

**ARD: Evidence in Contributing to the Achievement of the
Millennium Development Goals
Eradicating extreme hunger and poverty; promoting gender
equality and empowering women**

Poster Exhibition – Local Fish Storage

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Introduction

There are various methods of storing smoked fish, a delicacy of high demand in West Africa. In Chokomey, a small village located on the coast of the Greater Accra Region of Ghana, the women smoke fish and store locally for food security and guaranteed incomes during the off fishing season.

In West Africa, electricity is not available in most rural communities and even if available, it is unreliable. Local ovens are therefore used to smoke fresh fish till it turns golden brown. The smoked fish is then packaged in huge rattan baskets for approximately 2 months by the fireplace.

To empower women to achieve equality and in a bid to eradicate extreme poverty among women, the Development Action Association (DAA) was formed in 1997 as an outcome of the Food and Agriculture Organization's (FAO) Freedom from Hunger Campaign/Action for Development (FFHC/AD). The FAO/FFHC initiative focused on the introduction of improved fish smoking and storage technology as well as vegetable production and processing to 13 women's groups in the Greater Accra Region. DAA or Noyaa Kpee (in the Ga language) is now a federation of 32 grassroots associations with 90% of its membership being women.

The Chorkor Smoker has been the main technology tool bringing the women out of dire poverty. In collaboration with researchers, these women developed the Chorkor Fish Smoker", which is fuel efficient, easy to operate, has high quality finished product and saves time.

Eradicating extreme hunger ... ensuring food security.

The women smoke anchovies (small fish) during the fishing season (July – December) and store for sale and home consumption during the lean season (January – June). For example, Madam Cecilia Agbeshie uses wood ash from the smoking oven mixed with beach sand to form the base of the storage container and then uses Neem tree leaves to preserve the fish for a period of 6-9 months ... an impressive innovation!. Also waste fish products gathered after fish smoking is used to supplement animal feed for small ruminants.

Lessons learnt

Technology developed with input from the users promotes quick and easy adoption as well as sustainability.

Wood ash kills the organisms in the sand, beach sand maintains the temperature and Neem tree leaves preserve the fish longer.

Sustainability

Cecilia has trained four communities on the use of “chokor smoker” and wood ash/neem tree leaves for fish storage.

Using the users of the new technology to replicate and encourage use ensures quick adaptation and is cost effective.

Advantages

Chokor Smoker

- Researchers worked closely with the fish processors for the research. This was easily adopted by the end users.
- The Chokor smoker improved the production capacity of the users.
- Chokor smoker improves the quality of the fish.
- Chokor smoker is well adopted by end users especially the women.
- It has improved the livelihood of the women e.g Chokomey women were able to contribute to construct a school building. This has increased the enrolment level of the children in the community (high girl-child education).
- It has helped in the national development agenda through the provision of school by Chokomey women and also a place of convenience by Bortianor women.
- It has reduce the incidence of meddle men /women by adding value to the fresh fish.
- Chokor smoker uses local materials to build and it is easily available which is cost effective.

Storage

Storage is mostly done by the use of the Organic method using neem leaves. Neem leaves as preservative material for storage after processing. The processors teach themselves as pass on to the youth.

Challenges

- The accessory that goes with the Chokor smoker is very expensive and need to be change every year (replacement of the wire mesh). If not replaced every year, before the fishing season, then poverty set in.
- Depletion of fish
- If fish is not well processed (smoked) then spoilage set in as post harvest loses.

The future

In future, women will be looking for an improved smoker which is less expensive and easily assessable for construction.

Food chain

The chain involves a number of actors or players these are fishermen or producers, processors, maketers and the final consumer.

Process in fish food chain

The fish food chain involves a number of processors every actor in the chain has a role to play to ensure an effective food chain these are;

- *Fishermen or producers:* These are the first actors in the chain. They play a vital role in other to initiate the process towards the realization of the food chain.

- *Processors*: These are the second player in the food chain. These involve so many methods and processes. An example is the chorkor smoker, which is an improved or local innovation developed by UNDP/FAO researchers.
- *Marketing*: This is a vital stage in the food chain. This increases the profit margin of the fishers. It goes a long way to improve their livelihoods and keep them in business all year round but some of them do not realize the profit stage due to the involvement of middlemen or women at the farm gate level.
- *Consumers*: This forms the last stage of the food chain. This requires so many conditions specifically the quality or hygienic nature of the other actors. The main consumers are at the household level. The main fish process is the anchovies. This is used to prepare sauce for school children which has a high protein value and is currently helping in the ongoing national school feeding programme.

In the Ghanaian context, other actors are involved as service providers. These are the middlemen: carriers, spreaders, smokers, local packagers and transporters.

Supply Chain

The supply chain involves a number of actors and players and these involve only three. Producer, at the Ghanaian level a number of stages are combined to form a single stage hence the three stages in the supply chain. These are;

- *Producers/processors*: This stage is a combination of fishermen and processors in this case the household is responsible for this stage. Whiles the men (mostly) fish the women or wives process. Of late husbands has been involved in the fish processing to assist the family production.
- *Marketing*: In the Ghanaian context, fish is transported to the non-fish farming communities, especially the northern part of the country. A number of interventions have been put in place to secure good market prices for the produce. Fish are sold in the north and in return food stuffs (maize, yam, charcoal and beans) are bought to the coastal area to feed the community.
- *The final consumer*: This forms the last stage of the supply chain. This requires so many conditions specifically the quality or hygienic nature of the other actors. The main consumers are at the household level. The main fish process is the anchovies. This is used to prepare sauce for school children which has a high protein value and is currently helping in the ongoing national school feeding programme.

The category of final consumers sometimes also includes the hospitality industries, which purchase at low prices. Over the years, pricing for agricultural commodities has not been the best, the least talk about fish, the better.

The local fishing industry is left in the hands of the illiterates.