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SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Training Report on Use And
Maintenance of New Improved Oven
(Ahotor) In DQF
Communities(Shama, Asanta,
Ankobra And Axim)



THE
UNIVERSITY
OF RHODE ISLAND
GRADUATE SCHOOL
OF OCEANOGRAPHY



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Cover photo: Miss Josephine O. Addo observing Participants preparing fish for smoking. (Takyi Michael)

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ACRONYMS

CCM	Centre for Coastal Management
CEWEFIA	Central and Western Region Fishmongers Improvement Association
CRC	Coastal Resource Center
CSIR	Center for Scientific and Industrial Research
CSLP	Coastal Sustainable Landscape Project
DAA	Development Action Association
DFAS	Department of Fisheries and Aquatic Science
DMFS	Department of Marine Fisheries Sciences
DQF	Daasgift Quality Foundation
FC	Fisheries Commission
FDA	Food and Drug Authority
FtF	Feed the Future
GIFA	Ghana Inshore Fishermen's Association
GIS	Geographic Information System
GNCFC	Ghana National Canoe Fishermen's Council
HM	Hen Mpoano
ICFG	Integrated Coastal and Fisheries Governance
IUU	Illegal, Unregulated, Unreported
MESTI	Ministry of Environment Science and Technology
MOFAD	Ministry of Fisheries and Aquaculture Development
NDPC	National Development Planning Commission
NGOs	Non-Governmental Organizations
PAH	Polycyclic Aromatic Hydrocarbon
SFMP	Sustainable Fisheries Management Project
SMEs	Small and Medium Enterprises
SNV	Netherlands Development Organization
SSG	SSG Advisors
STWG	Scientific and Technical Working Group
UCC	University of Cape Coast
URI	University of Rhode Island
USAID	United States Agency for International Development
WARFP	West Africa Regional Fisheries Development Program

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EXECUTIVE SUMMARY

To increase the uptake on the use of the new improved Oven among fish processors and also raise the awareness level on the new improved oven (Ahotor Oven) in the coastal communities, CEWEFIA on Tuesday, 17th to Wednesday 18th April, 2018 organized a training for fish processors in all its target communities in the Western Region (Axim, Asanta, Shama, Ankobra) on the use and maintenance of the Ahotor oven. A total number of one hundred and sixty-two (162) participants took part in the training.

The objective of the training was to increase the women's awareness on the benefits of using the Ahotor oven and on proper maintenance after each use.

The training methodology adopted were hands-on demonstrations and experience sharing. The participants were taken through the step by step process of making the Ahotor oven ready for use, the actual smoking of fish on the oven and how to clean the oven after use. Participants then asked questions on the processes that made the Ahotor oven different from the Chorkor they are familiar with.

The women were very impressed with the performance of the oven which was comparable to the Chorkor and yet emitted less smoke and the fish came out golden brown. Some participants expressed the desire to own the Ahotor oven, but said they are currently financially constrained, while others have decided to save towards construction of one.

SECTION 1: BACKGROUND

Smoking is the predominant method of preserving fish in Ghana and these eight project communities are not an exception. The Chorkor smoker is the technology used to smoke fish in Ghana. The high levels of smoked emitted from the smoker also causes health problems such as reddening of the eye and cardiovascular problems. Research conducted by SFMP's partners SNV in 2016, showed that fish smoked on the Chorkor oven contain levels of PAH higher than recommended for human health.

To this end, SFMP and its partner SNV, in collaboration with the Ministry of Fisheries and Aquaculture Development (MOFAD) and Fisheries Commission, Food and Research Institute (FRI) of Center for Scientific and Industrial Research (CSIR) and Ghana Standard Authority (GSA) developed the Ahotor oven.

The Ahotor oven is an improved version of the Chorkor smoker, similar in shape, uses less fuel wood and emits less smoke thereby reducing air pollution. As with any new technology, the target users have very little no knowledge on its usage and maintenance.

This means that the end users; fish processors have to be engaged in trainings through demonstrations on the use of the oven so they can appreciate the benefits it presents and adopt it.

In the light of this, a one- day training was organized for Fish Processors in the four (4) Daasgift project Communities (Shama, Asanta, Ankobra, Axim) on the use of the oven and its maintenance. The Training was held on, Tuesday 17th – Wednesday, 18th April, 2018 (Wednesday, Tuesday & Wednesday) and facilitated by the CEWEFIA Project Team.

Attendance

The Training was attended by fish processors in the selected communities. In all, one hundred and sixty-two (162) members participated in the training, made up of one (1) male and one hundred and sixty-one (161) females.

The detailed attendance is in the table 1.1 below.

Table 1. Detailed Attendance of Participants

NAME OF COMMUNITY	ATTENDANCE		TOTAL
	MALES	FEMALES	
AXIM	0	36	36
ASANTA	0	34	34
ANKOBRA	0	41	41
SHAMA	1	50	51
TOTAL	1	161	162

1.1 Training Objectives

The objectives of the training are;

- To demonstrate the use of the Ahotor oven to the fish processors.
- To create awareness of the benefits of the using the Ahotor oven to increase its uptake.
- Demonstrate to participants how to maintain the oven to ensure continuous improved performance.

1.2 Expected Outcomes

Expected outcomes of the training included:

- To dissipate the misconception among some fish processors that the Ahotor oven is slow in performance compared to the Chorkor.
- The interest of processors in the oven will be renewed.
- Processors will make efforts to save towards the purchase the Ahotor oven.

1.3 Facilitation Team

The training was facilitated by CEWEFIA Program Officer.

SECTION 2: TRAINING DELIVERY

The training began with a brief overview of USAID SFMP and the purpose of the training. The facilitator gave a brief history of fish processing business and ended with the new improved oven.

The training took an average period of 7 hours in each of the communities. The participants were allowed to share and recall some of the past experiences gained so far from the previous trainings and programs with Daasgift. The experiences shared indicated that the participants appreciated the trainings they have received. Some of the lessons and experiences shared centered on these thematic areas;

- Hygienic fish handling
- Developing a culture of savings

2.1 Approach/ Training Methodology

The following approaches were used to deliver the training to reinforce understanding and adoptions.

- Discussion.
- Demonstrations.
- Questions and answers.

2.1.1 Equipment/ Materials Used for Training

The materials used for the training are;

- Ahotor oven with its components (fat collector, metal grate, smoking trays).
- Brooms and brushes.
- Fuel wood.
- Hand-washing basins and liquid soap.
- Knives and bowls.
- Aprons and hats.
- Fresh fish.

2.2 Discussions

2.2.1 History of Fish Smoking Oven

The participants were briefed on the history and the different types of fish smokers over the last over the years in Ghana. Fish was previously smoked on a metal tank, barrel or the round mud. The FAO in 1969, then introduced the chorkor oven which is now the most popular fish smoker. The high levels of smoke emitted by these fish smokers, precipitated the need for the development of the Ahotor oven by SFMP and its partners. The Ahotor oven is the same shape as the chorkor, comparable in performance, emits less smoke, uses less fuelwood and produces healthier smoked fish low in PAH.

The participants were also briefed on the purpose of the Class One certification which is aimed at promoting the production and trade of quality smoked fish in Ghana.

2.2.2 Fishing practices and fish handling

Fish handling is critical to reduce post-harvest losses and the production of healthy fish. The facilitator charged the processors to always ensure they adopt hygienic practices, such as hand washing with soap before handling fish, washing fish in good clean water before processing and packing and storing fish in a temperature controlled environment.

Fish mongers and fishermen present were urged to shun away from any fishing activities that hinder the sustainable growth of the fishing sector.

2.2.3 Financial scheme

Participants were encouraged to save towards purchased of the oven or take advantage of the financing arrangements currently being offered by SFMP.

2.2.4 Maintenance of the Ahotor Oven

Good maintenance of the oven can prolong its shelf life. Participants were encouraged to ensure that the oven is well maintained.

The oven parts such as fat collector, smoking trays should be well cleaned after each use and the ash in the lower chamber should be swept away before it is reused. Again, the surroundings of the kitchen must be kept tidy during and after processing.

SECTION 3: DEMONSTRATIONS

The facilitator demonstrated to the participants on how to use the oven. Fish was thoroughly cleaned, arranged on the tray, and placed on the Ahotor oven. Some of the participants were randomly selected to smoke the fish with the guidance from the facilitators.

While the fish was being smoked, the members were taken through a step by step guide on how to ensure the Ahotor oven works.

During the demonstration, the facilitators ensured that the fish processors observed all the hygienic practices. They were again asked to get rid of the following habits during fish processing; talking, chewing of gum, wearing of ear rings, use of bare hands to wipe their nose.



Figure 1. The facilitator (Miss Josephine, in blue shirt) observing the participants preparing fish for smoking during the training at Axim.



Figure 2. Participants happily smoking fish during the training at Ankobra

3.1 Challenges

During the training, the participants expressed some challenges they have;

- The cost of the oven was too high, hence the marginal uptake.
- The high interest rates charged by some financial institutions on loans prevents them from borrowing to finance the purchase of the oven.

3.2 Recommendation

- In Axim it was recommended that more artisans should be trained to build the oven in the various communities to help reduce construction cost.
- Brick factories should be established in all the project communities.
- Fat collectors and grate should be developed by the local artisans to make it easy for the women to buy.
- More training on the Ahotor oven needs to be done in these communities to enhance their interest.

3.3 Lessons Learnt

The knowledge gained by the fish processors has eroded the misconception they had that the Ahotor was slow and took a longer time to smoke fish compared to the chorkor.



Figure 3. Participants observing the Ahotor oven at Shama

SECTION 4: CONCLUSIONS

The training deepened the knowledge and interest of the participants on the use and maintenance of the Ahotor oven. The selected fish processors now convinced that the technology will help them to avoid smoke inhalation, use less fuel and ensure the production of healthier fish for consumption.

REFERENCES

Ahotor Oven training manual