



**USAID | GHANA**  
FROM THE AMERICAN PEOPLE

# SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

## Environmental Mitigation and Monitoring Annual Report



October 1, 2015 – September 30, 2016

THE  
UNIVERSITY  
OF RHODE ISLAND  
GRADUATE SCHOOL  
OF OCEANOGRAPHY



# Hen Mpoano

This publication is available electronically on the Coastal Resources Center's website at [http://www.crc.uri.edu/projects\\_page/ghanasfmp/](http://www.crc.uri.edu/projects_page/ghanasfmp/)

**For more information** on the Ghana Sustainable Fisheries Management Project, contact:

USAID/Ghana Sustainable Fisheries Management Project  
Coastal Resources Center  
Graduate School of Oceanography  
University of Rhode Island  
220 South Ferry Rd.  
Narragansett, RI 02882 USA  
Tel: 401-874-6224 Fax: 401-874-6920 Email: [info@crc.uri.edu](mailto:info@crc.uri.edu)

**Citation:** Owusu, A. A. (2016). Environmental Mitigation and Monitoring Quarterly Progress Report, October 1, 2015-September 30, 2016. The USAID/Ghana Sustainable Fisheries Management Project (SFMP). Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. Narragansett, RI, and Hen Mpoano. GH2014\_PGM186\_HM 30 pp.

**Authority/Disclaimer:**

Prepared for USAID/Ghana under Cooperative Agreement (AID-641-A-15-00001) awarded on October 22, 2014 to the University of Rhode Island and entitled; the USAID/Ghana Sustainable Fisheries Management Project (SFMP).

This document is made possible by the support of the American People through the United States Agency for International Development (USAID). The views expressed and opinions contained in this report are those of the SFMP team and are not intended as statements of policy of either USAID or the cooperating organizations. As such, the contents of this report are the sole responsibility of the SFMP Project team and do not necessarily reflect the views of USAID or the United States Government.

**Cover photo:** Clearing of site for mangrove nursery establishment (Credit: HEN MPOANO)

## Detailed Partner Contact Information:

**USAID/Ghana Sustainable Fisheries Management Project (SFMP)**  
**10 Obodai St., Mempeasem, East Legon, Accra, Ghana**

**Telephone: +233 0302 542497 Fax: +233 0302 542498**

Brian Crawford	Chief of Party <a href="mailto:brian@crc.uri.edu">brian@crc.uri.edu</a>
Najih Lazar	Senior Fisheries Advisor <a href="mailto:nlazar@crc.uri.edu">nlazar@crc.uri.edu</a>
Patricia Mensah	Communications Officer <a href="mailto:patricia.sfmp@crcuri.org">patricia.sfmp@crcuri.org</a>
Bakari Nyari	Monitoring and Evaluation Specialist <a href="mailto:hardinyari.sfmp@crcuri.org">hardinyari.sfmp@crcuri.org</a>
Don Robadue, Jr.	Project Manager, CRC <a href="mailto:don@crc.uri.edu">don@crc.uri.edu</a>
Justice Odoi	USAID Administrative Officer Representative <a href="mailto:Jodoi@usaid.gov">Jodoi@usaid.gov</a>

Kofi.Agbogah  
[kagbogah@henmpoano.org](mailto:kagbogah@henmpoano.org)  
Stephen Kankam  
[skankam@henmpoano.org](mailto:skankam@henmpoano.org)  
Hen Mpoano  
38 J. Cross Cole St. Windy Ridge  
Takoradi, Ghana  
233 312 020 701

Andre de Jager  
[adejager@snvworld.org](mailto:adejager@snvworld.org)  
SNV Netherlands Development Organisation  
#161, 10 Maseru Road,  
E. Legon, Accra, Ghana  
233 30 701 2440

Donkris Mevuta  
Kyei Yamoah  
[info@fonghana.org](mailto:info@fonghana.org)  
Friends of the Nation  
Parks and Gardens  
Adiembra-Sekondi, Ghana  
233 312 046 180

Peter Owusu Donkor  
Spatial Solutions  
[powusu-donkor@spatialdimension.net](mailto:powusu-donkor@spatialdimension.net)  
#3 Third Nautical Close,  
Nungua, Accra, Ghana  
233 020 463 4488

Thomas Buck  
[tom@ssg-advisors.com](mailto:tom@ssg-advisors.com)  
SSG Advisors  
182 Main Street  
Burlington, VT 05401  
(802) 735-1162

Victoria C. Koomson  
[cewefia@gmail.com](mailto:cewefia@gmail.com)  
CEWEFIA  
B342 Bronyibima Estate  
Elmina, Ghana  
233 024 427 8377

Lydia Sasu  
[daawomen@daawomen.org](mailto:daawomen@daawomen.org)  
DAA  
Darkuman Junction, Kaneshie Odokor  
Highway  
Accra, Ghana  
233 302 315894

Gifty Asmah  
[giftyasmah@Daasgift.org](mailto:giftyasmah@Daasgift.org)  
Daasgift Quality Foundation  
Headmaster residence, Sekondi College  
Sekondi, Western Region, Ghana  
233 243 326 178

### For additional information on partner activities:

CRC/URI:	<a href="http://www.crc.uri.edu">http://www.crc.uri.edu</a>
CEWEFIA:	<a href="http://cewefia.weebly.com/">http://cewefia.weebly.com/</a>
DAA:	<a href="http://womenthrive.org/development-action-association-daa">http://womenthrive.org/development-action-association-daa</a>
Daasgift:	<a href="https://www.facebook.com/pages/Daasgift-Quality-Foundation-FNGO/135372649846101">https://www.facebook.com/pages/Daasgift-Quality-Foundation-FNGO/135372649846101</a>
Friends of the Nation:	<a href="http://www.fonghana.org">http://www.fonghana.org</a>
Hen Mpoano:	<a href="http://www.henmpoano.org">http://www.henmpoano.org</a>
SNV:	<a href="http://www.snvworld.org/en/countries/ghana">http://www.snvworld.org/en/countries/ghana</a>
SSG Advisors:	<a href="http://ssg-advisors.com/">http://ssg-advisors.com/</a>
Spatial Solutions:	<a href="http://www.spatialsolutions.co/id1.html">http://www.spatialsolutions.co/id1.html</a>

## ACRONYMS

BEO	Bureau Environmental Officer
CEWEFIA	Central and Western Region Fishmongers Improvement Association
CFR	Code of Federal Regulations
DAA	Development Action Association
EMMP	Environmental Monitoring and Mitigation Plan
EPA	Environmental Protection Agency
FY	Fiscal Year
GIS	Geographic Information System
HM	Hen Mpoano
IEE	Initial Environmental Evaluation
IPs	Implementing Partners
M&E	Monitoring and Evaluation
MEO	Mission Environmental Officer
PAH	Polycyclic Aromatic Hydrocarbons
REA	Regional Environmental Advisor
SFMP	Sustainable Fisheries Management Program
SNV	Netherlands Development Organization
TCPD	Town and Country Planning Department
USAID	United States Agency for International Development
WR	Western Region

## LIST OF FIGURES

Figure 1 Ahotor demonstration stove in Elmina.....	22
Figure 2 Site for the DAA raised platforms/drying sheds at Apam.....	22
Figure 3 Site for the DAA raised platforms/drying sheds at Apam.....	23
Figure 4 Inspection of one of Daasgift’s identified sites(processing shed) being developed into a model kitchen at Axim.....	23
Figure 5 Inspection of one of Daasgift’s identified sites(processing shed) being developed into a model kitchen at Axim.....	24
Figure 6 Main site for the construction of the DAA Fisheries training center at Kokrobite in Accra.....	24
Figure 7 Refurbished Interim DFTC (DAA Fisheries Training Center) .....	25
Figure 8 Refurbished Interim DFTC (DAA Fisheries Training Center) .....	25
Figure 9 Mangrove nursery establishment and reforestation site at Ankobra .....	26
Figure 10 Mangrove nursery establishment and reforestation site at Ankobra .....	26

# ENVIRONMENTAL MITIGATION AND MONITORING REPORT

## Overview

During the FY 2016 of the Sustainable Fisheries Management Project, All USAID Environmental requirements and procedures were followed.

**Socialization of EMMP procedures:** In the first quarter, Implementing partner executive directors were re-briefed on USAID environmental policies and procedures stipulated in the SFMP EMMP. The environmental requirements that relate to activities with negative determination with conditions (especially for construction activities) were socialized with all the IPs.

**Regular Monitoring:** Environmental mitigation and monitoring forms were prepared for all partners detailing out potential adverse impacts and mitigation actions required for monitoring all activities with negative determination with conditions.

**Inspection of Construction sites:** Follow up monitoring visits were undertaken to sites where improved fish smoking ovens were constructed. The site for the proposed DAA Fisheries center at Kokrobite in Accra was inspected and an environmental review report was prepared for the USAID's approval. Visits were also made to the TCPD environmental data and GIS hub and the boat construction site in Elmina and monitoring protocols for the refurbishment and boat construction were developed. As part of the SFMP promotion of healthy and hygienic fish handling interventions, some women processors benefited from the construction of raised platforms for drying their salted and fermented fish in Apam in the Gomoa West District Assembly. The site identified for the construction of these raised platforms in Apam was inspected. The environment within which the fish processors were drying their fish was very appalling. The fish were being dried practically on the floor together with trash hence the construction of the raised platforms was timely.

**Challenges:** The construction of the DAA training center has been delayed due to the District Assembly building permit and the EPA permit.

The target for the improved smokers proposed to be constructed for year two was not reached due to the observed high PAH (Polycyclic Aromatic Hydrocarbons) of the Morrison stoves. Though the Chokor smokers were more efficient in the PAH levels, the Morrison stoves are noted for its fuel efficiency. An improvement on the Morrison design has however been developed called the Ahotor (comfort) stoves and demonstration within project communities are ongoing.

Most activities that partners were implementing had no negative determination with conditions. Activities conducted in the FY 2016 that had conditions and required monitoring and /or mitigation plans are included in the table below.

# ENVIRONMENTAL MONITORING AND MITIGATION PLAN AND MONITORING LOG

## Activity 2.6 Environmental Planning Data Hubs and Capacity Building Center for the Western and Central Regions

Mitigation Measure	Responsible Party	Monitoring Scheme			Estimated cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 2.6 Environmental Planning Data Hubs and Capacity Building Center for the Western and Central Regions</b>								
<i>Refurbishment of Central Region TCPD Office</i>								
<p><b>Section 3.5 Infrastructure/6.1 Construction /Rehabilitation of existing facilities with no complicating factors, with total surface area disturbed 1000 m2 OR LESS</b></p> <ol style="list-style-type: none"> <li>During refurbishment, IPs must ensure that contractors: <ul style="list-style-type: none"> <li>Prevent dumping of hazardous materials. Burn waste materials that are not reusable/readily recyclable, do not contain heavy metals and are flammable</li> </ul> </li> <li>No lead based paint shall be used, when lead free paint is used, it will be stored properly so as to avoid accidental spills or consumption by children; empty cans will be disposed of in an environmentally safe manner away from areas where contamination of water sources might occur; and the empty cans will be broken or punctured so that they cannot be reused as drinking or food containers.</li> <li>Waste handling equipment and infrastructure. USAID intervention must result in the facilities' possessing adequate provision for handling the wastes they may generate; including human wastes.</li> <li>If the presence of asbestos is suspected in a facility to be renovated, the facility must be tested for asbestos before rehabilitation works begin. Should asbestos be present,</li> </ol>	HM	<p>Contractor follow the points outlined in the mitigation measures</p> <p>Field reports of physical inspection during and after rehabilitation by the Environmental Compliance Officer</p>	Field Reports during refurbishment	During refurbishment activity	NA	<b>April - May, 2016</b>	<p>The contractor was taken through the potential adverse impact the refurbishment activity could have on the environment and the mitigation measures outlined to ensure no or minimal impact.</p> <p>Followup during refurbishment period was done.</p>	Activity completed successfully

Mitigation Measure	Responsible Party	Monitoring Scheme			Estimated cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<p>then the work must be carried out in conformity with the requirements of Ghana, and in conformity with guidance to be provided by the MEO, in consultation with the REA and BEO. All results of the testing for asbestos shall be communicated to the C/AOR.</p> <p>5. In terms of safety and health risks;</p> <ul style="list-style-type: none"> <li>• The contractor that will be responsible for the rehabilitation works will be required to have a Health &amp; Safety Plan.</li> <li>• The contractor will train the construction staff on the Health &amp; Safety Plan.</li> <li>• The contractor will be required to provide training on proper use of equipment.</li> <li>• The contractor will provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>• The contractor will provide firefighting equipment/measures.</li> <li>• The contractor will ensure proper storage of building materials.</li> <li>• The contractor provides medical services (access to a first aid kit). Prevent access to site at all times by unauthorized persons</li> </ul>								

#### 4.3.4 Early actions for community resilience - Pilot Mangrove Forest Restoration effort

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 4.3 Integrated Community Fisheries Management and Resilience Plans for the Ankobra River Estuarine and Mangrove Ecosystem</b>								
<i>4.3.4 Early actions for community resilience - Pilot Mangrove Forest Restoration effort</i>								
<b>Section 3.3 Fisheries Extension and Coastal Forests:</b> <ul style="list-style-type: none"> <li>Identify appropriate reforestation techniques</li> <li>MUST be monitored to assure that promoted techniques are appropriate to the specific local context.</li> <li>Evaluation must be conducted with full attention to potential adverse impacts,</li> <li>Promoted species must be endorsed for use by the relevant governmental authority;</li> <li>Promoted/utilized biologic agents for soil fertility enhancement (if any) must be approved by the cognizant GoG entity and must be used/promoted in conformity with the directives and restrictions attached to such approval.</li> <li>Use pesticides only in conformity with the provisions of a duly approved PERSUAP specifically designated as covering the activity in question. In the absence of such a PERSUAP, pesticide use is NOT permitted..</li> </ul>	HM	Review and screening of all documents, advocacy materials, and training curricula to ensure they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	During mangrove establishment period	NA	April 2016 to date	During nursing of the mangrove seedlings, it was ensured that no chemicals (fertilizers & pesticides) were used. The species nursed were the dominant mangrove species of the area and the preferred species by the community (Rhizophora and Avicenia Sp)	The nursery establishment is ongoing and will ensure that all the points listed out in the mitigation measures are followed



<ul style="list-style-type: none"> <li>Seed distribution (if any) and input provision must be consistent with the above requirements. Treated seed must be dyed and seed distribution must be accompanied by education regarding appropriate handling and non-edibility.</li> <li>Demonstration and extension activities may not use/promote genetically modified cultivars. Such support can only be undertaken in conformity with USAID's biosafety procedures and requires an associated amendment to this IEE.</li> <li>Integrate significant stakeholder consultation, including customary users of resources</li> </ul>								
---	--	--	--	--	--	--	--	--

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<i>Boat Construction for Ankobra riverine communities</i>								
<b>Section 3.5 Infrastructure/6.1 Construction /Rehabilitation of existing facilities with no complicating factors, with total surface area disturbed 1000 m2 OR LESS</b> <ul style="list-style-type: none"> <li>During construction, IPs must ensure that contractors:</li> <li>Desist from extracting construction materials from waterways or ecologically sensitive areas</li> <li>Identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources</li> </ul>	HM	Approval memo by USAID to proceed with construction.  Contractors should follow the points outlined in the mitigation measures  Field reports of physical inspection during and after construction by the Env. Comp. Officer	Field Reports during and immediately following construction	During the construction period	NA	<b>March, 2016</b>  <b>May, 2016</b>	Approval memo was received from USAID prior to the construction activity.  The contractor was taken through the potential effect the construction activity could have on the environment and the mitigation measures outlined to ensure no or minimal impact.  Followup during construction period	Activity completed successfully

<ul style="list-style-type: none"><li>• Prevent dumping of hazardous materials. Burn waste materials that are not reusable/readily recyclable, do not contain heavy metals and are flammable</li><li>• No lead-based paint shall be used, when lead-free paint is used, it will be stored properly so as to avoid accidental spills or consumption by children; empty cans will be disposed of in an environmentally safe manner away from areas where contamination of water sources might occur; and the empty cans will be broken or punctured so that they cannot be reused as drinking or food containers.</li></ul>								
---	--	--	--	--	--	--	--	--

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<ul style="list-style-type: none"> <li>The contractor that will be responsible for the construction work will be required to have a Health &amp; Safety Plan.</li> <li>The contractor will train the construction staff on the Health &amp; Safety Plan.</li> <li>The contractor will be required to provide training on proper use of equipment.</li> <li>The contractor will provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>In terms of safety and health risks;</li> <li>The contractor will provide firefighting equipment/measures.</li> <li>The contractor will ensure proper storage of building materials.</li> <li>The contractor provides medical services (access to a first aid kit).</li> <li>Proper protective gear must be worn including masks to avoid inhalation of fiberglass dust, and to protect workers from resins.</li> </ul> <p>Prevent access to site at all times by unauthorized persons</p>								

### Activity 4.3 Integrated Management and Resilience Plans for the Ankobra Ecosystem

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 4.3 Integrated Management and Resilience Plans for the Ankobra Ecosystem</b>								
<p><b>3b-Fisheries:</b></p> <p>During training activities (Training on ecosystem based sustainable mangrove forest management, Training on mangrove fuel wood value chain and value chain optimization, Training on establishing mangrove plantations using the SNV mangrove plantation establishment manual), there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land mgt. plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	SNV	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	<p><b>12/1/16</b></p> <p>72 people were trained in fuel wood value chain study developed in year 1.</p> <p>The training manual was reviewed for environmental and health and safety compliance, thus participants received additional training on compliance.</p>		
						<p><b>7/3/16</b></p> <p>48 people trained in mangrove plantation establishment and management</p> <p>The training manual was reviewed for environmental and health and safety compliance, thus participants received additional training on compliance.</p>		

**Activity 4.5.1 Post Harvesting Processing Knowledge Development, Dissemination and Consensus Building:**

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 4.5.1 Post Harvesting Processing Knowledge Development, Dissemination and Consensus Building:</b>								
<b>4.5.1.3 Support to improved fish smoking stove builders</b>								
<p><b>IEE Section 3.3 Fisheries Extension/3a. Inst. strengthening, training/TA / 3b-Fisheries:</b></p> <p>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	SNV	Review and screening of all documents, advocacy materials, and training curricula to ensure they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	<b>17/08/16</b>	Environmental compliance and safety training for stove companies.  They were also trained to develop safety policies for their companies	Year 3 coaching during stove construction.

#### 4.5.1.4 Hygienic fish handling and production

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>4.5.1.4 Hygienic fish handling and production</b>								
<p><b>IEE Section 3.3 Fisheries Extension/3a. Institutional strength., training/TA / 3b-Fisheries:</b></p> <p>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	SNV	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA		No activities that required monitoring was carried out during the year. This is because SNV didn't directly conduct any training under the hygienic fish handling activity. They were only involved in two research work which did not require monitoring.	

#### 4.5.4.6 DAA Fisheries Training Center

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log			
		Indicators	Data source/method	How often		Date	Result	Follow-up	
<b>4.5.4 DAA-led Fisheries value chain improvements and livelihoods in Apam and Winneba, Central Region assisted by SNV</b>									
<b>4.5.4.6 DAA Fisheries Training Center</b>									
<p><b>IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA</b></p> <p><b>/ 3b-Fisheries:</b></p> <p>During training of recruited staffs, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	SNV	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	<b>21/04/16</b>	<p>Training for 2 new DAA staff. M&amp;E component of the training and review of training manuals included issues on general awareness of the environment, compliance protocols and safety concerns that should be considered when training beneficiaries.</p> <p>There is a whole chapter in the training manual on health and safety.</p>	<b>21/06/16</b>	Observed first training session on hygienic fish handling and fisheries policies.

### Activity 4.8.(b) Construction and renovation of drying sheds and smokers

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 4.8.(b) Construction and renovation of drying sheds and smokers</b>								
<p><b>IEE Section 3.5</b> Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2.</p> <ol style="list-style-type: none"> <li>1. Site Selection <ul style="list-style-type: none"> <li>• Average slope of less than 5% and is not heavily forested, in an otherwise undisturbed local ecosystem, or in a protected area.</li> <li>• The site is not within 30m of a permanent or seasonal stream or water body</li> </ul> </li> <li>2. Construction <ul style="list-style-type: none"> <li>• IPs must desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas</li> <li>• IPs must identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources.</li> <li>• Construction must be managed so that no standing water on the site more than 4 days;</li> </ul> </li> </ol>	SNV	Field reports during and after construction by the Environmental Compliance Officer.	Regular field visits during construction period	During construction activities	NA	01/12/15	<p>Most of the stoves were constructed within the 5% slope range and none of the additional stoves constructed is within 30m of any water body.</p> <p>The artisans are currently extracting clay from a less ecologically sensitive area and in a sustainable manner.</p> <p>Wood for making trays is sourced from registered wood shops.</p> <p>There was no standing water recorded during our monitoring session.</p> <p>The next training of stove users is planned for 11<sup>th</sup> December, 2015.</p> <p>This will be integrated into the next contract agreement with the stove building companies.</p>	<p>Monitoring for the construction of 50 additional stoves in October.</p> <p>Companies will be assisted to develop the health and safety plan and practice the standards, such as supplying safety gears and first aid kits for artisans.</p>



Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<p>3. Refurbishments of drying shed and the training on use and maintenance of the smoking ovens</p> <ul style="list-style-type: none"> <li>• IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> <li>- Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> </ul> <p>4. Safety and health</p> <ul style="list-style-type: none"> <li>• The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health and Safety Plan.</li> <li>- Be required to train the construction staff on the Health and Safety Plan.</li> <li>- Provide training on proper use of equipment.</li> <li>- Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>- Provide firefighting equipment/measures.</li> <li>- Provide medical services (access to a first aid kit).</li> </ul> </li> </ul>					<p>29/02/16 to 04/03/16</p> <p>Stove monitoring at Apam, Winneba, Gomoa Feteh and Senya Bereku.</p> <p>Selected sites are compliant,</p> <p>A good distance away from water bodies and on flat level land areas.</p> <p>Materials are identified and acquired from environmentally conducive sources.</p> <p>Workers adhere to health and safety guides, concerning their working gears.</p>			

## Refurbishment of an interim center for the DAA Fisheries Training Center

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<i>Refurbishment of an interim center for the DAA Fisheries Training Center.</i>								
<p><b>IEE Section 3.5</b> Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2.</p> <p>5. Site Selection</p> <ul style="list-style-type: none"> <li>• Average slope of less than 5% and is not heavily forested, in an otherwise undisturbed local ecosystem, or in a protected area.</li> <li>• The site is not within 30m of a permanent or seasonal stream or water body</li> </ul> <p>6. Construction</p> <ul style="list-style-type: none"> <li>• IPs must desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas</li> <li>• IPs must identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources.</li> <li>• Construction must be managed so that no standing water on the site more than 4 days;</li> </ul> <p>7. Refurbishments of drying shed and the training on use and maintenance of the smoking ovens</p> <ul style="list-style-type: none"> <li>• IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> </ul> <p>- .</p>	SNV	Field reports during and after construction by the Environmental Compliance Officer.	Regular field visits during construction period	During construction activities	NA	22/3/16	<p>A contract has been signed with a contractor to refurbish an identified interim training center for DAA.</p> <p>The site has been handed over to the contractor.</p> <p>During the handing over session, the contractor was trained on the proposed mitigation plan for carrying out the refurbishment activity. He is expected to submit a Health and Safety Plan by Tuesday 29/03/16.</p>	<p><b>07/04/2016</b></p> <p>Refreshed construction team on the need to adhere to the compliance protocols and encouraged daily safety drills</p>
						24/03/2016	<p>Discussed and informed contractor on compliance mitigation measures he needed to adhere to.</p> <p>Topography of area is almost level and sandy.</p>	<p>21/04/2016</p> <p>20/05/2016</p> <p>03/06/2016</p> <p>20/06/2016</p>

<p>8. Safety and health</p> <ul style="list-style-type: none"> <li>• The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health and Safety Plan.</li> </ul> </li> <li>• Be required to train the construction staff on the Health and Safety Plan. IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> </ul> <p>9. Safety and health</p> <ul style="list-style-type: none"> <li>• The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health and Safety Plan.</li> <li>- Be required to train the construction staff on the Health and Safety Plan.</li> </ul> </li> </ul>							<p>The site is more than a kilometer away from the sea.</p>	
<ul style="list-style-type: none"> <li>• Provide training on proper use of equipment.</li> <li>• Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>• Provide firefighting equipment/measures.</li> <li>• Provide medical services (access to a first aid kit).</li> </ul>						<p><b>31/03/16</b></p>	<p>No standing water observed  No wastes observed  Workers were wearing gloves and in boots  No nose cuffs were being used  No fire fighting equipment observed  First aid kit observed on site  Tools and materials were well arranged and organised</p>	

**Activity 4.5.3 CEWEFIA-led Fisheries value chain improvements and livelihoods Pra River estuary (Anlo) and Elmina and Moree, Central Region**

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Activity 4.5.3 CEWEFIA-led Fisheries Value Chain Improvements and Livelihoods</b>								
Activity 4.5.3 CEWEFIA-led Fisheries value chain improvements and livelihoods Pra River estuary (Anlo) and Elmina and Moree, Central Region								
<p><b>IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA / 3b-Fisheries:</b></p> <p>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)</a>.</p>	CEWEFIA	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	Moree 24th - 29th August 2015  Elmina 17th-22nd August 2015  Anlo 10-15th August 2015	All training documents and training curricula reviewed. The documents are environmentally sound and follow the points outlined in the mitigation measures.	Follow-up visits will be carried out to the MSMEs to monitor their progress of work.
<b>4.5.3.3 Financial resources for stove installation</b>								
<p><b>IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA / 3b-Fisheries:</b></p> <p>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and</p>	CEWEFIA	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation	Review of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	Moree 21/3/16 Anlo 18/3/16 Elmina 30/3/16	The hygienic fish handling training manual promotes the general awareness of the environment, health and safety risks.  All training documents	The environmental compliance Officer sees to it that the concept was well handled to the fish processors.  And will follow-up

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/ method	How often		Date	Result	Follow-up
<p>appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>		measures				<p>Elmina, Moree, Anlo MSME Training 16th - 20th May 2016</p> <p>Woodlot plantation at Anlo 23rd June 2016.</p>	and training curricula reviewed. The documents are environmentally sound and follow the points outlined in the mitigation measures.	with a field visit to see to it that they are putting it into practice
<b>4.5.3.4 Hygienic fish handling</b>								
<p><b>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</b></p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	CEWEFIA	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA	<p>HFH</p> <p>28th 21st 30th March</p> <p>15th - 17th August 2016</p>	All training documents and training curricula reviewed. The documents are environmentally sound and follow the points outlined in the mitigation measures.	
<b>Activity 4.8.(b) Construction and renovation of drying sheds and smokers</b>								
<p><b>IEE Section 3.5 Infrastructure: Agric. plots and nurseries/6.1 rehab or new facilities less than 1000M2.</b></p> <p>10. Site Selection</p> <ul style="list-style-type: none"> <li>Average slope of less than 5% and is not heavily forested, in an otherwise undisturbed local ecosystem, or in a</li> </ul>	CEWEFIA	Field reports during and after construction by the Environmental Compliance Officer.	Regular field visits during construction period	During construction activities	NA	<p>Moree 8TH October 2015</p> <p>Elmina</p>	A new site selected in Moree, meet the site selection criteria and has been approved by the Environmental Compliance Officer.	Follow-up was done to get the site ready for construction

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/ method	How often		Date	Result	Follow-up
<p>protected area.</p> <ul style="list-style-type: none"> <li>The site is not within 30m of a permanent or seasonal stream or water body</li> </ul> <p>11. Construction</p> <ul style="list-style-type: none"> <li>IPs desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas</li> <li>IPs must identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources.</li> <li>Construction must be managed so that no standing water on the site more than 4 days;</li> </ul> <p>12. Refurbishments of drying shed and the training on use and maintenance of the smoking ovens</p> <ul style="list-style-type: none"> <li>IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> </ul> <p>13. Safety and health</p> <ul style="list-style-type: none"> <li>The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health &amp; Safety Plan.</li> <li>- Be required to train the construction staff on the Health and Safety Plan.</li> <li>- Provide training on proper use of equipment.</li> <li>- Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>- Provide firefighting equipment/measures.</li> <li>- Provide medical services (access to a first aid kit).</li> </ul> </li> </ul>					<p>29th-30th Sept 2015</p> <p>Moree</p> <p>13th - 14th October 2015</p> <p>10th-14th October, 2015</p>	<p>The contractor made sure that all materials used came from an approved site in the community</p> <p>All the mitigation measures were adhered to.</p> <p>All safety and health measures were taken care of.</p>	<p>Monitoring was effective.</p> <p>Construction has been completed and handed over to CEWEFIA.</p>	

### Activity 4.5.2 DAASGIFT-led Fisheries Value Chain Improvements and Livelihoods

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/ method	How often		Date	Result	Follow-up
<b>Activity 4.5.2 DAASGIFT-led Fisheries Value Chain Improvements and Livelihoods</b>								
<b><u>4.5.2.2 Improved fish smoking stove production</u></b>								
<p><b>IEE Section 3.3 Fisheries Extension/3a. Institutional strengthening, training/TA / 3b-Fisheries:</b></p> <p>During training activities, there should be integration and promotion of general awareness of the environmental, health and safety risks presented by unsustainable use of woodlots, reforestation, tree plantations, fishing and coastal economic activities, and appropriate choices and measures to manage these risks as rooted in appropriate land management plans.</p> <p><i>Fisheries chapter of USAID's Sector Environmental Guidelines</i>  <a href="http://www.usaidgems.org/sectorGuidelines.htm">((http://www.usaidgems.org/sectorGuidelines.htm)).</a></p>	Daasgift	Review and screening of all documents, advocacy materials, and training curricula to ensure that they are environmentally sound and follow the points outlined in the mitigation measures	Review and screening of materials	Quarterly  *(When trainings are provided and as to when documents, advocacy materials and training curricula are developed)	NA		All training documents and curricula reviewed. They are environmentally sound and conform to the outlined mitigation measures.  During training activities, sustainable resource management and some best environmental practices were communicated to the fisher folks.	Follow- up visits will be carried out to monitor progress of work.
<b><u>Construction and renovation of drying sheds and smokers</u></b>								
<b><u>4.5.2.3 Financial resources for stove installation</u></b>								
<p><b>IEE Section 3.5 Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2.</b></p> <p>14. Site Selection</p> <ul style="list-style-type: none"> <li>• Average slope of less than 5% and is not heavily forested, in an otherwise undisturbed local ecosystem, or in a protected area.</li> <li>• The site is not within 30m of a permanent or seasonal stream or</li> </ul>	Daasgift	<ul style="list-style-type: none"> <li>• Field reports during and after construction by the Environmental Compliance Officer.</li> </ul>	Regular field visits during construction period	During construction activities		21st October, 2015- Ankobra  29th October, 2015- Ankobra	During the construction of the improved stoves, the site was inspected by the environmental compliance officer to ensure the site was suitable for construction. All the mitigation measures listed were taken into consideration and	Construction is ongoing at Axim

Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/ method	How often		Date	Result	Follow-up
<p>water body</p> <p>15. Construction</p> <ul style="list-style-type: none"> <li>• IPs must desist from extracting fill, sand or gravel from waterways or ecologically sensitive areas</li> <li>• IPs must identify and implement any feasible measures to increase the probability that forest products like timber are procured from legal, well-managed sources.</li> <li>• Construction must be managed so that no standing water on the site persists more than 4 days;</li> </ul> <p>16. Refurbishments of drying shed and the training on use and maintenance of the smoking ovens</p> <ul style="list-style-type: none"> <li>• IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> </ul> <p>17. Safety and health</p> <ul style="list-style-type: none"> <li>• The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health and Safety Plan.</li> <li>- Be required to train the construction staff on the Health and Safety Plan.</li> <li>- Provide training on proper use of equipment.</li> <li>- Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>- Provide firefighting equipment/measures.</li> <li>- Provide medical services (access to a first aid kit).</li> </ul> </li> </ul>						<p>followed during construction activities.</p> <p>Shama 20th Sept, 2016</p> <p>Site Inspection at Shama</p>	<p>The Environmental Compliance Officer has inspected the site for the construction of the improved smokers and has given the go ahead for the construction.</p>	



Mitigation Measure	Responsible Party	Monitoring Scheme			Estim. cost	Monitoring Log		
		Indicators	Data source/method	How often		Date	Result	Follow-up
<b>Construction and renovation of drying sheds and smokers</b>								
<p><b>IEE Section 3.5</b> Infrastructure: Agricultural plots and nurseries/6.1 rehabilitation or new facilities less than 1000M2.</p> <p>18. Refurbishments of drying shed and the training on use and maintenance of the smoking ovens</p> <ul style="list-style-type: none"> <li>• IP shall create awareness among users on the environmental damage of unsustainable use of grown woodlots</li> </ul> <p>19. Safety and health</p> <ul style="list-style-type: none"> <li>• The contractor will: <ul style="list-style-type: none"> <li>- Be required to have a Health and Safety Plan.</li> <li>- Be required to train the construction staff on the Health and Safety Plan.</li> <li>- Provide training on proper use of equipment.</li> <li>- Provide personal safety equipment to all workers (i.e. hard hats, goggles, steel-toed boots, gloves, dust masks).</li> <li>- Provide firefighting equipment/measures.</li> <li>- Provide medical services (access to a first aid kit).</li> </ul> </li> </ul>	DAA	<ul style="list-style-type: none"> <li>• Field reports during and after construction by the Environmental Compliance Officer.</li> </ul>	Regular field visits during construction period	During construction activities	NA	02-02-2016	<p>During the construction of the drying sheds, the site was inspected by the environmental compliance officer to ensure the site was suitable for the refurbishment activities.</p> <p>All the mitigation measures listed were taken into consideration and followed during construction activities.</p>	<p>The Environmental Compliance Officer inspected the site for the construction and renovation of the raised platforms/drying sheds.</p> <p>During construction points outlined under mitigation measures were followed.</p>

## PICTURES FROM MONITORING ACTIVITIES



Figure 1 Ahotor demonstration stove in Elmina



Figure 2 Site for the DAA raised platforms/drying sheds at Apam



**Figure 3 Site for the DAA raised platforms/drying sheds at Apam**



**Figure 4 Inspection of one of Daasgift's identified sites (processing shed) being developed into a model kitchen at Axim**



**Figure 5 Inspection of one of Daasgift's identified sites (processing shed) being developed into a model kitchen at Axim**



**Figure 6 Main site for the construction of the DAA Fisheries training center at Kokrobite in Accra**



**Figure 7 Refurbished Interim DFTC (DAA Fisheries Training Center)**



**Figure 8 Refurbished Interim DFTC (DAA Fisheries Training Center)**



**Figure 9 Mangrove nursery establishment and reforestation site at Ankobra**



**Figure 10 Mangrove nursery establishment and reforestation site at Ankobra**