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SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Trainer of Trainers Workshop in Oyster Value Addition



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THE
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ACRONYMS

CRC	Coastal Resource Center
DAA	Development Action Association
DMFS	Department of Marine Fisheries Sciences
DOPA	Densu Oyster Pickers Association
FtF	Feed the Future
MOFAD	Ministry of Fisheries and Aquaculture Development
SFMP	Sustainable Fisheries Management Project
SNV	Netherlands Development Organization
UCC	University of Cape Coast
URI	University of Rhode Island
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

The United States Agency for International Development (USAID) through the Sustainable Fisheries Management Project (SFMP) in collaboration with the Fisheries Commission and other partner is working to rebuild the marine fisheries stocks by encouraging responsible fishing practices along Ghana's Coastal Communities.

As part of its goal, the SFMP is also helping to rebuild the oyster Fisheries and other resources in the Densu Delta along the Bortianor, Tsokomey and Tetegu Communities. Partners helping in rebuilding the oyster resources are the Development Action Association (DAA), the University of Cape Coast-Department of Fisheries, the Forestry Commission as well as the Fisheries Commission. The above effort birthed the Densu Oyster Pickers Association (DOPA) with a membership of one hundred and fifty (150).

In order to broaden the scope of DOPA members, the SFMP sponsored two of its members to Gambia to learn and see at first-hand how their oyster resources are managed sustainably. Four others also visited Benin to also learn how oyster resources are managed for a better livelihood.

Three TRY Oyster group members also paid a visit to DOPA in order to interact and share ideas in oyster fisheries.

The DOPA took advantage of the TRY visit and planned a one-day Hygienic oyster processing workshop in order for the TRY visitors to take their counterparts through oyster processing and preservation techniques. Oyster dishes prepared were bottling of oyster, oyster stir fry, oyster jollof, oyster okro stew and oyster sandwich.

SECTION 1: BACKGROUND

The opening of the closed season embarked on by DOPA from November 2017 ended in April 2018. DOPA experienced bumper harvest and this coincided with the visit of 3 TRY OYSTER members from the Gambia to Ghana for an exchange visit to share ideas and learn from each other.

This visit by TRY oyster women was after two DOPA members and one staff of DAA visited Gambia for a week's study tour.

The essence of the TRY oyster women's visit was to interact with the wider DOPA group and share ideas on managing their oyster resources, mangrove restorations as well as processing and marketing of oysters.

DAA then took advantage of TRY visit and planned a day's workshop on oyster processing and value addition.

1.1 Workshop Objectives

The objectives of the workshop were to;

- Learn the different processing techniques in oyster preservation.
- Add value to oyster for higher prices.
- Be able to organize an oyster durbar to create awareness and attract customers.

1.2 Expected outcomes

Expected outcome of this workshop included:

- Better post-harvest oyster handling.
- New ways of processing oyster.
- Creating awareness of the importance of oyster in human nutrition.

SECTION 2: THE WORKSHOP

The workshop was held on Friday the 4th of May 2018. DOPA ladies harvested oyster in the morning washed and boiled to suck oyster.

The sucked oysters were then used to prepare the various dishes. Everyone who worked on the oysters was in a lab coat; head tie and wore a hand glove.

2.1 Washing of Oyster

MS Fatou who led in the demonstration sensitized the 40 DOPA members of the importance of washing oysters properly in order to get rid of all sand particles.

She impressed upon the women to make their processing of oyster unique and devoid of sand to attract market. She then went on to demonstrate how to wash oyster hygienically after it was sucked.

The sucked oyster was washed in clean potable water three times or until no sand is found at the base of the bowl. Salt was added to the last bowl of water for washing.

2.1.1 Processing

Ms. Fatou took the group through the first steps in processing oyster. She first of all sterilized all tools and equipment to be used for processing with Para zone. She then steamed the washed oysters in a double bowler/ steamer for 20 minutes.

Oysters that were not whole were discarded. A netted fabric which was already sterilized was spread on a sterilized table. The steamed oysters were spread on table and covered with netted fabric and placed in the sun to dry. (This was done to protect the oyster being contaminated by insects).

At this point oysters to be bottle were picked from the lot i.e. round whole big oyster. The rest was used to prepare jollof, stir fry oyster and oyster okro stew or could be sundried for three days to prolong shelf life and sold during closed season or smoked dry to be stored and sold during lean season.

2.1.2 Bottling of Oysters

2.1.2.1 Ingredients

Oysters (steamed)

Bottles, Vegetables, Onions. Vinegar (cider-brown), salt, labels, Equipment, Double boiler, Knife, Chopping board, Net cloth, Table, Sauce pan.

- Sterilize all equipment and tools with Para zone.
- Wash/sterilize net cloth and table.
- Cut and soak onions in cider vinegar for three days
- Sterilize bottles by boiling in water for 20 minutes
- Remove sterilized bottles from water and allow to cool.
- Steam washed oysters in a double boiler for 20 minutes.
- Pour steamed oyster into unto net cloth lined table.
- Pick out oysters that damaged or too small. (Only whole big oyster should be bottled).
- Cover oysters with net cloth and sundry for about 20 minutes.
- Wash and clean vegetables in portable water with salt
- Cut carrots, sweet pepper into desired shapes and blanch.
- Boil water, add salt and vinegar and stir to taste.
- Pack oyster, onions and vegetables into bottles $\frac{3}{4}$ ways full using sterilized fork or spoon.
- Pour on salt/vinegar solution to cover oysters and vegetables in bottle.
- Cover all bottles.
- Place in a water bath and boil to sterilize.
- Remove from hot water and cool.
- Label appropriately.

2.1.3 Oyster Stir Fry

Exotic vegetables such as carrots, onions, spring onion, green pepper, tomato and beet roots were used in preparing the oyster stir fry.

All vegetables were washed in clean water twice. A little Para zone (2.5ml) was added to a bowl of water, to wash vegetables for the last time. This ensures that the vegetables are clean from dirt. Vegetables were removed from the water and cut into various shapes and sizes.

10mls of salad oil was poured into a frying pan over fire. Steamed oysters ware then fried a bit, ground garlic, ginger, black pepper, onions, tinned tomatoes as well as fresh tomatoes and a little pepper were added and allowed to simmer and cook.

After about 10mins of cooking the rest of the vegetables were added to the oyster sauce.

Salt, curry powder and white pepper were added to taste. The oyster stir fry was then served in an oval plate lined with lettuce.

2.1.4 Sandwich

The oyster stir fry was used in preparing sandwiches, which could be used for breakfast or as a snack.

2.6 Oyster Jollof Rice (The Gambian Way)

The Gambian Jollof rice is an interesting dish which has a bit more ingredients than the Ghanaian Jollof rice.

The Gambian oyster jollof rice is made up of ingredients such as; Oyster fried fish, Powdered shrimps, Magi cube, Fermented fish, Tomato paste, Fresh tomatoes, Fermented fish, Tomato paste, Fresh tomatoes, Onions, Pepper, Salad oil, Cassava, Broken rice, Garlic, Ginger, Curry powder, White powder.

Tomatoes sauce was prepared with onions, fresh and tined tomatoes, pepper, oysters, fried fish, cassava, shrimps, magi cube, salt and oysters. It left to simmer on low heat for about an hour, which Fatou said was rather too short but for lack of time. (The time for a normal sauce for jollof rice to simmer on low heats for three hours).

While the sauce was simmering, the rice was soaked in water and squeezed to break into pieces; because it was long grain. Gambian jollof is made with broken rice. The cooked cassava and fried fish were removed from the sauce and set aside. The broken rice was then added to the oyster sauce and allowed to cook. Sweet pepper, carrots were added at the end of the cooking. The oyster jollof rice was served with the fried fish and boiled cassava used as a garnish. Fried chicken was also set aside to serve with the jollof rice.

2.1.5 Oyster Okro Stew

Ingredients include; Okro, Garden eggs, Onions, Oysters, Fermented fish, Beef, Tomatoes, Pepper, Spices-garlic, ginger, cloves etc, palm oil, salt, shrimp powder.

Tomato sauce was prepared with palm oil, fermented fish, oysters, beef, shrimp powder and spices. Okro and garden eggs were washed, cut and cooked separately before adding to sauce. This is left on fire at low heat to simmer. The oyster okro stew was served with banku.

2.1.6 Sun Dried and Smoked Oysters

Sun drying and smoking of oysters was not carried out practically to the end. It was described to participants which they understood because it has been practiced at the DFFC before.

In processing oysters for sun drying or smoking, oysters have to be boiled and sucked. Wash sucked oyster thoroughly three times with portable water. Add salt to the third water. Sterilize table and lace net cloth with Para zone. Pour steamed oyster on the lace line table in the sun. Cover oyster with cloth net to prevent insects/fly from contaminating oysters. For sun drying, this can continue for three days or longer depending on the weather or until well dried. For smoking The oyster can be dried in the sun for about 30 minutes and then smoke dried on the Ahotor oven. Sun dried and smoked dried oyster can be stored and sold when oysters are out of season for higher prices.

SECTION 3: CONCLUSION

All dishes were displayed on a table for participants to see. There was a discussion on what DOPA member can do to create awareness and attract clients to buy their fresh or processed oysters.

All participants had a taste of the dishes made. Our Gambian counterparts enjoyed the Banku with oyster okro stew whilst the Ghanaians ate the Gambian jollof.

The hygienic oyster handling and value addition helped DOPA members to understand why they should not just harvest, suck and sell oyster fresh at cheaper prices in the community.

The Gambian TRY oyster women impressed upon DOPA member that quality oysters are the oyster that are without any traces of sand. So they should target that standard and calve a name for their oyster to attract consumers to buy them.

It was observed that smoking and sun drying of oysters can easily be handled by DOPA members. Different packaging styles would be done eg. Bottled smoked oysters, canned smoked oyster and vacuum sealed smoked or sun dried oysters.

The DFTC can handle the bottling of oysters at its processing unit.

Many more oyster and fish dishes would be displayed during the upcoming oyster and fish bazaar.

SECTION 4: PHOTOS GALLERY



Figure 1: Washing Of Oysters to Be Used For Oyster Dishes



Figure 2: Processing Of Oysters for Brine Bottling



Figure 3: The Ga South Fisheries Commission Officer Addressing Participants on The Need To Add Value To Oysters



Figure 4: Bottling of oysters in brine



Figure 5: The Gambia team preparation of jollof rice with oysters



Figure 6: Display of oyster dishes



Figure 7: Fatou of The Gambia giving highlights on oyster value addition – the benefits.