisheries for their livelihoods, food security, and overall wellbeing.

The successes in the small scale estuarine ecosystems also provides a message of hope that interventions like closed seasons have positive results and could work in the larger scale marine system for the small pelagic stocks as well.

Fisherfolk in the Ankobra Estuary are restoring essential mangrove habitat

Fishermen in communities in the Ankobra river estuary in the Ellebelle District and Enzema East Municipality are confronted with increasingly smaller fish catches. With fish as their main source of income and food security, this is having a big impact on the wellbeing of communities, especially children and pregnant mothers. Anthony Kweku Duah, a 55-year old father of five, sees the problems first hand. As he looks over formally dense mangroves that once served as fish spawning grounds, he notes "These have been cut down over the years and now the fish have nowhere to grow. The dropping catch is really affecting our

livelihoods. Now we can't catch fish like we use to in the past. We cannot continue this way". Comfort Quaiocoe, a 47-year old mother of six who lives in the same area, echoes Anthony's sentiments. "When I was young, I remember when we went to the riverside to fetch water. We could easily see fishes swimming in abundance beneath the river. Today we don't see them at all."

Mangrove forests serve as a nursery ground and home to crabs, periwinkles, shrimp and large variety of fish species that provide important food sources and support income generating activities for most coastal communities in Ghana. However, for most communities in the Ankobra estuary mangrove harvesting for fuel wood used for smoking fish has significantly degraded 115.05 hectares of the previously pristine 117.17 hectares of mangroves, or over 98% of all mangroves in the estuary.



Figure 7. Anthony Kwaku Duah in the middle of the newly re-planted mangroves in the Ankobra Estuary.



Figure 8. Comfort Quaicoe, tending mangroves seedlings at the community nursery.



Figure 9. A composite aerial view captured through SFMP supported UAV surveys showing of the extent of existing and restored mangroves in the Ankobra Estuary in collaboration with the University of Cape Coast.



Figure 10. Program Officer Barleley Gormey of Hen Mpoano preparing to cruise to the mangrove restoration area to inspect progress of work in the Ankobra Estuary.

The USAID Sustainable Fisheries Management Project, funded through the US government’s Global Feed the Future Program, works through Hen Mpoano, a local non-governmental organization (NGO) in the area, to organize community co-management committees focused to develop plans to help address the problem of declining fish catches, including re-establishing healthy mangroves forests. “Working with the committees and members of their communities we have successfully replanted 65,730 mangroves seedlings covering 29 hectares of degraded sites” says Barleley Gormey, program officer with Hen Mpoano. “Now, the fisheries co-management committees in the communities of Sanwoma Eziome, Kukuaville, Eshem and Adelekazo have formed mangrove sub-committees dedicated to restoring their mangroves as viable spawning and fishing areas in the estuary.



Figure 11. “Sustainability to us means that in the future our children will enjoy the same fish we enjoy today from the same river”. Isaac Asare, Chairman of Sanwoma fisheries co-management committee.

Isaac Asare is the chairman of the fisheries co-management committee in Sanwoma.

“Sustainability to us means that in the future our children will enjoy the same fish we enjoy today from the same river”, he says. Isaac and the other members of the co-management committee received training from Hen Mpoano through support of USAID’s Sustainable Fisheries Management Project. Their training was comprehensive to help them carry out the broad responsibilities of developing and leading implementation of their community-based co-management plans.

Their training included community mobilization techniques, conflict resolution, ecosystem-based fisheries management principles and broader sustainable fisheries management approaches. Reflecting the co-management committee’s pride in their success so far, Isaac says looks out over the newly planted mangrove seedlings. “Before, the majority of the community folks did not see the need to preserve mangroves, but the work we’ve done with USAID’s SFMP demonstrated to us that with more mangrove comes more fish, and now the majority our community members are shifting away from the indiscriminate cutting of mangroves.” Isaac added, “It took a long time and patience before everybody was on board. There were some who disagreed in the beginning. But now all of us are beginning to see the positive changes that our collective effort is bringing to our community thanks to SFMP.”



Figure 12. Sanwoma fisheries co-management committee members in a meeting

Importantly, SFMP’s initiative provides opportunities for men and women to work together for a common goal. In these communities, women have more access in decision making than is often seen and are vocal in convincing others to join the effort. Involving women is a critical component of the project success because they smoke fish using mangroves as the main fuel source but also because they are prominent agents of change within the community and quickly place demands on men to follow the rules put in place by the community to sustain mangrove forests.

Fisheries Co-management in the Ankobra estuary empowers communities to become responsible for the management of their own resources. Agya Nkrumah, one of the sub-chief of Sanwoma, chimes in, “We have made rules to prohibit people from indiscriminately cutting mangrove for any reason. We open and close certain mangrove areas for cutting, and replant mangroves that have been cut down. Any person found cutting mangrove from a closed area or within 50 meters from the river bank is liable for a fine of seven-hundred Ghana cedis (GH700) an equivalent of (\$150), in addition to two bottles of schnapps to be used in traditional ceremonies.” Clearly, fisheries co-management is working in the Ankobra.

Villagers in the Pra Estuary organize for a closed fishing season

Fishing is a major source of income for 11 communities in the Pra river estuary in the Shama district of the Western region of Ghana. Unustainable practices and overfishing have resulted in depletion of fish stocks and now threaten food security and livelihoods of these communities. Community members use unsustainable methods and nets with small mesh sizes to harvest the fish, catching juveniles before they have a chance to spawn. As fish catches became smaller and smaller, more and more fishermen used unsustainable practices and over the years the spawning population has been reduced to a point of immanent collapse. Mercy Nkum, a mother of two and a community member whose livelihood depends on fishing, is worried about the situation. “My children’s school fees and all my family’s needs depend on fishing here”, she says.

USAID’s Sustainable Fisheries Management Project has work with Friends of the Nation, a local non-governmental organization partner, to establish a Fisheries Co-management Committee in the area to help the organize and manage their resources. The committee works as a community education and community-based regulatory body to empower the people to manage their resources for the benefit of the whole community.



**Figure 13. “My children’s school fees and all my family’s needs depend on fishing here”.
Mercy Nkum, a fisher at Krobo, one of the 11 Pra estuarine communities.**

In August, 2017 the committee organized the 11 communities of the Pra Estuary to agree on and observe a three-month closed season from May 1 through July 31 to allow fish resources to regenerate. Elizabeth Koomson, a member of the fisheries co-management advisory committee at Anlo beach community recognized this is progress. “We are beginning to make a change happen here. The closed season was great starting point for us. Now everyone recognizes these is needed to protect our fish.” Victoria and other fish harvesters from the 11 surrounding communities receiving training and guidance from USAID’s SFMP on best fish harvesting and processing practices, conflict resolution and community mobilization, and stakeholder engagement, all of which helped build their capacity to move community members toward sustainable resource management. Since being engaged in 2016, the committee has worked tirelessly to development a management plan that reflected shared decisions among all 11 Pra communities that now guides their activities, including establishing areas that are closed to fishing. “These are our investments in our future”, she says proudly.

An important element of SFMP’s approach is directly involving local district government in the process. Abu Mahamah is the distri

ct planning officer for the Shama District Assembly and whose work supports the co-management committee. After working side-by-side with the fisheries co-management committee, she arranged for a certificate to help formalize the responsibilities, authorities, and activities of the committee. “We have given formal certification to the community-based fisheries management committee to manage fisheries resources in a designated 3,190-hectare zone in the estuary” says Abu. “Working with them assists us because we don’t have the resources to effectively manage all resources at the ground level over the entire district”.



Figure 14. A member of the Pra estuarine community fisheries co-management advisory committee, Elizabeth Koomson, explaining why the area demarcated for the closed season was chosen.

The national Director of the Ghana Fisheries Commission, Mr. Michael Arthur-Dadzie, praised the communities and the Shama District Assembly for demonstrating leadership and commitment. He was particularly impressed with the decision to implement a three-month closed season under the community-based fisheries co-management framework, one of the first of its kind in Ghana. “This is a model for coastal communities to band together and directly manage their fisheries resources”, said Mr. Arthur-Dadzie. The District Chief Executive of Shama, the Honorable Joseph Amoah, was also full of praise for USAID’s Sustainable Fisheries Management Project and Fisheries Commission for their leadership and support, commenting, “This is the kind of direct support we need because, when given the opportunity our communities can take action on their own to work with the government to sustainably manage our fisheries resources”. Dr. Moses Kofi Sam of the Wildlife Division of the Forestry Commission encouraged the group. “You have chosen the right path and you and your children will be the beneficiaries of your own actions.”



Figure 15. Director of the Ghana Fisheries Commission, Michael Arthur-Dadzie, commending the Pra Estuary communities for implementing their closed season.

Women oyster harvesters in the Densu Estuary collect scientific data

Oyster harvesting is a full time occupation for many men and women in coastal communities in Ghana. Mangrove oysters are the dominant species and harvesting them provides an important source of income and protein. However, in recent years the oyster stocks in Ghana’s Densu estuary dropped significantly because of the increasing size of communities in the estuary and corresponding increase in the number of harvesters. As families in coastal community’s increase, a growing number of people, especially women, engage in year-round harvesting which contributes reduction of oyster stocks. Harvested oysters have gotten smaller and smaller in size and finding the oysters has gotten harder. Women now have to work longer to harvest the same amount of oysters, but because of their size the contribution to income and food is still dropping.

In the Communities of Tsokomey, Tetegu, and Bortianor in the Ga South Municipality where oyster harvests have plummeted, USAID’s Sustainable Fisheries Management Project (SFMP) works with oyster harvesters and processors and traders to understand and take actions to restore this important resource. The approach is the formation of community-based committees for fisheries co-management focused on oyster stocks.

The SFMP team works through the Development Action Association (DAA), its local non-governmental partner in the area. In corporation with Ghana Fisheries Commission's post-harvest division, SFMP and DAA started in 2016 to help 'oyster pickers' to organize themselves. In 2017, women in these communities formalized the Densu Estuary Women's Oyster Pickers Association (DOPA) with an organizational charter, standard operating procedures, a separate steering committee, and rules for managing their oyster resources.

SFMP worked closely with DAA and the University of Cape Coast (UCC) to provide training in the basic science what makes good oyster habitats and conditions necessary for good oyster reproduction. Thirty core members of DOPA were trained on the importance of water quality to oysters including optimal salinity, tidal levels, current speed, acidity, temperature, and turbidity (how much dirt and sand is suspended in the water). Based on their SFMP supported training, and in cooperation with DAA field staff and graduate students from the University of Cape Coast, DOPA members started using simple scientific instruments to record water quality data. Eventually, the women of DOPA had recorded a full year's cycle of basic water quality data related to Densu estuary oyster reproduction.



Figure 16. DOPA members testing the salinity, pH and turbidity levels within the Densu Community-Based Fisheries Management Area.

One of the discoveries revealed by the data was that some areas of the estuary had more consistent conditions for oyster reproduction. When oyster experienced shocks and died in other areas, the more consistent areas remained strong. With their new knowledge on oyster reproduction and the importance of having 'seed' stock that served to restock badly damaged areas, they decided to set aside these areas as closed areas. In addition, they started a new practice. Instead of hauling away the empty oyster shells after they were shucked, they began putting oyster shells back into the estuary to provide a hard bottom for new oysters to grow. The results were immediate. "We are now putting a lot of oyster shells back into the river, and now we see small oysters growing on the old shells. This is going to help us a lot in the future by increasing the areas that we can harvest" says Grace Agbeve a member of data collectors.

"By providing this knowledge, USAID has helped us understand and restore the habitat for our oysters" said Emelia Nortey, a 63-year old DAA training coordinator working in the area. "We now understand the ecology and the reproductive cycle of the oysters, as well as their management", added Bernice Agorogo, one of the 150 people who has received training through the DAA/UCC/SFMP collaborative program.

In November 2017, DOPA's members made a significant first-time decision based on their new knowledge. They decided to close their oyster grounds to harvesting for five months. Using scientific data, they had been collecting they selected the months that they thought would have the best potential for oyster reproduction and growth, allowing time for the

oysters to spawn and grow bigger. “The closed season was a major transformation point for us but we were willing to take the chance. In many ways, we had no choice. Our oysters were disappearing”, said Bernice. A mother of three, Bernice confirms the benefit to her family. “When we reopened, I harvested larger and more oysters. I doubled my sales from Ghana cedi 40 (\$10) to Ghana cedi 80 (\$20) per day. “The enormous support of our traditional leaders made the process possible. Now the oysters look bigger and more attractive than before. We want this closed season to happen every year”.



Figure 17. Oyster pickers enjoying a bumper harvest after the opening of the Densu Community-Based Fisheries Management Area after the 5-month closed season.

The approach in the Densu is forging an effective partnership between government partners, key stakeholders such as traditional authorities, and fisherfolk to share responsibility for management of their oyster fishery. The oyster pickers are DOPA now feel empowered to make their own choices to improve their livelihoods.

Building the ship while sailing it - local actions build support for national policy

These three examples above demonstrate the potential for community-based fisheries co-management in Ghana. With USAID’s support, communities are learning how to organize, resolve differences, and make plans about how to sustain their livelihoods and food sources based on their own decisions. When communities are empowered to lead change and work with government agencies the results are faster and more sustained. The result is a combination of local knowledge and best practices learned from around the world.

Lessons from these three pilot demonstrations also helped to refine and develop a national policy on co-management. In collaboration with USAID’s Sustainable Fisheries Management

Project, The Ministry of Fisheries and Aquaculture Development and the Fisheries Commission have developed a draft National Co-Management Policy. The policy standardizes the approach and requirements for establishing recognized fisheries co-management plans across the country. The community-based fisheries initiative supports implementation of the Ministry's Medium-Term Development Plan for the Fisheries Sector through dialogue among key stakeholders at the community, district, regional and national levels. It builds on national efforts to improve Ghana's progress on Sustainable Development Goals 15, and directly contributes to sustained fisheries for the country.

Small women owned businesses in fisheries advance financial inclusion through savings and loan support

Coastal communities in Ghana have few alternative livelihood opportunities while many have find it difficult to access finance as working capital. Volunteer Savings and Loan Associations (VSLAs) have proven an effective option for those who otherwise do not have access to capital. Adopted by SFMP, VSLAs provide a tool to organize and empower community members and build cohesion around natural resources issues while generating self-funding for livelihood initiatives to reduce over-dependence on these same natural resources.

Eleven new VSLA groups (eight in Volta region and three in the Central region) were formed this year, bringing the total number of VSLAs formed in FY18 to 17. These groups have so far saved GHC 53,516 (\$11,151) with each member saving between GHS 5 and GHS 10 per week, on average. Supplementing VSLA formation, training on financial literacy was provided for 20 (11 females and 9 males) from selected association executives who are deploying the skills gained in their savings and business management activities.

SFMP continues to push forward with the implementation of the new Ahotor oven smoker technology, developed in collaboration with the post-harvest unit of the Fisheries Commission and the Ghana Standards Authority. One of the main challenge impeding uptake of the Ahotor oven is access to finance for women fish processors. Despite the availability of financial institutions in the project's intervention zones, fish processors rarely save with any of them and most of their business is cash-based. This results in financial exclusion and an informal nature regarding their businesses and means that financial institutions are reluctant to offer credit to fish processors. Only 9 out of 100 loans targeted for disbursement under the financing arrangements with 3 separate financial institutions engaged by the project have been approved (and stove construction started). Due to low patronage of the system these original loan facilities have been discontinued.

While success with commercial financial facilities was not good, in Year 4 SFMP worked on alternative approaches. The SFMP post-harvest team now is negotiating financing for 194 fish processors who want credit through the government sponsored Microfinance and Small Loans Center (MASLOC). Members of the National Fish Processors and Traders Association (NAFPTA) were selected to apply for loans through MASLOC. MASLOC is a central government agency that provides micro- and small-loans for start-ups and small businesses with fast, easy and accessible microcredit to expand their businesses as well as to enhance job and wealth creation. As the NAFPTA fish processors are microenterprises, they fall into the category of business that MASLOC was created to assist. Belong to an association also increases their prospects of having a loan application approved.

Women owned businesses are adopting new fish smoking technologies

Fish processing is a major occupation for more than 30,000 women in 340 coastal communities in Ghana. Seventy percent of processed fish are smoked and sold for local consumption. This fish is mainly small pelagic species such as mackerel, sardines and anchovies. Known in Ghana as ‘the people’s fish’, these species are inexpensive and after smoking has a shelf life of weeks or months. Ghanaians love to eat fish and have one of the highest annual per capita fish consumption rates in the world, 27 kilograms, well above the world average. Sadly, almost all the women fish processors use a traditional *Chorkor* smoker to process their fish. The *Chorkor* smoker came into use in the 1970s. It consumes large amounts of fuel wood, most often harvested from the nearby forests and mangrove swamps. It produces a high amount of heat and smoke around the smoker exposing women and their dependent children to unhealthy working conditions.

Perhaps most importantly, studies indicate smoke produced by high heat produces cancer causing compounds that is hazardous to those working around the smokers and to those that consume fish smoked in these ovens. An innovative fish processing technology, called the *Ahotor* oven is now being rolled out across the country to transform fish processing in Ghana. These efforts are led by the USAID’ Ghana’s Sustainable Fisheries Management Project, part of the US governments Global Feed the Future Program, in partnership with the Ministry of Fisheries and Aquaculture Development, the Ghana Fisheries Commission and the Ghana Standards Authority. The *Ahotor*, meaning “comfort” in the local dialect, got its name from the significantly reduced heat and smoke exposure to women processors and their dependent children who work around these smokers. It uses 30 percent less fuelwood, significantly reduces smoke exposure, reduces the occurrence of common diseases such as eye and respiratory infections, and, importantly, reduces the production and exposure of cancer causing compounds for processors and consumers.



Figure 18. The *Chorkor* smoker, which is being replaced with the more environmentally-friendly *Ahotor* oven.



Figure 19. The newly developed fish-smoking technology – the *Ahotor* oven

Working with the national Association of Fish Processors and Traders and other industry groups over the last four years, over 201 *Ahotor* ovens have been constructed in fishing communities in Volta, Greater Accra, Central, Western and Ashanti region. Fish processors who are using the *Ahotor* oven stand to benefit as the new technology allows them to show that their smoked fish are of higher quality and potentially commanding higher prices. Reduced costs from less health problems related to excessive smoke exposure are already being seen.

In cooperation with the Fisheries Commission Post-Harvest Unit, these efforts have used an integrated approach that not only promotes the new *Ahotor* stove, but trains 4453 micro, small and medium enterprises in improved fish handling practices that results in more hygienic fish products for sale to consumers. The trainings are combined with small business skills training for the women processors, most of whom have little or no formal education. Finally, the improved smoker and business training are combined with leadership development courses that enable women to organize, empowering them in community-level decision making.

Adjoa Mansah, a 47 years old mother of 10 at Elmina in Ghana’s central region is one of the early beneficiaries of the new *Ahotor* technology. “Using the *Chorkor* was just a hell for me. My neighbors kept insulting me almost every time I smoked fish. They accused me of generating excessive smoke and polluting their environment. I knew it too, as my eyes get

watery every time I smoke fish. But since I had the *Ahotor* oven all those problems are gone, and I now enjoy a more harmonious relationship with my neighbors and even I don't mind doing it so much myself”.

Diana Anyemi, a fish processor in the Central region is another beneficiary of this technology. “I love this technology not only because it helps produce healthy and high-quality fish for the market but it helps me save money on fire wood and contribute to protecting our forests” she says. Diana has used one of the single unit versions of the new oven for year and currently is saving money to have another one constructed.

To ensure training and extension efforts are accessible to Central Region communities, SFMP supported renovation of a fish processing demonstration and training center at Elmina. The demonstration and training center is operated by the Central and Western Region Fish Mangers Association (CEWEFIA). Says Victoria Koomson, executive director of CEWEFIA, Another model fish processing facility and training center was constructed in Kokrobite in Ga South Municipality that is managed by the Develop Action Association, a membership based organization of women farmers and fish processors.

These facilities support to national government objectives to improve hygienic fish processing and reducing post-harvest losses using the new technology and improve the business practices and earnings of the women processors as one approach to advancement of the fisheries sector in Ghana. The two centers have been equipped with requisite facilities to offer training on a wide variety of issues, including hygienic fish handling, packaging, fire safety, and the improved *Ahotor* oven.



Figure 20. “Since I started using the *Ahotor* oven, I now enjoy a more harmonious relationship with my neighbors. They do not complain about smoke emanating from my kitchen anymore” – Adjoa Mansah, fish processor, Elmina.



Figure 21. Diana Anyemi, a fish processor at Elmina happily packaging fish smoked with the *Ahotor* oven.



Figure 22. “Once they try it, most prefer it over the *Chorkor* fish.” Felicia Mensah” – a fish processor explaining how consumers are opting for fish smoked with the *Ahotor* oven.

Felicia Mensah, a 59 years old fish processor at the CEWEFIA fish processing center, says “Smoking fish in the *Ahotor* oven gives the product an attractive golden-brown to dark brown hue and less-smoky taste. This makes it possible for consumers to differentiate fish smoked on Ahotor oven from fish smoked in the traditional *Chorkor* smoker. Once they try it, most prefer it over the *Chorkor* fish.”

Victoria Koomson, Executive director of Central and Western Region Fish Mongers Association and Regina Solomon, believes that the future of quality fish and the health of women fish processors depends on adoption of the Ahotor Oven. “The Ahotor Oven oven is more fuel efficient and saves as much as one-third of fuelwood to process the same quantity of fish when compared to the *Chorkor* oven” say Victoria. Regina Solomon, President of the National Fish Processors and Traders Association adds, “We need the Ahotor oven to produce quality smoked fish for our people, but also to make our personal lives better as fish smokers”. Regina and Victoria are two of the women leading the change for the adoption of the new Ahotor technology in Ghana. “Times are changing”, she says Regina. “We believe the new technology will improve our livelihoods, help produce quality fish, and improve the health of us processors and the people who eat our fish. This is good for the country!”

As Regina noted, “Women need to see this oven in use to believe the good stories about it.” Following her recommendations, from July to August, 2018 SFMP, NAFPTA, and the Fisheries Commission post-harvest unit worked together to increase the visibility of Ahotor ovens in communities across the four coastal regions. A total of 141 new Ahotor ovens were built in 29 communities. Funding was under a cost-sharing program with women applicants and the new ovens were concentrated in specific communities rather than spread thinly across the entire coast, based on the idea that a certain number of ovens was needed in specific localities before ‘take-off’ would happen and drive wider adoption.

Business plans, training on how to use the Ahotor, and small-business skills like accounting and hygienic fish handling will be provided for everyone receiving the new ovens. CEWEFIA and DAA, with their new and rehabilitated fish processing training centers, will lead this training. As the new smoker technology catches on with fish processors, and the training and demonstration facilities educate more and more women-owned small scale fish processing businesses, the potential is great to improve livelihoods and provide healthier work conditions for tens of thousands of women-owned small businesses in the coastal region, and also ensure a safe and healthy product for Ghanaian fish consumers.

Certification Scheme to promote improved fish products adopted by the Fisheries Commission

The SFMP supported multidisciplinary committee working on post-harvest value chain issues rolled out the demonstration phase of the Class 1 Fish Processing Certification Scheme. The committee included of 15 (9 males and 6 females) representatives from various institutions including FC, NAFPTA, UCC, FRI, GSA, FDA and SFMP. The certification scheme, recently endorsed by the Fisheries Commission, seeks to promote the production and trade of quality smoked fish on the Ghanaian markets by segregating the activities of purchasing and cleaning, preparation, smoking and packaging to prevent cross contamination among other hygienic issues such as exposure to waste.

The Class I Certification requires every processing facility to have concrete flooring and an Ahotor oven. The project provides support to processors to either construct an Ahotor oven or have their flooring concreted, depending on what is required at the facility. The project is also supporting participating processors with startup equipment such as veronica buckets for handwashing and mini ice boxes for cold storage. Applicants to the scheme are also trained on post-harvest loss reduction techniques, personal and environmental hygiene, and hygienic

handling of fish as part of the Class 1 Certification. Seventy-four (44 males, 30 female) fisheries zonal officers and community liaison officers drawn from across the country were trained as auditors for the scheme. The training equipped them with skills to audit the processing facilities and support the processors to achieve the minimum standards required for the certification.

During the period under review, the post-harvest team carried out screening of 44 (1 male, 43 female) fish processing facilities in the Keta and Ketu South municipalities and the South Dayi District in the Volta Region. Eleven of the facilities surveyed are currently having *Ahotor* ovens constructed so they can enroll in the scheme. While 32 of the additional facilities were audited by the committee, 14 required minor improvements but were still passed and awarded the certificate while they work to address the issues identified. Sixteen (16) of the facilities failed the audit and have been tasked with corrective measures while the locations of two facilities were deemed unsuitable for certification. Out of the 32 processors audited, six processors had health certificates from the district assemblies, the health certificates for 18 of them had expired and 8 did not have health certificates. The community liaisons are currently assisting the processors to renew or acquire health certificates.

Capacity of fisheries post-harvest enterprises strengthened

SFMP post-harvest team carried out a number of trainings to strengthen the business capacities of Micro, Small and Medium Scale Enterprises (MSMEs) in all four coastal regions. A total of 980 (130 males and 850 females) MSMEs were trained on business development, hygienic fish handling, the Class I Certification Scheme, records keeping, costing, calculating profit, customer care, and home management. Follow-up monitoring visits to some MSMEs show that beneficiaries were implementing the knowledge gained from the trainings. For example, they were no longer using cement paper for wrapping fish or using sea water for washing fish which potentially includes contaminants. SFMP will continue to track these MSMEs to get a sense for the continued compliance with healthy fish protocols as a result of the training provided. As a result of her increased capacity, Madam Comfort Addo, a fish processor at Kokrobite and a beneficiary of these trainings, is being supported by FAO to build three FTT ovens and one *Ahotor* oven to help her produce quality fish.

The DAA Fisheries Training Center receives regional certification for courses

The DAA Fisheries Training Centre (DFTC) has for the first time in Sub-Saharan Africa been certified to run TVET courses on fisheries by established in Ghana by COTVET. Thirteen facilitators have been trained and certified to teach the curriculum at the center. COTVET, the Council for Technical and Vocational Education and Training (COTVET) is a national body set up by an Act of the Ghana Parliament to co-ordinate and oversee all aspects of technical and vocational education and training in the country. Our major objective is to formulate policies for skills development across the broad spectrum of pre-tertiary and tertiary education for the informal and non-formal sectors in Ghana. SFMP is supporting DAA to establish its new center as one facility in Ghana's Technical Vocational Education and Training (TVET) system to improve the productivity and competitiveness in the fisheries post-harvest supply chain. The focus is to raise the income generating capacities of people, especially women and the fisheries post-harvest sector through provision of quality-oriented, industry-focused and competency-based training programs and related services.

Anti-child labor campaign gives school enrollment a boost

The Ghana Statistical Service estimates there are 2.7 million children engaged in child labor and trafficking (CLaT) in the country. Out of these, it is estimated that 1.9 million are minors

(under 17 years old) and 1.2 million are involved in hazardous forms of work. In 2017, Ghana's status on child labor and human trafficking was put on the Tier 2 Watch List for the second year in a row in the US State Department's Trafficking in Persons Report. A further downgrade to Tier 3 would have meant mandatory ending of US development assistance to Ghana. The Central and Western Regions, coastal regions along Ghana's western coastline, are major source areas for children trafficked into child labor, particularly in the fisheries, agriculture, and artisanal mining sectors.

Driven by poverty and lack of government social services that are limited by low levels of funding and staff, many parents fall victim to child trafficking recruiters with promises that their children will be well cared for and receive vocational training. Many families are caught in extreme poverty, particularly those with large families, and simply lack any other option.

Mr. Z. A. Labaran, municipal planning officer for the Komenda-Edina-Eguafo-Abirem (KEEA) municipal assembly knows the problem well. "With a huge budget deficit in the government sector, resources and budget for CLaT activities are almost impossible to get. We simply don't have many options to tackle this huge and dangerous problem."

In 1998 Ghana harmonized its child care legislation to conform to the Convention on the Rights of the Child by enacting the Children's Act 560. Child protection panels were mandated by amendments to the Act in 2006 but the panels remained dormant or non-existent over the years. Some stakeholders express misgivings about the government's capacity to ensure child protection, and discussions with government staff reveal they recognize the gap between the legal intent of the Act and implementation. Ghana's Children's Act provides an administrative framework but little in the way professional training, adequate resources for social care agencies, or the establishment of new structures focused on implementation and intervention.

To address this dangerous problem, USAID's Sustainable Fisheries Management Project (SFMP) started working with the Central and Western Fishmongers Association (CEWEFIA) in 2015 to fight child labor and trafficking in the Central Region, the area in Ghana with the highest levels of recruitment of child laborers. In coordination with district, municipal and regional government organizations, SFMP and CEWEFIA began an outreach, awareness and prevention campaign starting with local government staff and municipal assembly members, and then proceeded to engage with highly vulnerable households in communities with high documented levels of child trafficking. In 2017 and 2018, this effort expanded to other community-based organizations like churches and mosques to leverage their resources.

Progress has been good. Mr. Labaran, the municipal planning officer for the KEEA municipal assembly ticks off the accomplishments. "Since the start of USAID's support, 12 child protection committees have been formed serving 40 fishing communities in the Central Region. Through their education and awareness campaigns supported by SFMP, I can say that community members within the municipality are now very much aware of the CLaT phenomenon and are increasing their commitment to prevent and report CLaT to the appropriate authorities when they see potential cases. School enrollment and academic performance among vulnerable households have greatly improved." In KEEA municipality, there are other indications that efforts are paying off. School enrollment is up 50 percent in the 2016/2017 academic year due to CEWEFIA's education on anti-CLaT and the importance of school education.

"One of the most important achievements", says Mr. Labaran, "is the inclusion of CLaT in our medium-term development plan. This is a huge achievement. And, while CLaT definitely

continues in our communities we are gradually winning the battle due to USAID’s support. We are so appreciative that USAID supports CEWEFIA to help us.”

“Moving forward, the municipal assembly intends to ensure the formation of child labor protection committees in every electoral area in 2019 and we’re going to especially focus on increasing actions by law enforcement agencies.” According to Mr. Labaran, as a result of training and awareness raising by SFMP and CEWEFIA the KEEA municipality’s Chief Executive Officer never misses an opportunity to trumpet his anti-CLaT gains to the media, and other municipalities and district governments. His stated objective is for all KEEA residents “to get to the point where community members themselves coerce the municipality for action on anti-CLaT efforts”.

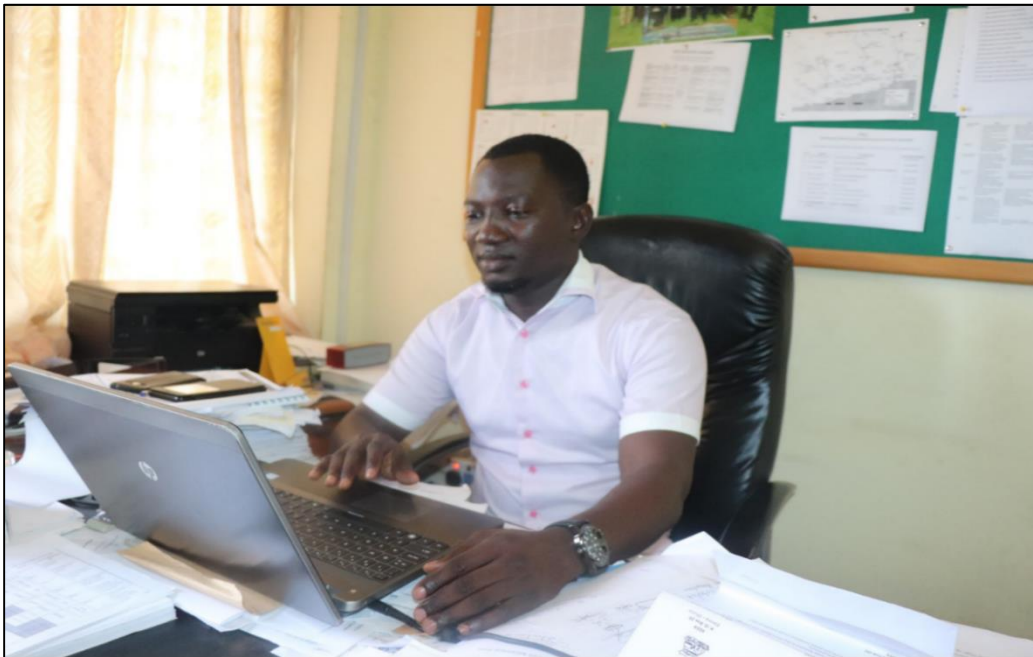


Figure 23. “The municipal assembly intends to ensure the formation of child labor protection committees in every electoral area in 2019” – Z.A Labaran, Municipal planning officer for KEEA municipal assembly.

Still, for Mr. Godfred Nyarko, the social development officer of the KEEA municipal assembly, he worries. “In collaboration with SFMP and CEWEFIA we’ve made progress through our joint sensitization programs and child labor protection committees that report CLaT cases to us for action. Our Department of Social Welfare works closely with CEWEFIA to train community child protection committee members on the dangers that CLaT. Now, committee members themselves report their suspicions of CLaT cases to the enforcement agencies, which is a good thing. But while prevention of CLaT at the source is our goal, not much has been done in the areas of rescue and rehabilitation due to the lack of funds.” While anti-CLaT efforts are now included in the KEEA municipality’s medium-term development plan Mr. Nyarko admitted that “getting the cooperation of the police is sometimes frustrating and combined with a lack of recovery and rehabilitation programs we still have a long way to go.”

Kwesi Johnson of Friends of the Nation (FoN), another local NGO partner of SFMP working on anti-CLaT programs, acknowledges that there have been challenges along the way and that some remain. “When we began the SFMP supported CLaT campaign in 2014 the terrain was new to everyone so identifying voluntary allies to work with was not easy. We could

enter communities because of our other activities. People knew us but were not willing to accept anti-CLaT messages. These messages were just too sensitive at the time. But after four years of support from USAID’s SFMP that supported continuous education and capacity building we are seeing progress. Three CLaT cases were foiled in 2016. And in 2017 one child that had been trafficked was rescued as a result of community reporting.”



Figure 24. Social development officer of KEEA municipal assembly, Godfred Nyarko making a point on progress made with ant-CLaT efforts.

Mr. Johnson added that currently, law enforcement agencies such as the Ghana Immigration Service, the Marine Police and the Navy are all awake. USAID’s attention to this issue has forced it into the forefront. “Enforcement agencies now contact us to ask questions and even are beginning to apprehend suspicious characters and monitor suspicious activities including along the Ghana’s territorial waters and borders where some children are being trafficked to neighboring countries. Mr. Johnson said he was delighted that collaboration with government agencies is growing stronger. “The district assemblies and enforcement agencies now take CLaT issues seriously”. He said. Judith Ansah, a teacher at the Biriwa Methodist Junior High school echoes Kwesi Johnson’s comments. “Now, when a child misses school two or more days in a row, school authorities go to their parents or guardians to ask questions about his/her whereabouts. They are now much more aware of the problem of child labor and trafficking due to FoN’s education and outreach programs directly to school officials in the area.”

Kwesi Johnson, of FoN notes that Friends of the Nation worked with the Human Trafficking Unit of the Ghana Police Service in the Central Region to organize six outreach events to schools and other local organizations since January, 2018. The events were held in Moree, Komenda, Elmina, Ekumpono, Abandze and Cape Coast. Judith Ansah, from the Biriwa Methodist Junior High School, says that “one major accomplishment of this kind of

collaboration is that the community members have gotten the message that CLaT is not good and a danger to their children. The SFMP supported outreach programs in our region help to raise awareness but often result in important intelligence gathering on hidden CLaT cases in the communities”.

According to Deputy Superintendent of Police, Irene Opong, who is in charge of the Human Trafficking Unit in the Central region, after intelligence is gathered in the communities her unit contacts the department of social welfare and they go in and determine the level of abuse, and the appropriate action that needs to be taken. This includes deciding whether the child needs to be removed from the situation. In December 2017, they stepped in to rescue a child in Elmina Beach who was being trafficked to the Volta region to work in the fishing sector on Lake Volta. “We are very appreciative of USAID support for this issue. It has increased the coordination between our unit, other organizations and NGOs, and residents in communities we serve. This kind of coordination is critical if we are to be successful in stopping CLaT in our region.”

IR 5: Gender Equality and Empowerment

Assessment of SFMP gender mainstreaming shows considerable impact and transformative changes for women

SFMP has implemented a number of gender oriented activities in fisheries management based on the gender mainstreaming strategy developed in Year 2. To assess its impacts, SFMP conducted a qualitative study in Year 4 to determine the extent and outcomes of implementation of the gender mainstreaming strategy.

The gender impact assessment found that women who have participated in SFMP's gender mainstreaming activities are more confident, knowledgeable and empowered to speak up. Furthermore, men recognize that it is time to acknowledge the role that women play in the fisheries sector. Capacity development sessions related to innovation, conflict management, advocacy, and leadership have contributed to women's perception that they have a voice in fisheries management. Women have been exposed to sustainable fisheries management and are equipped with the knowledge and leadership skills to advocate for good fisheries practices. Women are able to discuss fisheries management, including the importance of closed seasons and other measures. Trainings in post-harvest processing have helped women handle fish more hygienically whereas trainings in business management and financial literacy have provided tools to enable women to grow their processing enterprises.

Summarizing the impact on local organizations, SFMP's gender strengthening efforts have had an impact on the staff's attitudes towards women and women's engagement in fisheries. Gender mainstreaming efforts have succeeded in challenging cultural norms about women's role in fisheries as well as in the work place.

The Development Action Association's initiative to organize oyster harvesters into the Densu Estuary Oyster Pickers Association empowered women harvesters to manage their resources sustainably. It is an example of a success story within SFMP's broader gender mainstreaming effort. Multiple factors have contributed to the success, including the fact that DOPA is a relatively small and cohesive group, which meant that it was easier to reach a critical mass and consensus. Another success factor was the participatory management and monitoring approach, which increased scientific knowledge, confidence, leadership, and the ability to advocate. Finally, DOPA worked with passionate and engaging extension staff, whose energy rubbed off on the local stakeholders.

Other examples of SFMP activities that have empowered women include the following:

To mobilize women voices for improved fisheries management, SFMP provided ongoing training to women leaders in fishing communities. In addition to directly training women to participate, SFMP also provides training-of-trainer's workshops on gender leadership and conflict management to multiply efforts to reach more women. One such workshop was organized for 26 women leaders in the Western and Central regions affiliated with DAA, CEWEFIA and NAFPTA.

SFMP's training in leadership and conflict management, dubbed "Hownam Dialogue", has become an effective tool in building the capacity of fish processors to organize and increase their voice in local and national fisheries management dialogues. These same skills strengthen their ability to organize as community fish processor groups. A training session for NAFPTA members in the Volta region covered group dynamics, leadership, and conflict management modules. Participants were engaged in talking about how to apply their newly acquired skills in the day-to-day management of their various local groups.

DAA and SNV project teams were assessed on their gender sensitivity and ability to include gender protocols in their routine activities using the gender lens checklist developed under the SFMP gender mainstreaming manual. The outcome of the assessment revealed deliberate efforts are being made to include both gender and issues related to marginalized segments of society in all programming. One example was the inclusion of rooms for nursing mothers and pregnant women while they joined meetings.

The gender assessment provided a number of recommendations based on lessons learned for how future fisheries oriented programs can strengthen gender integration:

1. Broaden the participation of women in fisheries management by ensuring that non-leaders/elders/dignitaries are invited to and are capable of attending project activities. Put systems in place to make sure that the truly committed, not just the distinguished, are invited to events.
2. Identify and work with champions that have the resources and the staff to implement gender-integration activities that does not rely solely on project-based funding.
3. Be clear that gender integration requires the involvement of both women and men. Women are involved in almost every node of the fisheries value chain and they are disproportionately burdened with managing household economics. By taking a “men as partners” approach, it may be possible to increase men’s support and reduce the additional burdens that may come about as women engage more in the fisheries sector.
4. Increase the involvement of traditional fisheries leadership structures, including the chief fishmonger/processor, or *Konkohema*. These leaders may have an untapped potential to lead, manage, and mobilize their communities.

Empowering traditional women leaders in fisheries gains momentum

A key channel for engaging women fish processors in Ghana is through the *Konkohenes*, the Chief Fishmongers in fishing communities all along Ghana’s coast. The *Konkohenes* play a vital role by providing leadership for all the women in a communities fishing trade. Traditionally, the *Konkohene*’s core duty was to negotiate prices of fish at the landing site on behalf of the processors to ensure that all fish processors received fair treatment. Over the years, this function had faded due to an overall reduction of the role of traditional leaders. “This meant we might go to the landing site and buy a pail of fish, only to find out that this same fish was available at a lower price to everyone else”, says Adiza Ama Owusu, a community development worker with the Hen Mpoano, a local implementing partner of SFMP, who is also a fish processor.

As *Konkohene*’s authorities and roles diminished, many became inactive and an important women’s leadership roles was lost. Although the position was still recognized, some became less familiar with their responsibilities while others did not have the right leadership skills to be effective. With SFMP support, Hen Mpoano has trained 66 *Konkohenes* in the six western region coastal districts of Shama, Ellembelle, Jomoro, Axim, Ahanta West, Nzema East and Sekondi-Takoradi since 2016.

Adiza continued, “Now, with SFMP’s training in how to organize and in proper leadership skills, *Konkohenes* are back to playing their influential role in our Western Region communities and are getting stronger. For example, after being trained in the negative impacts and dangers of illegal fishing methods, the *Konkohenes* banded together and agreed not to buy juveniles or fingerlings. This is their way of contributing to the fight against IUU fishing.” Now, Hen Mpoano is currently helping the Western Region association of

Konkohenes draw up a constitution to institute by-laws to guide the group in its operation. This is not only ensuring everyone is treated fairly at the landing beach but also is giving voice to women individually. SFMP’s leadership training taught us the power of organizing. Now, *Konkohenes* not only organize women in their own community but they are effectively coordinating between themselves across various landing sites”.

According to the Vice President of the National Fish Processors and Traders Association (NAFPTA), Emelia Abaka-Edu, this kind of capacity building is critical to women fish processors in Ghana. “We are really grateful for USAID’s support through SFMP and Hen Mpoano. We have been trained on how to express ourselves at public forums and in our communities, on how to organize and how to resolve conflicts. This helps us in our community organizing and has helped greatly when negotiating prices of fish at the various landing beaches.

Emelia, who also leads the organization of *Konkohenes* across communities in the Western Region, recounted how 80 members in her communities also have received training practical areas such as fire safety and hygienic fish handling and cleaning. “Our fish are healthier for our families, give more value to our customers and more money for us because we *Konkohenes* ensure there is a uniform price for fish at the landing beaches. When we are quoted fish prices we immediately call each other to compare the price. The new healthy fish processing techniques mean we *Konkohenes* are reducing our post-harvest and post-processing losses.”



Figure 25. Vice President of NAFPTA, Emelia Abaka-Edu, leads *Konkohenes* in the six coastal districts of the Western Region.

When asked how the future looks for the *Konkohene*’s, Emelia replies, “The future is very bright. With our new organizational skills, we are growing our local organization and our

membership in the National Fish Processors and Traders Association. We're going to get stronger in the future!"

Empowering women is a key element of USAID's Sustainable Fisheries Management Project (SFMP). SFMP works closely with the Government of Ghana to end overfishing and rebuild targeted fish stocks through the adoption of sustainable fishing practices. The collective involvement of women in fisheries management decisions is critical to drive demand for effective and sustainable management approaches. SFMP continue to engage and equip women in the Western and Central Regions with advocacy and leadership skills for effective participation in fisheries co-management. Through successes like the rejuvenated authorities and new levels coordination among *Konkohenes* at the various landing sites within the six coastal districts of Western Region, SFMP is making a difference in how fisheries management decisions are made in Ghana.

IR 6: Private Sector Partnerships

Micro-insurance designed for fisherfolk provides protection to thousands

The Ghanaian fishing industry has been facing collapsing small pelagic fish stocks over the last two decades. Declines in catches of the main Ghanaian food fish - mackerel, sardines and anchovies – have placed fishers and fish processors in an increasingly precarious situation. Poverty is increasing, and recurring demands such as school fees, health needs, and responding to accidents is increasingly threatening the wellbeing of fisherfolk. Perhaps the most threatening situation is the loss of income due to accidental death, or partial or permanent disability of a family member. In addition to accidents, other events such as extended closed seasons when fishing is not allowed so stocks can rejuvenate, reduce income for short periods. When these things happen, the financial resilience of families is reduced and the welfare of children is put at risk. Small-scale fishers and fish processors, predominantly women, have long been at risk to these kinds of shocks.

To help address this problem, USAID Ghana’s Sustainable Fisheries Management Project (SFMP) reached out to private sector partners to search for a solution. Answering the call was MiLife Insurance, Millennium Insurance and Vodafone Ghana. The need was clear. Fishermen and fish processors needed a safety net for that protected them against unexpected shocks such as accidents or loss of life that put their livelihoods and wellbeing at risk, but that also encouraged them to save for the future to withstand anticipated and unanticipated needs. SFMP and its private sector partners worked diligently and in May 2017 introduced the Fishers Future Plan (FFP). The Minister of Fisheries and Aquaculture Development officially endorsed the Fishers Future Plan (FFP) during the World Fisheries Day at Keta in the Volta Region of Ghana.

The FFP combines mobile phone-based payments for life and accident insurance with a voluntary savings plan. After its piloting, which led to reformulations in the insurance product itself to better meet the needs of fisherfolk, the micro-insurance scheme is picking up speed. Operational in Elmina, Axim, James Town, Agbobloshie, Makola, Cape Coast, Sekondi/Takoradi, Keta, Moree and Shama, the FFP currently has over 4000 subscribers and savings deposits exceeding GHS230,000 (US\$47,519).

One example of the benefits of this product recently took place in Brofoyedur in Cape Coast. Augustina Acquah was shocked when she received the news that her beloved uncle had died. Her immediate worry was how to respond to the immediate need to provide a befitting funeral for him. As a low income earning fish processor, she earned only enough to cover her family’s basic needs and the sudden need for funeral expenses placed a heavy burden on her family. Unknown to her family, her uncle had subscribed to the Fisheries Future Plan two months before his death. “When distributors of the plan heard of his passing they immediately came to the family house themselves to assist us with the claims process. After submitting all the required documents, we got the payment of GHC 1000 (US\$200) two weeks before the funeral date”, Augustina recounted. “It really saved us.”

Now a subscriber herself, Augustina contributes GHC 5 (US\$1) of her daily processed fish sales to the program. “With the payment of my late uncle’s claims, I am now very confident that the micro-insurance works for regular people like us. I now subscribe I registered my two grandchildren too because I want my peace of mind.” Augustina now urges other fisherfolk to register as soon as possible. As Augustina says, “One never knows when unforeseen circumstances will come. Although we pray they do not happen, you just never know”.

Although facilitated in the beginning by USAID's SFMP, the program now is completely owned and sustained by its private sector partners, and is expanding to other regions. While the future for this product looks bright, it is still in its formative stages of development roll out. It experienced a significant challenge when one of the main private sector partners, BIMA, withdrew from the partnership due to corporate decisions not to pursue micro-insurance as a product offering of the company. To take on the contributions that Bima had been providing, FFP partners identified a new private sector partner (Golden Key) to take on BIMA's role in terms of customer solicitation, activation and collection of deposits.

SFMP organized a participatory partnership and work planning session for scale-up of the Fishers Future Plan (FFP). This included developing and agreeing to a partnership activity scorecard. The scorecard has since been used by the FFP as a working tool to guide activities for successful scale-up of the FFP. SFMP collaborated with the FFP partners to start scale-up of the FFP initiative in Axim, Elmina and Keta. Sales agents were recruited from the scale-up communities as a means of creating local employment and providing in-community contacts for the program. Community launches were conducted in Elmina and Axim to start activation of new customers in these communities.

Tigo partnership enhances communications among fisherfolk and the Ministry

Another private sector program supported by SFMP is the Tigo Fishers Network (TFN). The TFN program is a tailored mobile service plan for fisherfolk to enhance communication between government and fisherfolk. The system can send through mobile phones information on best fishing practices, regulations, weather news, price information, and other related issues in the marine fisheries sector. Following the 2018 merger of Airtel and Tigo, the TFN team at Tigo experienced significant disruption, with the transfer or removal of many Tigo staff who had supported the TFN. A new Tigo Fishers Network (TFN) team is now in place and Airtel-Tigo has agreed to develop and submit an action plan for TFN by the end of the first quarter of FY19. In collaboration with Airtel-Tigo, SFMP supported a demonstration of the tech platform that allows mobile phone communications with fisheries to officials of MOFAD/FC to increase understanding of the functionality and utility of the platform to their programs. Currently, the TFN is operational in Axim and Elmina although activation of new clients has paused during the transition and disruption of the TFN team. With the merger and change in teams, it is not clear whether this program will be self-sustaining past the end of SFMP support.

IR 7: Capacity Building

The capacity of fisheries producer and processor associations strengthened

SFMP's capacity building component in Year 4 continued with the objectives of facilitating and supporting the development and strengthening of partner organizations/associations. Capacity development focuses on improving the quality and sustainability of services provided by government partners, and the quality of sustainability of non-government partner services after the end of SFMP. For SFMP non-government partners and organizations, SFMP capacity building includes a large component on financial management and accountability to position these organizations and associations to received donor support in the future in line with the USAID Forward Initiative.

Included in this year's support was the development of strategies to strengthen governance, financial management programs, human resources management, external relations, and partnership sustainability. Issues identified during the regular organizational capacity assessment that is used to measure annual progress continue to inform SFMP about areas that need additional training and support, as well as the need for organization actions to address specific shortfalls.

For example, a mid-term evaluation conducted for GITA indicated that more needed to be done for GITA to improve its organizational effectiveness. The Acting President of the Association, Mr. Sammy Nii Okai Quaye, stated that "the mid-term evaluation has given us a true picture of GITA on implementing the action plan" and admonished executives not to relent in giving their best to the organizational development process. The Manager of the GITA secretariat, Mr. Gilbert Sam said, "We are grateful for SFMP support. It has really made a difference in our operations." SFMP supported GITA to develop a board charter that will regulate the activities of the board and supported our review of drafting instructions from the Attorney General for the amendment of the National Fisheries Act.

The SFMP organizational capacity team also worked with NAFPTA, and primarily women's based association of fish processors and traders, to conduct a mid-term review of progress against an organizational capacity assessment baseline. The mid-term assessment showed NAFPTA had made good progress on agreed actions but the association needs to do more. To strengthen the management structures of NAFPTA, SFMP engaged the leadership of in a working group of selected executives to develop Standard Operating Procedures for the efficient running of the association. The nine member working group has so far developed NAFPTA's Board Charter, Administrative and Financial manuals. The standard operating procedures have been adopted by the Board of Directors and copies printed and distributed to all the executives of NAFPTA in all regions.

There is an evolving awareness of the NAFPTA leadership around the importance of making additional progress to ensure growth and sustainability of the organization. The executive director points to lessons learned from other SFMP processor association partners such as CEWEFIA and DAA. SFMP intends to capitalize on this kind of inter-organizational learning in the final year of the project.

In another example, working with the Ghana National Canoe Fishers Council, the SFMP capacity development team reviewed sections of their original constitution and identified changes needed to meet their organizations evolving role in the artisanal fishing sector. The Canoe Council executive leaders have taken decisive steps to ensure the Council addresses changes needed to ensure well-structured and functioning systems. Driven by the SFMP organizational capacity assessment, the Canoe Council has now approved a final draft constitution revision and plans to socialize this among its national leadership in Year 5.

2.3 Implementation Challenges

- Large amounts of staff effort and financial resources went into supporting the declaration of the closed season for all fleets, and getting to the actual declaration is considered a huge achievement. However, the lack of sufficient stakeholder engagement and the late date of the declaration (3.5 weeks before the start) resulted in significant resistance from the public and some fishing associations. The declaration caused other initiatives to receive less attention than planned and anticipated schedules for the government and SFMP slipped as resources refocused to support the declaration. Achieving a successful, annual closed season is considered one of the most important management options available to avoid collapse of the main small pelagic species in Ghana. Commitment to a 2019 closed season has been confirmed by the government and resources are being scheduled to support this. However, with SFMP scheduled to end in September SFMP will not be available to support government and stakeholders at the most critical time in the process; the period leading up to the actual closure.
- The Fishers Future Plan (FFP) partner BIMA announced their exit from the FFP at the end of Q1 due to changes in corporate direction at the international level. As part of their exit plan, BIMA stopped their activation role (i.e. registration of new clients) in December 2017. This resulted in an unanticipated setback in new subscribers as there was a complete forced halt in new customer registration from December 2017 until later in the year.
- At the time of announcement, BIMA also immediately reduced the number of agents per community by approximately 60%. These agents were tasked to assist customers in depositing and claims processing, and resulted in a reduction in deposit mobilization. This also created confidence issues with the program. Insurance in the fisheries sector has always suffered from a lack of confidence among fisherfolk. Replacement options for Bima's roles in recruitment through agents and replacement of its technology platform that enable mobile phone-based premium payments and savings deposits is ongoing. SFMP support is scheduled to end for this program at the end of Q1 in line with SFMP end of project planning. This presents some concerns about the sustainability of the program post USAID support. SFMP is working with Resonance and private sector staff to ensure that there is a transition plan in place and sufficient corporate commitment to ensure the program is sustained.
- Tigo mobile phone service provider merged with Airtel to become Airtel-Tigo. After the merger, corporate decisions resulted in major staffing changes at Airtel-Tigo including the total replacement of the Tigo Fisheries Network team. This resulted in substantial delays in planned fisher communication network activities as new staff were on-boarded and the program was re-evaluated. This unanticipated development resulted in a slowdown in the pace of enrollment of fishers onto the network. SFMP support is scheduled to end for this program at the end of Q1 in line with SFMP end of project planning. This presents some concerns about the sustainability of the program post USAID support, but ongoing discussions with Airtel-Tigo indicate continuing commitment to the program.
- Demand aggregation for the *Ahotor* oven was very slow over the 1.5 years since being introduced with the primary reasons being the cost of the oven and a lack of success in enlisting commercial financial institutions to provide micro-credit to fish processors. Commercial financial institutions saw the *Ahotor* market as largely unproven, even with SFMP support, and women processors being somewhat migratory and a credit risk. Rumors that the Fisheries Commission would provide free *Ahotor* ovens under the

WARFP program also slowed interest on the part of women processors. To address this, SFMP completed an Ahotor visibility program that built 141 new *Ahotors* on a cost-share basis with women processors in 29 communities. Also, SFMP initiated engagement with MASLOC, a government micro- and small credit facility that currently is reviewing 194 loan applications from women processors for *Ahotor* stoves facilitated by SFMP.

- Coaching support to the Fisheries Commission (FC) on the implementation of the mainstreaming strategy was not achieved because the FC redirected the funds budgeted for this activity to other priority needs, including the closed season. Negotiations are still ongoing for some level of funding commitment from FC in the 2019 (calendar) budget and there is a need to encourage other development organizations to support the FC to implement the strategy.
- The main challenge of MSMEs in the post-harvest sector is the literacy level of owners. They find it difficult to understand the benefit of many new interventions and even after training meet challenges in actually putting into practice the skills learnt through SFMP training. For instance, most of them cannot use the records books supplied by SFMP during training because of their low literacy level. As a general culture practice, their minds are set against any kind of loan from banks or other financial institutions. This complicated SFMP interventions to introduce loans related to the Ahotor rollout.
- Child labor and trafficking in some communities has been challenging to address. Although parents are now more aware of the dangers and that children are not to be trafficked, many still see this as a traditionally and culturally accepted practice. Particularly in highly vulnerable households, but in many households in general, parents often insist that children must work to support the household.
- Changes in senior MOFAD and Fisheries Commission staff resulted in delays to the legal reform program focused on amending the National Fisheries Act and the canoe registration and declaration of a moratorium on new entries into the artisanal sector. However, slowdown in this effort freed resources that were reprogrammed into support for the closed season which, although ultimately unsuccessful, is considered important progress for a closed season in 2019. The legal reform and artisanal sector registration/moratorium are still important policy and management efforts that set the stage for small pelagic fish stock recovery and will be continued in Year 5.

A number of risks are evident as SFMP begins its final year:

- Although all SFMP sub-awardees have received extensive training in financial management and have established standard operating procedures, DAA continues to experience challenges in meeting these requirements. As a major recipient of USAID funds through SFMP, including the construction of a hygienic fish processing demonstration and training center capable of training up to 300 women each year, the organization needs special focus in Year 5 regarding organizational capacity development and business planning to achieve hoped for levels of financial accountability and organizational performance.
- With the setbacks in the FFP caused by the surprise exit of Bima and the merger of Tigo and Airtel that resulted in a complete reshuffling of TFN staff, both programs are facing challenges in Year 5, particularly with SFMP support for these programs scheduled for phase-out at the end of Q1.

- The need for business and sustainability planning is particularly evident at the end of Year 4 for some of our local implementing partners. Sub-awardees such as FoN and Hen Mpoano are already receiving substantial external support in the form of other donor grants. However, CEWEFIA and DAA, two important SFMP sub-awardees, need significant business and sustainability planning in Year 5. All organizations are facing some level of staff transition when SFMP funding comes to an end.
- As is often seen in the final years of projects, core staff may leave for jobs with longer time horizons. SFMP is trying to plan for any eventual loss of staff, but is already aware that some staff are applying for other positions. In the eventuality that staff leave, appropriate remedial actions will be taken.

2.4 M&E Plan & Implementation Update

During the year under review, the M&E unit of the SFMP updated its monitoring and evaluation plan according to USAID requirements. Key areas that were updated in the plan included the revision of PMP change tracker to capture revised USAID custom indicators, and revision of some indicator's targets due to changes in the scope of some project activities.

The M&E unit conducted data quality assessments with sub-grantees according to USAID standards. USAID and METSS also conducted joint data quality assessment for SFMP and 2 selected partners (HM and FON). This ensured that all data collected and reported meets the USAID ADS 5 data quality standards. Routine monitoring visits to beneficiaries and partners were conducted quarterly to review and assess partner performance of planned activities and lessons learned for overall project implementation. Capacity building for implementing partner's M&E officers was conducted as well as tracking of project deliverables. USAID/METSS online data reporting systems such as TraiNet were updated quarterly. Overall, no significant challenges were encountered by the M&E team during these activities to ensure that project deliverables are tracked, collected, reviewed and reported according to USAID standards.

USAID had concerns about the overall Year 4 M&E plan and at the end of Year 4 targets were not finalized. A series of questions from the GAO drove several rounds of meetings with USAID/Ghana, including review of specific targets and how these are reported. Although formal approval was not received by the end of Year 4, all questions related to the annual M&E plan have received a response and SFMP is waiting for final approval.

3. MANAGEMENT AND ADMINISTRATIVE ISSUES

- No significant management or administrative issues were encountered in Year 4 that impacted project implementation.

4. LESSONS LEARNED

- Rather than strictly following the Year 4 work plan, SFMP provided a high degree of flexibility in adjusting work priorities in Year 4 in order to be responsive in relation to local, regional and national political concerns of primary government, non-government and CSO partners. The best example of this was a complete reorganization of task priorities and budget when the Minister decided to declare a closed season in August. This approach enabled adaptive implementation while still moving toward the overall goals of the project. As a result, relationships, coordination and support for MOFAD/FC strengthened, coordination with other development partners increased around fisheries sector issues. By employing a political economy lens, i.e., the non-monetary interactions between fisheries sector actors, SFMP increased the strength and trust between key actors in the Ghana fisheries sector even when different positions were taken. This approach will be amplified in Year 5 to ensure that successes are consolidated and sustained post-SFMP.
- SFMP coordination with MOFAD and FC have seen boosts due to direct engagement of some junior staff in key units of the organizations. These staff are often much more available and accessible than senior staff and Division heads, and represent the next generation of leaders in the fisheries sector. In Year 5, SFMP will encourage greater involvement of assistants in some roles to enhance effective working relations and ensure the needed sustainability for maintaining and improving upon the project achievement.
- The SFMP team increased collaboration with the multidisciplinary stakeholder committee towards the implementation of the Class 1 Hygienic Fish Handling Recognition Scheme and gained the commitment of FC post-harvest unit and other stakeholders towards ensuring the sustainability of this scheme. This provided a huge boost to the progress of this effort, highlighting the importance of government involvement and buy-in. In order for this to be maintained it is essential that MOFAD/FC institutionalize the scheme in its annual budget requests.
- Fisheries associations are now understanding their roles and capacities as advocacy platforms largely as a result of the organizational capacity development assistance provided through SFMP. They now are supporting their members more effectively in key issues related to fisheries management. For example, with NAFPTA's new focus on services to its membership, a medical screening and information sharing meeting for their members was held in Tema working with doctors that volunteered their time. However, organizational capacity assistance to some organizations is short of what is needed to form fully functioning organizations. This is partly due to natural limits in the pace that organizational change can happen. SFMP's success in this area was based on organizational capacity building being programmed early and sufficiently funded and implemented using standard organizational capacity assessment (OCA) throughout the engagement to adjust assistance as specific areas of need will vary across organizations.
- With respect to the Class 1 Hygienic Fish Handling Scheme, it was evident that fish processors were interested in the certification program and willing to be take on the challenges and changes needed to qualify for the certification. There is a need for partners to intensify education on the program and collaborate more effectively with the Fisheries Commission zonal officers who can be very instrumental in the driving the adoption of the new scheme introduced with SFMP support.

5. FINANCIAL STATUS

The following table shows the financial status of the project through Year 4 (FY18) including funds obligated to date, expenses through the end of Year4, and balance of obligated funds on hand at the end of Year4. The Cooperative Agreement ceiling is US\$23,987.826.

Budget Item	Total funds Obligated to Date as of September 30, 2018 (US\$)	Total Funds Expended to Date, through September 30, 2018 (US\$)	Balance of Sub-Obligated Funds, Remaining as of September 30, 2018 (US\$)
Direct costs - SFMP	9,055,646	7,991,369	1,064,277
Subgrantees and Grants	8,817,667	8,468,750	348,917
Construction	387,000	307,113	79,887
Training	206,050	199,204	6,846
<i>Total Line Items</i>	18,466,363	16,966,435	1,499,927
<i>Modified Direct</i>	9,055,646	7,991,369	1,064,277
Indirect	2,354,468	2,077,756	276,712
Total	20,820,830	19,044,191	1,776,639

ANNEX 1. SUMMARY RESULTS TO DATE (ALL PROJECT PERFORMANCE INDICATORS)

This summary includes all standard USAID indicators as show as well in Section 1.2 as well as two additional custom indicator the project uses. Table 3 below and Table 1 in the introduction provide summary results on all Year 4 indicators relative to targets.

Table 3. Results to date relative to LoP for all indicators

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Goal: Rebuild marine fisheries stocks and catches through adoption of responsible fishing practices										
Number of hectares in areas of biological significance and/or natural resource showing improved biophysical conditions as a result of USG assistance (EG 4.8.1-1)	N/A	N/A	N/A	11 hectares	Track	0	0	11 hectares	610,930 marine hectares	Likely will not be achieved in LoP.
Biomass to produce MSY (B_{msy}) (Project Indicator)	Baseline established	N/A	N/A	Decreasing	Stable /increasing (Assumes major management measures put in place)	Decreasing 2017 Biomass is low at B=21,750 MT.	N/A	Decreasing	Stable or increasing	N
Fishing Mortality at MSY (F_{msy}) (Project Indicator)	Baseline established	N/A	N/A	Increasing 2015 fishing mortality is F=0.8 which is very high. Rebuilding target for Fmsy set at F=0.3	Stable/decreasing (Assumes major mgt. measures put in place)	Increasing 2017 fishing mortality is F= 0.88	N/A	Increasing	Stable or decreasing	N

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Number of indirect project beneficiaries (project custom indicator)	0	N/A	N/A	0 (the closed season and second fishing holiday were not implemented)	Counting 130,000 if the close season or second fishing holidays is adopted	905 (fishers applied closed season at Densu and Pra estuaries and users of Ahotor Oven)	1%	905 (1%)	130,000 marine fishers, processor, marketers (23% women)	N
IR 1:POLICY:Strengthened enabling environment for marine resources governance										
Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of USG assistance in each case (FTF 4.5.1(24)):	0	1	4	7	8	2	N/A	2 (25%)	8	N
Step 1. Analysis	0	1 (Small Pelagic)	1 (Demersal Plan)				N/A	N/A		Demersal target was dropped previously
Step 2. Stakeholder consultation	0					1 (Fish Act)	N/A	N/A		N drafting of Act will occur now in FY 19

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Step 3. Drafting or revision	0		3 (Fish Act, Small Pelagic and CLaT)	6 (Fish act, NFMP, Co-mgt policy, Pra, Densu and Ankobra CBMPs)	1 (Fish Act)	5 (Co-mgt policy, CLaT, Pra, Densu and Ankobra CBMPs)	N/A	N/A		These 5 policy targets for FY 18 not met as none were approved in FY18, targets moved to FY 19
Step 4. Approval (legislative or regulatory)	0			1 (FC Gender Strategy)	7 (NFMP, Co-mgt policy, CLaT, Gender Policy, Pra, Densu and Ankobra CBMPs)	2 (NFMP and FC Gender strategy)	N/A	N/A		N See above targets moved to FY19
Step 5. Full and effective implementation	0						N/A	N/A		N/A
IR2:SCIENCE & RESEARCH :Increased use of science and applied research to inform decision-making and the implementation of management plans										
See cross cutting Indicators										
IR3:CONSTITUENCIES :Constituencies and political will for policy reform & implementation built, demanding sustainable use and conservation										
Number of information products disseminated in local media reports, radio shows, conference papers, and research studies (Project indicator).	0	18	21	104	63	66	105%	209 (133%)	157	Y (over target)

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
IR 4:APPLIED MANAGEMENT :Improved management of marine resources to conserve bio-diversity & provide other benefits										
Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (EG 4.8.1-26)	0	N/A	N/A	619,496 hectares	3205 hectares	3,215 hectares	100%	622,711 hectares (99 %)	628319 hectares	Y
Number of DAs supported with USG Assistance (Ghana CDCS, IR 2.3 indicator)	0	4	4	5	5	6	120%	6 (120%)	5	Y (over target)
Improvement in fisheries enforcement and prosecutorial chain to counter IUU fishing (increase/decrease in prosecutions and percent that lead to conviction) (Project Indicator)	0	N/A	N/A	No	Track (Increasing)	Data not received yet	N/A	N/A	Increasing	N (data not received yet)
Number of climate vulnerability assessments conducted as a result of USG Assistance (EG 4.5.1)	0	1	2	N/A	N/A	N/A	N/A	3 (100%)	3	Y
Number farmers and others who have applied new technologies or management practices as a result of USG assistance (FtF 4.5.2)	0	N/A	N/A	0	100,000 (assumes national closed season or other measure for canoes/small pelagics adopted)	905 M-406 (45%) F-499 (55%)	1%	905 (1%) M-406 (45%) F-499 (55%)	111,000	N (Closed season and fishing holiday not implemented)
Number of micro, small and medium enterprises (MSMEs), including farmers, receiving business development services from USG assisted sources (FtF 4.5.2)	0	751 M-36 F-715	985 M-186 F-799	1,737 M-168 F-1,569	950	980 M-130 (13%) F-850 (87%)	103%	4,453 (122%) M-520 (12%) F-3,933(88%)	3657	Y (over target)

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Value of agricultural and rural loans as a result of USG assistance (RAA) (WOG) EG.3.2-6	0	N/A	N/A	\$ 56,579	\$37,723	\$1,299	3 %	\$57,878 (66 %)	\$87,082	N (below target and at risk of not being met)
Number of micro, small, and medium enterprises (MSMEs), including farmers, receiving agricultural-related credit as a result of USG assistance (RAA) EG.3.2-3	0	N/A	N/A	300	100	9	9%	309 (56%)	550	N (below target and at risk of not being met)
IR 5 Gender										
<i>See crosscutting indicators</i>										
IR 6: Public Private Partnerships										
Value of new private sector investments in select value chains (FTF 4.5.2-38)	0	N/A	N/A	\$ 51,959.23	Track	\$15,496	N/A	\$ 67,455.23	Tracked, no target	N/A
Number of public-private partnerships formed as a result of Feed the Future assistance (S) (FTF 4.5.2(12))	0	N/A	1	1	N/A	N/A	N/A	2 (100%)	2	Y
IR7 Capacity Development										
Number of institutions with improved capacity to develop and implement managed access fisheries management plans	0	N/A	N/A	15 (10 GoG & 5 CSOs)	19 (16 ongoing) 3 added GITA, NAFAG & GNCFC	1 (NAFPTA)	100%	16 (84%)	19	Y

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations(CBOs) receiving USG assistance (RiA) (WOG) (FTF 4.5.2(11))	0	2	1	6 (2 new GITA & NAFAG)	6 ongoing	6	100%	6 (100%)	6	Y
Number of members of producer organizations and community based organizations receiving USG assistance (S) (FTF 4.5.2(27))	0	164 M-0 F-164	1144 M-35 F-1109	1693 M-329 F-1364	2530 Members	3,172 M-1,131(36%) F-2,041 (64%)	125%	6173 (110%) M-1495(24%) F-4678(76%)	5588	Y (over target)
Cross Cutting Indicators (summarized for all IRs)										
Number of days of USG funded technical assistance in NRM and/or biodiversity provided to counterparts or stakeholders (EG 4.8.1-28)	0	816 days	1,019 days	593 days	770 days	814 days	106%	3242 days (97%)	3,346 days	Y (negligibly below target, but will be met)
Number of people receiving USG supported training in natural resources management and/or biodiversity conservation, and climate change, disaggregated by gender (EG 4.8.1-27/ 4.8.2-6)	0	890 M-621 F-269	1,047 M-496 F-551	1766 M-801 F-965	3,124 persons	2,880 M-1,559 (54%) F-1,321 (46%)	92%	6583 (95%) M-3477 (53%) F-3,106 (47%)	6,946	Y (slightly below target, will be met in FY19)
Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance (4.8.1-29)	0	9832 person hours	18,846 person hours	22997 Person hours	42,328 person hours	30,280 Person hours	72%	81,955 (88%)	93,407	Y (below target but will be met in FY1)

Standard and SFMP custom Indicators	Baseline FY 2015	FY 15 Results	FY 16 Results	Results FY17	FY 18 Target	FY 18 Results	Annual Performance Achieved to the End of Reporting Period (%)	Cumulative Results (FY15+FY16+FY17+FY18)	Revised LoP Target	LoP On Target Y/N
Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) EG.3.2-1	0	N/A	N/A	3096 M-835 F-2261	4074 Persons	3,860 M-1,689 (44%) F-2,171 (56%)	95%	6,956 (84%) M-2524 (36%) F- 4432(64%)	8,261	Y (below target but will be met in FY19)
Number of individuals who have received USG-supported degree-granting agricultural sector productivity or food security training (RAA) EG.3.2-2	0	N/A	N/A	5 M – 1 F – 4	5 Continue	5 M – 1 (20%) F – 4 (80%)	100%	5 (100%) M – 1 (20%) F – 4 (80%)	5	Y (2 more will graduate in FY19)

Explanation of Indicators

Goal Indicators

Number of hectares in areas of biological significance and/or natural resource showing improved biophysical conditions as a result of USG assistance (EG 4.8.1-1)

During the year, the project continued to track the number of hectares of acacia and mangroves planted in year 3 and year 4. Eleven hectares of acacia were reported in Year 3 showing improved biophysical conditions. The hectares of mangroves planted at Ankobra and Densu estuaries and survival rate has been good although the exact area showing improved biological conditions has not been calculated because mangroves take a longer period to show improvement. This will be determined in the final year of the project.

The overall LoP target is unlikely to be achieved as no significant management measures to control fishing effort have been implemented by MOFAD/Fisheries Commission. We expect this to occur in FY 19 with a closed season declaration in August. Increasing Biomass is expected to follow from this but the lag in the biomass response means it cannot be measured during LoP (project end date in October) but likely to occur in the year following end of project.

Biomass to produce MSY (B_{msy}) and Fishing Mortality at MSY (F_{msy}) (Year 5 target)

Indicators 1a and 1b are project indicators under indicator 1 that are specific to the small pelagic fishery and the much larger LoP target. We are tracking the indicator but do not expect to see results until Year 5. Current tracking still shows these two biological measures heading in the wrong direction as insufficient management measures are in place to significantly reduce Fishing mortality. Until fishing mortality is reduced, biomass is unlikely to increase as biomass decline is predicated on overfishing as the main cause of decline and not environmental variability or climate change. The strategy to achieve the LOP is through the implementation of a closed season and holiday fishing holiday and capping canoe registration. The first two measures result in lower Fishing mortality, and the third, the cap, prevents it from going up further by means of added canoes.

The project started working hand in hand with MOFAD, FC and all stakeholders to get high consensus for the closed season, additional one-day fishing holiday and a canoe fleet cap in FY17 and provide the scientific justifications for these measures. The Minister in FY18 announced the implementation of a one month closed season in August 2018 but it was cancelled due to short notice. If one or more of these is put in place, then the LoP target for decreasing Fishing mortality) will be met. Biomass improvements will lag by a year or two after fishing mortality is reduced and therefore we may not be able to directly measure this result during life of project. However, we can reasonably assume it will occur as a result of implementation of the management measure(s).

Number of indirect project beneficiaries (custom indicator)

This indicator has not yet been achieved as predicated on a management measure for the marine fishery being implemented (e.g. closed season). This is expected to occur in FY 19. A number of people have benefited who have adopted the new Ahotor smoking over and fisherfolk in the Densu, Pra and Ankobra estuaries that have implemented closed seasons

IR 1 Strengthened Enabling Environment

Number of agricultural and nutritional enabling environment policies completing the following processes/steps of development as a result of USG assistance in each case:

In Year 4, a consultant was engaged to review the Fisheries Act to be consulted with stakeholders for their inputs. It is currently under analysis.

The Densu Oyster CB-FMP, Ankobra CB-FMP, Pra CB-FMP and National Co-Management Policy went through national, regional, district and community levels stakeholder consultation and revision to add monitoring and evaluation plans and is ready for approval by the MoFAD.

The Anti-Child Labor and Trafficking (CLaT) inter-ministerial strategy was submitted to Ministry of Gender, Child and Social Protection for formal adoption but they suggested this should be approved by MOFAD instead.

MoFAD/FC made attempt to implement some measures (closed season) as proposed by the Science and Technical Working Group and stipulated in the National Marine Fisheries Plan (NFMP) during the year. The fisher associations protested against it indicating that they were not ready because the announcement came late. Thought not implemented, fisheries sector stakeholder meetings have informed the fisherfolk on the contents of the plan and now earmarked to be implemented in August 2019.

IR 3 Constituencies

Number of Information Products Disseminated in local media reports, radio shows, conference papers and research studies (custom indicator)

Both the FY18 target and LoP target have been exceeded due to a shift in Year4 on an intensive communications campaign in support of a closed season declaration by MOFAD/FC in the 4th quarter. See Annex 3 for a list of media reports during the year.

IR 4 Applied Management

Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (EG 4.8.1-26)

Three community-based fisheries management plans were drafted for the Densu, Pra and Ankobra estuaries and currently awaiting approval by MoFAD for effective implementation. As the communities are waiting for formal approved, some of the management measures outlined in these plans are being implemented to ensure sustainability of the fish source. During year 4, beneficiaries especially women within the Ankobra and Densu estuaries planted over 22,500 mangrove seedlings covering a total of 25.4 hectares (10.7 Ankobra and 14.7 Densu) of land. A total area of 3190 hectares along the Pra estuary was earmarked as closed areas and fishers sensitized not to fish within these areas for a period of 3months to serve as a means to sustaining the fish source. This totals for FY of 3,215 Hectares under improved management for FY 18. Cumulatively, a total area of 622,711 hectares representing 99% of the revised LOP target of 628,319 hectares.

Number of DAs supported

The FY 18 and LoP targets have been met. One additional District in the Central Region received support on child labor and trafficking issues during the year so the target was exceeded by one additional institution/district.

Improvements in Fisheries Enforcement and prosecutorial chain (Custom Project Indicator)

The secondary data for this indicator needs to be collected from government agencies and given the sensitivity of the data they have been reluctant to provide complete data. The incomplete data means we are unable to make an accurate determination concerning whether enforcement and prosecutions are increasing and thereby serving as a deterrent to illegal fishing activities. A repeat of the baseline survey in 2015 will be conducted in 2019 that will provide data on changes in perceptions of fisherfolk regarding enforcement actions which can serve as a surrogate to the secondary data. Based on this perception data we will be able to make a determination of the direction of enforcement actions in FY 19 for this indicator.

Number of Climate Vulnerability Assessments conducted.

This target has been met in the previous year and no further work is conducted on activities relating to this indicator in Year4 or planned in Year5.

Number farmers and others who have applied new technologies or management practices as a result of USG assistance (FtF 4.5.2)

This target of 100,000 small scale fishermen assumed a major management measure would be implemented by MOFAD/FC in Year 4 such as a closed season for the canoe fleet as recommended by the science and technical working group. This recommendation could not be implemented because major stakeholders such the fisherfolk said the notice of the closure by the Minister was too short among other reasons. Hence it has been postponed by the Ministry until FY 19. Even though the national closed season was not implemented, the Densu and Pra estuaries within the year implemented a 5 month closed season and a 3 month closed areas respectively during the year under review. A total of 147 (15 males and 132 females) oyster pickers and 618 (332 males and 286 females) fishers applied this measure at the Densu and Pra estuaries respectively. Also 6 fish processors have been confirmed using the Ahotor oven and also practicing up to date records keeping. This gives a total of 905 fishers and fish processors applying management measures and technologies as a result USAID/SFMP intervention. While this target was not met in Year 4, we are confident the national closed season and/or additional fishing holiday measures will be formally approved and implemented in Year 4 which will result in this target being met in FY19.

Number of Micro, Small and Medium Enterprises (MSMEs), including farmers, receiving business development services from USG assisted sources (FtF 4.5.2)

A total of 980 (130 men and 850 women) Micro, Small and Medium Enterprises (MSMEs) received various business development services through a well-designed curriculum to improve on the knowledge and skills of these beneficiaries out of the yearly target of 950 representing 103% achievement versus target. Males formed 13% and females constituted 87% of those receiving services.

The project at the end of year 4 has cumulatively trained 4,453 Micro, Small and Medium Enterprises (MSMEs) representing 122% of the revised LOP target of 3657. Out of the cumulative total, 520 (12%) are males whiles 3,933 (88%) are females. There are more females because the MSMEs benefiting from and targeted by the project are primarily women-led fish processing and marketing businesses. The over achievement of target can be attributed to year 3

achievement where MSMEs activities were extended to Volta region based on demand and requests from MSMEs in that region.

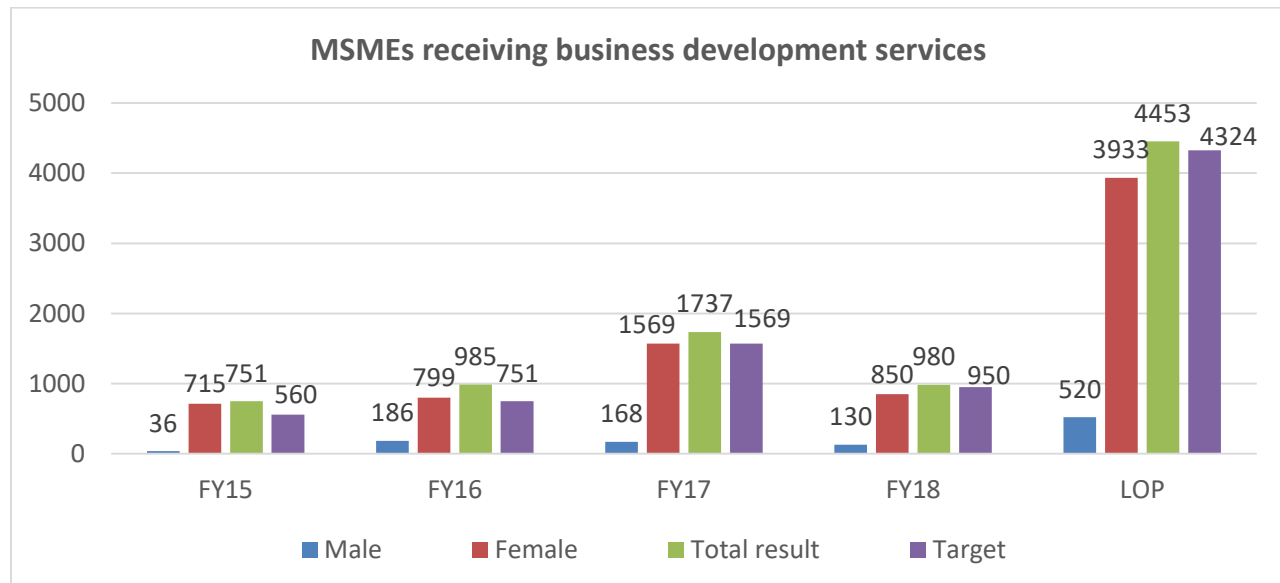


Figure 26. Number of MSMEs receiving business development services

Value of agricultural and rural loans as a result of USG assistance (RAA) (WOG) EG.3.2-6

This indicator sums cash loans disbursed during the reporting year to direct beneficiary producers and MSMEs in rural areas that are in a targeted agricultural value chain, as a result of U.S. Government assistance. During the year \$1,299 loans were given out to producers representing 3% of the revised target of \$37,723. The target was not achieved because the producers did not save with the banks to benefit from the 30% subsidy offered by the project. Also, the MASLOC loan for oven and seed capital is still in the process and might be approved in FY19.

Cumulatively, the project has achieved 66% (\$57,878) of the LOP target (\$87,082). Partners are increasing Village Savings and Loan group formation and development so the projects responsiveness to the need for micro-business capital is being met in other ways and captured under other indicators. In addition, the project has assisted approximately 194 women businesses apply for loans through the government lending institution, MASLOC for the purchase of new modern and improved fish Ahotor stoves and working capital. If those loans are provided, the LoP target will be met. However, the project does not have direct influence over those provision of loans and is contingent on the government providing the budget to MASLOC for these loans.

Number of micro, small, and medium enterprises (MSMEs), including farmers, receiving agricultural-related credit as a result of USG assistance (RAA) EG.3.2-3

This indicator counts the total number of micro, small, and medium enterprises (MSMEs) that have received U.S. Government assistance that resulted in a loan (in a formal financial institution). During the year under review, 9 MSMEs (9% of annual target) all females received loans Gomoa Community Bank Limited and Akatakyiman Rural Bank. This indicator is directly related to the indicator above and the same reasons apply for the under-performance. These

banks, while initially indicating interest in financing in the fisheries sector, but in actuality, have been reluctant to do so when provided with applications for lending. Partly due to concerns about the declining catches as well as other factor such as lack of collateral available by prospective fish processor loan clients. The project at the end of year 4 cumulatively assisted 309 MSMEs to assess loans out of the revised LOP target of 550 representing 56%. The project is facilitating alternate financing options for 194 persons through MASLOC to provide micro and small loans for start-up capital to expand their businesses as well as to enhance job and wealth creation.

Value of new private sector capital investments in select value chains (FTF 4.5.2-38)

This indicator was introduced in Year 3 to capture the value of private sector capital investment in selected value chain after the formal partnership agreement (micro-insurance partnership) was officially signed between UT Life Insurance, Millennium Insurance, BIMA and Vodafone Ghana. Contributions from these partners at the end of year 4 is \$15,496. Cumulatively, contributions for Year 3 and 4, stands at \$67,455.23 as capital investment. There is no target for this indicator because the private partners did not sign on to a target for their contribution. In other words, they did not place monetary value to their roles and responsibility as per the Letter of Collaboration signed with them. Year 3 recorded more capital investment because it was the first year where the platform was set up. Year 4 only recorded few capital costs as most of the costs incurred were non-capital investments but rather operational expenses, because the majority of the capital investment was setting of the platform.

Number of public-private partnerships formed as a result of Feed the Future assistance (S) (FTF 4.5.2(12))

Cumulatively the project has signed two partnership agreements, achieving the LoP target. In year 2, a partnership agreement (micro-insurance partnership) was officially signed between UT Life Insurance, Millennium Insurance, BIMA and Vodafone Ghana (Fishers Future Plan-FFP). This special micro-insurance product is likely to benefit tens of thousands of fisherfolk in the upcoming years and provides for a death and permanent disability benefit as well as a savings like payout of funds when the policy comes to term. This provision provides an income support benefit for the closed season which is a major concern of fisherfolk and mitigates short term economic impacts of the closed season. BIMA exited the FFP partnership and the remaining partners identified a new private sector partner (Golden Key) to take up BIMA's responsibility. More than 3,700 fishers have registered for the FFP, with more than \$51,466 in deposits collected as at the end of year 4. \$833 in claims have been paid to three beneficiary families – with an average of about \$250 per family.

In the year 3, the project again signed a Letter of Collaboration formalizing a partnership between Tigo Ghana, the Fisheries Commission, and the SFMP to extend tailored mobile services to fisherfolk via the Tigo Fisheries Net (TFN). The TFN is currently operating and will support the Fisheries Commission's extension efforts for sustainable fisheries management and improve local livelihoods and household incomes for fisherfolk through improved information sharing; fisherfolk savings on the costs of phone credit, messages, and data; and the promotion of digital financial services on the mobile platform.

Number of institutions with improved capacity to develop and implement managed access fisheries management plans

A mid-term Organizational Capacity Assessment (OCA) for both 10 GoG and 6 CSO partners to ascertain the level of capacity improvement after receiving trainings in various areas, and the provision of equipment or inputs such as vehicles, computers, printers, servers, furniture etc. was conducted in year 3. The mid-term OCA reports indicates that, 10 GoG and 5 CSOs capacity had improved in various forms compared to the baseline out of the LOP target of 16 institutions. The NAFPTA (National Fish Processors and Traders Association) mid-term assessment was delayed and was not reported during the year under review so we were unable to assess improvement in capacity by end Year4. NAFPTA will be assessed in Year5. Baseline OCA for GITA, NAFAG and GNCFC was also conducted in year 3 and was added to the LOP target (increase of 3) in year 4 for final assessment in FY19.

Number of food security private enterprises (for profit), producer organizations, water user's associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance (RiA) (WOG) (FTF 4.5.2(11))

During the year under review, met its target (100%) of six producer organizations. This target was increased from four as two new producer and processor organizations requested assistance from the project (GITA and NAFAG). The organizations receiving assistance include: National Fisheries Association of Ghana (NAFAG) and Ghana Industrial Trawlers Association (GITA), Development Action Association (DAA), Central and Western Fishmongers Association (CEWEFIA), National Fish Processors and Traders Association (NAFPTA) and Ghana National Canoe Fisherman Council (GNCFC). The 2 new associations received capacity building trainings and a baseline OCA was also conducted for these association to help strengthen their management in year 3. The indicator target was reviewed to 6 to include the two associations in year 4. These 6 (100%) associations in year 4 received various forms of assistance (capacity building and financial).

Number of members of producer organizations and community based organizations receiving USG assistance (S) (FTF 4.5.2(27))

This indicator captures the number of members of producer organization namely DAA, CEWEFIA, NAFPTA and GNCFC the projects assisted either through material support, meetings and trainings during the year under review. The total number of membership engaged in year 4 were 3,172 (36% males and 64% females) as against the target of 2530 members representing 125% achievement. The reason for over achieving year 4 targets was as a result of the announced closed season where the Fisher to Fisher (F2F) dialogues scope increased to cover more stakeholders. There was a high percentage of female participants because the three of the organization (CEWEFIA, DAA and NAFPTA) are women dominated organizations (e.g. Women fish processors and traders). Also they were actively involved in the F2F closed season dialogues as compared to year 3 where the F2F dialogues engaged only fishers (mainly male). This accounts for the difference in year 3 and 4 results. The project at the end of year 4 cumulatively achieved 6,173 (110%) of the revised LOP target of 5,588 with the same reason given above.

Cross Cutting Indicators

Number of days of USG funded technical assistance in NRM and/or biodiversity provided to counterparts or stakeholders (EG 4.8.1-28)

The project continued to receive technical/program experts from URI, and Resonance from USA and local consultants to provide technical assistance. In year 4, 814 days of technical assistance was provided representing 106% of the annual target of 770 days. The target was over achieved as additional technical experts were engaged locally to complement the international TA. Cumulatively, 3242 days representing 97% of the revised LOP target were spent by Technical Experts at various workshops and training events and technical advisory services in natural resources management (NRM) for the past four years. The chart below (Figure 4) shows the number of days of technical assistance on a yearly basis.

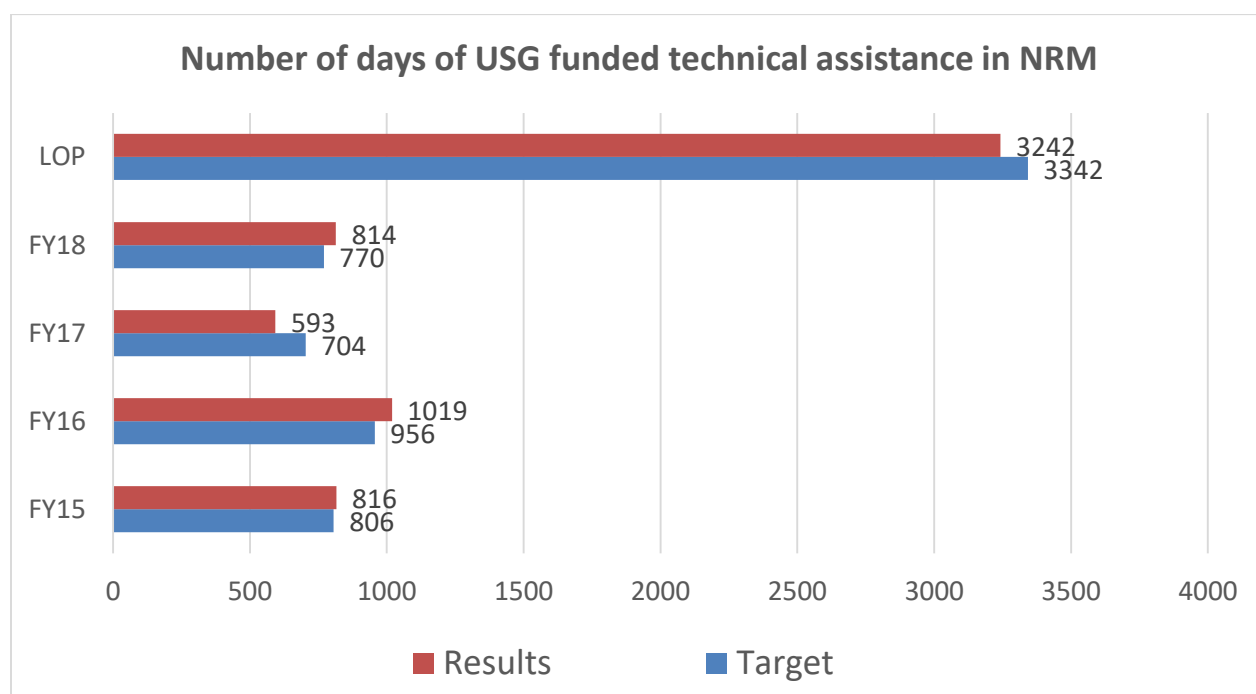


Figure 27. Number of days of international technical assistance in NRM on yearly basis

Number of people receiving USG supported training in natural resources management and/or biodiversity conservation, and climate change, disaggregated by gender (EG 4.8.1-27/ 4.8.2-6)

During the year under review, a total of 2,880 (54% males and 46% females) representing 92% of the revised LOP target received various forms of capacity building activities ranging from series of trainings in NRM. The target of 3,124 was not achieved because key activities such as the replication Fisheries Watch Volunteers (FWV) in coastal districts was cancelled due to demonstration by fishers in the pilot communities. MOFAD/FC therefore discontinued the activity. Some of the activities conducted also did not meet the targeted number of participants. In terms of cumulative results, 6,583 people (53% males and 47% females) received USG supported training in NRM, representing 95% of the revised LOP target. The graph below shows

the detailed results by year disaggregated by sex. The project is expected to meet the LoP target in FY 19.

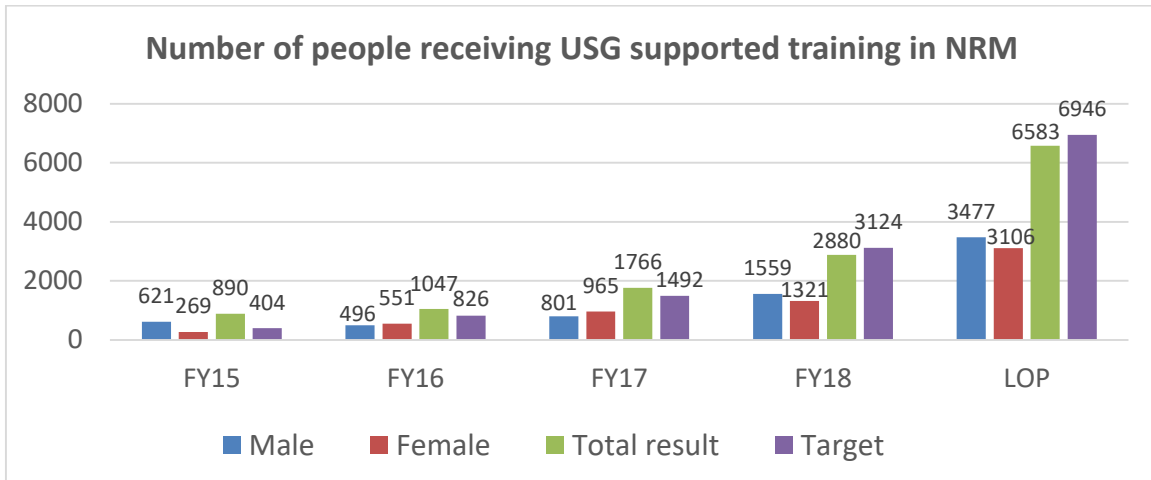


Figure 28. Number of people receiving USG supported training in NRM

Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance (4.8.1-29)

This indicator counts the number of USG support training hours that were completed by training participants in NRM. The project recorded a total of 30,280 person hours representing 72% achievement of the FY18 target of 42,328. This target was not achieved for the same reasons as noted above for numbers of participants; because some activities such as FWV was cancelled by FC and some activities targeted number trained were not also met which has a direct impact on the number of hours. Cumulatively, the project has recorded 81,955 person hours representing 88% of revised LOP target. However, the project is expected to meet the LoP target in FY 19.

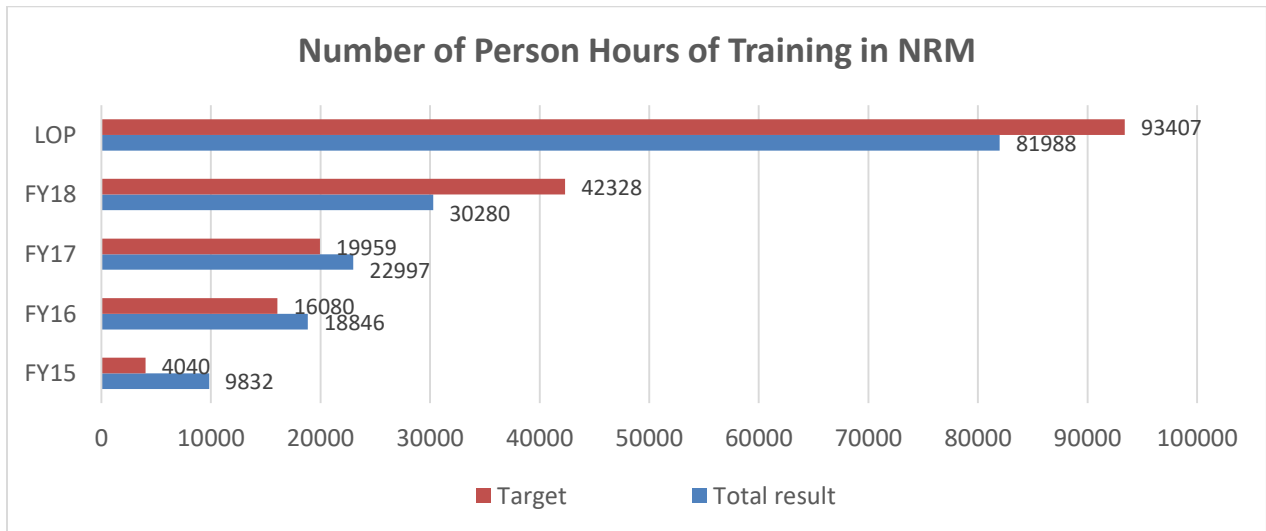


Figure 29. Number of person hours of training in natural resources management

Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training (RAA) (WOG) EG.3.2-1

This indicator counts the number of fishers and producers to whom significant knowledge or skills have been imparted through interactions that are intentional, structured and purposed for imparting knowledge or skills. In FY18, a total of 3,860 (44% males and 56% female) representing 95% of the yearly target of 4,074. While the result is within a 5% margin of the target, the yearly target was not fully achieved because some activities were not implemented and other activities did not meet the targeted number of participants during its implementation.

Cumulatively, 6,956 individuals constituting 2,524 (36%) males and 4,432 (64%) females received significant knowledge and skills through various forms of trainings representing 84% achievement of the revised LOP target. The project is expected to meet the LoP target in FY 19.

Number of individuals who have received USG-supported degree-granting agricultural sector productivity or food security training (RAA) EG.3.2-2

This indicator measures the number of people who are currently enrolled in or have graduated during the reporting year from a degree-granting technical, vocational, associate, bachelor, master, or Ph.D. program. The project enrolled 5 people (1 male and 4 females) in FY 16 and FY 17 from the various units of the Fisheries Commission and University of Cape Coast (UCC) to for Master's and a Ph.D. in fisheries related programs at the University of Rhode Island in the USA. Four of the students are in a Master's program and one student pursuing a PhD. During the year under review, the 3 master's students graduated. One Master's student will graduate by December 2018, and the PhD student has completed all coursework and passed his comprehensive examinations with all but dissertation remaining to be completed. He is expected to graduate in August, FY 19.

ANNEX 2. TRAINET REPORT

This report includes trainings that count towards two indicators: Number of micro, small and medium enterprises (MSMEs), including farmers, receiving business development services from USG assisted sources (FtF 4.5.2), and Number of people receiving USG supported training in natural resources management and/or biodiversity conservation, and climate change, disaggregated by gender (EG 4.8.1-27/ 4.8.2-6). For indicator reporting they are included in one or the other of these result areas based on the type of training provided, but not double counted in any cases for both indicators.

Table 4. List of Trainings conducted in Year4

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
Training for CCPC and Anti CLaT advocate, Cape Coast-FoN, Y4Q1	12/14/17	12/14/17	300	300	36	12	48	6
Training of Local Artisans on Ahotor Stove Construction, Elmina- CEWEFIA, Y4Q1	12/5/17	12/7/17	1,190	1,190	10	0	10	119
Training of community level stove building /artisan companies as part of Ahotor oven technology diffusion strategy- SNV Y4Q1	11/29/17	12/8/17	3,856	3,856	27	0	27	143
GIS Training for Fisheries Commission Zonal Officers, Accra- HM, Y4Q1	11/28/17	11/30/17	4,334	4,334	11	6	17	255
Leadership and Conflict management training in the Volta region- SNV Y4Q1	11/27/17	11/28/17	662	662	6	40	46	14
Exchange visit by Deputy Director of Ghana Fisheries Commission to learn about elements of a decentralized fisheries data collection program	10/17/17	10/22/17	12,000	12,000	1	1	2	6,000
UCC PHD students to URI	10/1/17	12/22/17	54,400	54,400	1	3	4	13,600
VSLA Refresher Training Workshop, Ellembelle- HM Y4 Q2	2/5/18	2/6/18	1623	1623	9	12	21	77
Gender Advocacy and Leadership Training, Takoradi -HM Y4 Q2	1/16/18	1/17/18	4469	4469	1	53	54	83
Training on Hygienic Handling of fish class 1 certification guidelines, Keta- SNV Y4Q2	2/6/18	2/16/18	3227	3227	4	161	165	20

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
Training for MOFAD/FC Directors on CLaT Strategy document and Gender Mainstreaming, Dodowa- SNV Y4Q2	3/14/18	3/15/18	16245	16245	14	9	23	706
Capacity building workshop for IP M&E and program officers, Takoradi - Y4Q2	1/18/18	1/19/18	8786	8786	12	3	15	586
Training of 13 processors on the use and maintenance of new processing shed, Elmina- CEWEFIA Y4 Q2	3/21/18	3/21/18	246	246	0	14	14	18
Learning Tour to Kpando Torkor, Kpando- SNV Y4 Q2	2/21/18	2/23/18	1797	1797	13	3	16	112
Supporting NAFPTA to develop SOPs, Dodowa - SNV Y4Q2	2/21/18	2/23/18	3889	3889	3	25	28	139
F2F Regional Training between GNCFC and NAFPTA, Ketu- CRC Y4Q2	1/23/18	1/24/18	6806	6806	234	104	338	20
F2F Regional training between GNCFC and NAFPTA, Prampram/Nungua/Jamestown -CRC Y4Q2	3/13/18	3/27/18	5415	5415	197	81	278	19
Two day Training in Advocacy Skills for CCPCs and Anti-CLaT advocates, Bakana- CEWEFIA, Y4Q2	1/30/18	1/31/18	4219	4219	53	30	83	51
Media Outreach, Takoradi -CRC Y4Q2	3/26/18	3/28/18	5090	5090	16	8	24	212
VSLA Financial Literacy training, Ahanta West- HM Y4 Q2	2/12/18	2/14/18	2784	2784	3	5	8	348
Identify and train church representatives as ambassadors of CLaT in the churches, Bakano- CEWEFIA Y4Q2	2/8/18	2/9/18	3324	3324	36	15	51	65
Capacity Building Workshop For IP Finance Officers, Takoradi- Y4Q2	1/18/18	1/19/18	5728	5728	2	6	8	716
Train and Orient fisher groups associations on CLaT Batch 1, Winneba- DAA Y4Q2	2/20/18	2/20/18	135	135	1	37	38	4
Oyster Culture Establishment Training, Tsokomey - DAA Y4Q2	3/22/18	3/27/18	869	869	3	22	25	35

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
F2F Regional Training between GNCFC and NAFPTA, Ada- CRC Y4Q2	2/27/18	2/27/18	1669	1669	66	0	66	25
Marine Police Competence-Base Field Exercise, Takoradi-FON Y4Q2	11/13/17	11/17/17	1455	1455	29	3	32	42
Mangrove nursery establishment in Tsokomey, Tsokomey-DAA Y4Q2	2/15/18	2/16/18	2623	2623	3	115	118	22
Training of trainers for leaders of fisheries association, Takoradi- HM Y4Q2	2/20/18	2/20/18	860	860	1	26	27	32
Gambia study tour by some members of Densu Oysters Pickers Association –DAAY4Q2	3/21/18	3/25/18	\$2,997	\$2,997	0	3	3	999
F2F Regional Training between GNCFC and NAFPTA, Apam, Elmina, Saltpond- CRC Y4Q3	4/10/18	4/12/18	9406	9406	247	111	358	26
Training of certification auditors, Tamale, Elmina- SNV Y4Q3	4/11/18	4/17/18	4116	4116	44	30	74	56
Training on the use and maintenance of Improved Smoking oven, Central and Western region - CEWEFIA Y4Q3	4/11/18	4/18/18	4504	4504	16	339	355	13
Refresher Training for CCPCs and anti-CLaT advocates, Cape Coast - CEWEFIA Y4Q3	4/12/18	4/12/18	1598	1598	46	20	66	24
Introduction to Co-management, Ankobra, Ellembelle - HM Y4Q3	4/13/18	4/13/18	612	612	10	0	10	61
Refresher training for community anti-CLaT advocates, Apam, Gomoa West, Central - DAA Y4Q3	4/18/18	4/18/18	21	21	18	17	35	1
Training on CLaT issues, SOPs and referral mechanisms, Cape Coast - SNV Y4Q3	4/19/18	4/20/18	3550	3550	11	14	25	142
F2F regional training between GNCFC and NAFPTA, Axim, Dixcove, Takoradi, Jomoro - CRC Y4Q3	4/24/18	4/27/18	10465	10465	294	119	413	25

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
GITA stakeholder workshop to review draft instructions for Fisheries & Aquaculture bill, Tema - SNV Y4Q3	4/25/18	4/26/18	1262	1262	27	5	32	39
Business management workshop for MSMEs, Central and Western regions - CEWEFIA Y4Q3	4/30/18	5/4/18	10588	10588	19	143	162	65
Training on fish value addition, Elmina, Axim - CEWEFIA Y4Q3	5/2/18	5/11/18	3104	3104	3	48	51	61
Oyster and Fisher value addition training, Tsokomey - DAA Y4Q3	5/4/18	5/4/18	21	21	3	26	29	1
Group strengthening for selected groups in Volta and Greater Accra - SNV Y4Q3	5/7/18	5/21/18	6049	6049	14	197	211	29
Training on the Torkor model, Cape Coast - CEWEFIA Y4Q3	5/15/18	5/16/18	3217	3217	39	46	85	38
Training of community information officers, Ataabadze, Moree - CEWEFIA Y4Q3	5/17/18	5/18/18	1398	1398	13	2	15	93
GIS Literacy Training for IPS, Mankessim - HM Y4Q3	5/21/18	5/22/18	498	498	6	2	8	62
2nd M&E officer capacity building training workshop, Mankessim - CRC Y4Q3	5/23/18	5/24/18	3611	3611	5	1	6	602
VSLA ToT for CEWEFIA staff, Takoradi - CEWEFIA Y4Q3	5/30/18	6/1/18	2348	2348	2	6	8	294
Training for field enumerators to conduct house hold monitoring on CLaT, Elmina - CEWEFIA, Y4Q3	6/4/18	6/4/18	280	280	4	2	6	47
Training of artisans on the construction of Ahotor ovens, Biriwa and Keta - Resonance, Y4Q3	6/12/18	6/21/18	3733	3733	37	0	37	101
Training on Fire safety, first aid, and fire safety equipment, Kokrobite - DAA Y4Q4	8/20/18	8/20/18	240	240	6	4	10	24
Hygienic Fish Handling, BDST and fire safety training Batch 1, Kokrobite- DAA Y4Q2	7/10/18	7/25/18	7233	7233	2	37	39	185.46

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
Refresher Training for CCPCs and Anti-CLaT advocates, Elmina, Moree - CEWEFIA Y4Q4	8/17/18	8/17/18	1759	1759	36	20	56	31.41
Journalist Orientation workshop on Child Labour Policy in Fisheries, Cape Coast- FoN Y4Q4	8/30/18	8/30/18	2436	2436	19	3	22	110.73
Capacity building on Fisheries Child Labour policy for District child protection committee, Capecoast -Y4Q4 FoN	8/29/18	8/30/18	11902	11902	59	15	74	160.84
CEWEFIA staff capacity building workshop on proposal development and advanced excel, Anomabo - CEWEFIA Y4Q4	8/13/18	8/15/18	2458	2458	3	8	11	223.45
How Ankobra community based fisheries management associations can achieve membership growth and improve member engagement, Ellembelle- HM Y4Q4	7/18/18	7/18/18	249	249	4	5	9	27.67
Regional workshop to disseminate sardinella stock DNA results, Accra- CRC, Y4Q4	7/5/18	7/6/18	16120	16120	17	5	22	73.27
Joint fisheries leadership course CBFM committee members, Takoradi- CRC Y4Q4	4/18/18	4/20/18	1313	1313	19	23	42	31.26
Pilot center for Technical vocational education training, East Legon- DAA Y4Q4	9/3/18	9/7/18	1760	1760	7	6	13	135.38
3rd Country trainings								
Study Tour to Benin by Ghana Densu Estuary Oyster Communities and DAA	5/6/18	5/10/18	11115	11115	4	8	12	926.25
US Based short term training								
Stock Assessment	4/1/18	6/30/18	27,778	27,778	2	0	2	13,889
Integrated Coastal Zone Mgt	1/15/18	5/27/18	11,600	11,600	0	1	1	11,600
US based Long term Degree training								

Program Name	Start Date	End Date	USAID Budget (USD)	USAID Actual (USD)	Total Male Participants	Total Female Participants	Total Participants	USAID Budget Per Participants (USD)
Graduate degree training in fisheries	Sep-16	Various May/June Dec 2018, Aug 2019	65,000	65,000	1	4	5	13,000
Total			392,345	392,345	1,833	2,072	3,905	66,666

ANNEX 3. TABLE OF FISHERIES STORIES REPORTED IN THE LOCAL MEDIA

See separate document that contains Annex 3: FISHERIES STORIES IN THE MEDIA and Annex 4 “LIST OF PUBLICATIONS PREPARED TO DATE (through Sept. 30, 2018) BY SFMP”

ANNEX 4. LIST OF PUBLICATIONS PREPARED IN YEAR4 BY SFMP

See separate document that contains Annex 3: FISHERIES STORIES IN THE MEDIA and Annex 4 “LIST OF PUBLICATIONS PREPARED TO DATE (through Sept. 30, 2018) BY SFMP”