

**GHANA/NETHERLANDS REGIONAL TRAINING  
AND APPLIED RESEARCH PROJECT IN  
ARTISANAL FISH PROCESSING**

**RESEARCH PROJECT # AFP/AR/PH.2/97.001**

**BASELINE SOCIO-ECONOMIC STUDIES  
OF NEW NINGO 1997 PILOT FISHING VILLAGE**

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JUNE 1997

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<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
TITLE PAGE	i
TABLE OF CONTENTS	ii
SUMMARY	iv
ACKNOWLEDGEMENT	v
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF PHOTOGRAPHS	viii
<b>CHAPTER 1 BASELINE SOCIO-ECONOMIC STUDIES ON NEW NINGO</b>	
1.1 Introduction	1
1.2 Background Information	1
1.3 Work Accomplished So Far	2
1.4 Objectives of the Study	3
1.5 Methodology	4
1.5.1. Selection of Village	4
1.5.2 Data Collection	4
1.6 New Ningo	5
1.6.1 History	5
<b>CHAPTER 2 PRESENTATION OF RESULTS</b>	
<b>SOCIO-ECONOMIC STATUS OF THE</b>	
<b>SELECTED FISH SMOKERS</b>	
2.1 Educational Level of Respondents	8
2.2 Age Distribution of Respondents	8
2.3 Ethnic and Religious Background of Respondents	9
2.4 Marital Status and Number of Children of Respondents	9
2.5 Occupational Composition	10
2.6 Comments made by respondents on the Chorkor Smoker	10
<b>CHAPTER 3 FISH SMOKING TECHNOLOGY IN THE SURVEY AREA</b>	
3.1 Types of Oven Used in Smoking	13
3.2 Cost of Construction	13
3.3 Present State of Ovens Used	13
3.4 Fuel Used in Fish Smoking	14
3.5 Types of Fish Used in Smoking	14

## TABLE OF CONTENTS

PAGE

### CHAPTER 4 STORAGE, MARKETING AND DISTRIBUTION OF PROCESSED FISH

3.6	Quantity of Fish Smoked at a Time	14
3.7	Fish Preparation Before Smoking	14
3.8	People Involved in Fish Smoking	15
3.9	Problems Encountered During Processing	15
4.1	Storage	16
4.2	Markets	16
4.3	Distribution Channels	17
4.4	The Unsold Fish	18
4.5	Problems in Marketing Processed Fish	19
4.6	Gross Margins Obtained by Respondents	19
4.7	Financing	20

### CHAPTER 5 GROUP FORMATION

5.1	Societies	21
5.2	Present Needs	21

### CHAPTER 6 DISCUSSION AND CONCLUSION

22

### REFERENCES

24

### APPENDIX

Pictures

Bio-Data

Seasonal Calendar - Crops

Labour Demand/Daily Activity for Women and Children

## SUMMARY

New Ningo, a fishing community in the Greater Accra Region was the village chosen for the field activities of the FRI/Netherlands Government Artisanal Fish Processing Training Course. Background information gathered showed that the village has got an interesting history and at present the place is not as peaceful as it should be due to problems connected with chieftaincy.

The study examined the area characteristics, the social amenities, fish smoking activities and income of fish smokers. The standard of living was found to be satisfactory. Social amenities namely electricity, potable water, schools, markets, good roads were present with the exception of a clinic.

Fish smoking is the major occupation of most women but other occupations such as farming, trading and preparation of cooked food for sale are also carried out. The gross margin of ₵40,000 per week is realised by fish smokers provided 4 basketfuls of smoked fish are sold in a week. The money is used for looking after the family and for business.

The women play a big role in fish processing, distributions and marketing. The introduction of the Chorkor Smoker to New Ningo would have a positive effect on the income of the women.



## ACKNOWLEDGEMENTS

Our special thanks go to the chief fisherman and his elders for allowing us to carry out our work in peace and providing us with all the necessary information and help during the study.

We wish to acknowledge with thanks Mrs. Wilhelmina Quaye for assisting with the collection and analysis of information.

This project was funded by the Dutch and Ghanaian governments. Our special thanks go to Mrs. Gladys Nerquaye Tetteh, the Project Manager and Dr. W.A. Plahar, the Research Co-ordinator for all the support they gave us during the project.

Finally we acknowledge the hard work put in by Miss Faustina Somuah in typing this report.

## CHAPTER 1

### BASELINE SOCIO-ECONOMIC STUDIES ON NEW NINGO 1997 PILOT FISHING VILLAGE

#### 1.1 Introduction

New Ningo is the pilot village chosen for the 1997 Ghana/Netherlands Artisanal Fish Processing Training Course. This training course is a part of a whole project funded by the Dutch government, (Project Document 1988). The project aims to extend the chorkor smoker to fishing communities in Ghana which are using traditional fish smoking ovens namely, the round metal or the round clay ovens. Others have also wrongfully adopted the use of the chorkor smoker which is rectangular in shape with piles of rectangular trays tacked on them, forming a kind of a chimney, with fish arranged on the trays.

#### 1.2 Background Information

Fish smoking with the chorkor smoker has been found to be more superior to the use of other traditional ovens. Some of its good points are the efficiency of its operation. It has a lower fuel consumption and a larger smoking capacity. The fish turned out is of good quality and the fish smokers themselves testify to that fact. (UNIFEM, 1988, Kagan 1969, 1970, Nerquaye-Tetteh 1989).

The extension of the chorkor smoker is not the only feature of the project. A six week training course in fish processing for extension workers from West and Central Africa is also organised every year. This is the 10th year of the operation. The course is composed of lectures, laboratory and field practicals. The participants are also exposed to ways of fish preservation and handling including processing, storage, marketing and extension methods.

The identification and choice of a fishing village for the field practicals is part of the preparatory stage towards the training course. This part of the project is very important because the participants are introduced to the village and encouraged to interact with the people, observe and interview them on their way of life. The extension method taught in the classroom is practised in the village. Practical on chorkor oven construction, smoking and salting of fish is carried out in the village. The ovens are tested before they are handed over to the community at the end of the training.

Baseline studies are carried out in the pilot fishing village every year prior to the commencement of the course in order to educate the participants on the pilot fishing village and to prepare the village community for the arrival of the participants.

### **1.3 Work Accomplished So Far**

This is the tenth year of the project and each year, for the past ten years, baseline studies have been carried out in the pilot villages chosen for the course as well as formation of fish smoking women's group. The pilot villages were Lekpogunor and Ahwiam in 1998. The others were Mangotsonya and Ayetepa (Lokko 1988), Tema U-compound and Nungua Faashi (Lokko 1990), New Galilea and Amanfro (Lokko and Dake 1991), Lagma, Gbegbeise, Chemuse, Sakumono, Abia (Lokko and Anson 1992, 1993, 1994, 1995, 1996).

The studies tackle the specific objectives of the baseline studies, which are the information on the pilot village, indigenous traditional fish processing methods, the role of women in fish processing and incomes from fish processing activities.

The information obtained so far from all the villages are similar. This is not surprising because of the migratory nature of the fisher folk. The problems identified were almost the same. They included high cost of fuel, lack of improved technologies, lack of credit facilities, absence of organised fish processing women groups, poor sanitation, low level of education, low incomes and various health conditions (Lokko and Anson 1994).

Follow up programmes have been organised to address the problems and sustain the programme, with the participation of the communities. The programme has encouraged the women fish smokers to tackle their profession with confidence. They have been helped to form groups which has resulted in many of such groups obtaining loans from the bank for their businesses. They are also introduced to family planning, credit unions, health workers, NGO's, adult education and food sanitary practices.

The project has created contact between the various fish smoking groups in other communities by organising visits and durbars etc.



The fore-going has shown that the pilot fishing communities have accepted the chorkor ovens and are using them.

Some other observations however have been made in addition to the problems encountered in the various villages.

The studies revealed that fishing communities in suburban areas are far better off than fishing communities in typical fishing villages. In typical fishing villages social amenities such as potable drinking water, electricity, hospitals, clinics and good schools are missing. Some of the typical fishing villages are Lagma, Mangotsonya and New Galilea. Typical diseases were malaria, bodily pains, cough, skin rashes, diarrhoea, headaches and dysentery. On the other hand, those suburban fishing communities, having access to water, electricity, hospitals, clinics, good schools, etc., include Nungua Faashi, Chorkor, Tema U-compound and Sakumono.

Hypertension, obesity and heart diseases were very common in suburban communities.

A few of the smokers, especially those in the suburban communities were not happy, disclosing their profits but from the overall results, profits were between 10-20% of sales, in spite of the fact that sometimes they make profit and lose at other times.

The money is used for the business and for taking care of the family needs.

#### **1.4 Objectives of the Study**

- 1.4.1 To establish baseline data for New Ningo, the village selected for the field practical for the 1997 training course.
- 1.4.2 To monitor and evaluate the impact of the introduction of the new technology by following the formation of groups in relation to usage of the new technology.

#### **Specific Objectives**

- 1. To carrying out a baseline survey after identification of the project village.
- 2. To obtain background information on the community and standard of living of the study area chosen for the training course.



3. To gather information on existing traditional fish processing methods and smoking ovens.
4. To study the role of women in fish processing and assess their incomes from fish smoking activities to determine the profitability of their work.
5. To provide the above information to the course participants as a way of introducing them to the study area.

## **1.5 Methodology**

### **1.5.1 Selection of Village**

New Ningo is situated along a major road and so it was easy to notice that there was no chorkor smoker being used in the community. Secondly, in 1996, the choice of the pilot village was between Abia and New Ningo. After choosing Abia last year, the work was made easier this year because New Ningo was available.

Preliminary visits and contacts were made to the community for familiarisation. During these visits, meetings were held with the women fish smokers. At these meetings, the women were briefed on the aims and achievements of the project. The chief fisherman and his elders were contacted and the project explained to them. They all expressed their willingness to cooperate with the project.

The names of twenty-two women fish smokers were obtained from the women's group. These women were interviewed using a questionnaire and direct interviews. Some information was also obtained by observation and conversation with a few fishermen.

The project encountered an initial problem of co-operation that was before the 1996 parliamentary and presidential elections; and the people in the village thought that the project team was there to do politics so contact with the village had to be suspended for sometime until well after the elections.

### **1.5.2 Data Collection**

A questionnaire as well as an interview guide were prepared and administered to the 22 fish smokers identified. Group meetings were organised with the women where there were general discussions on processing of fish and smoking ovens other pieces of information were collected through observations.

1.5.3 The results of the above study were discussed with the course participants.

The follow up programmes will commence after the training course. It would maintain the development process studies in the village by evaluating the impact of the introduction of the chorkor smoker by following the formation of groups. The programme will also help the women with credit facilities, banking, family planning and health education.

## **1.6 New Ningo**

New Ningo can be located in the Dangme West District of the Greater Accra Region of Ghana. The village is about eight kilometres from Prampram, which is 50km East of Accra.

### **1.6.1 History**

New Ningo was founded by the late Nene Carboo Opertoto of Kabiaweh Clan from Old Ningo in the year 1917. The Chief of old Ningo then was Nene Tei Djangmah I of the lower clan (Loyeli). One of his brothers came to him and demanded money from him. The Chief refused to give the money to his brother. The brother then knelt down, took a stone and threw it at the Chief. This gesture was a taboo and against custom. This brought confusion to the town.

Carboo Opertoto was a good friend of the Chief Tei Djangmah. He came on a visit to old Ningo and met the incident and as a friend advised the Chief to leave the town. Carboo had built a small hut on a piece of land at the present site of new Ningo. Carboo took the Chief to slavery in this hut after fleeing across the Ajange Lagoon.

Tei Djangmah did not go to the new site as Chief. His friends and other people in the town who supported him followed him and Carboo and they built the settlement which was named New Ningo. There are seven clans in the Ningo community. They are Adainya, Aniamosi, Assre, Ohenease, Saunya, Weyobom and Kabiawe.

Since then, New Ningo has had no chief, only caretakers. Some of the caretakers were late Doku Yaka and Seth Djangmah.

After the death of Seth Djangmah, the people of Adainya Clan, without consulting the other clans, chose one Tetteh as Chief of New Ningo and named him Nene Djangmah Gidigago III. This had brought confusion to the village. This Chief and his elders are having a lot of trouble with the other clan members. The case is at the High Court in Accra at the moment.

The chief fisherman, the Assemblyman, the police and a few elders are trying to maintain peace and order to avoid the repetition of the 1917 episode.

It is hot throughout the year in New Ningo with the average temperature around 30°C. The main rainy season is between May and July each year while the minor rain is from September to November. Relatively cool temperatures are experienced during the rainy season. The hot and dry season is from December to March. The vegetation is savanna grassland with coastal thickets of neem trees. The land is flat with shallow streams flowing on it. The soil is loamy and suitable for vegetable growing.

The population of New Ningo is about 3,600 made up of 2,500 men and 1,100 women. It could have been more but most inhabitants have travelled to other areas of the country to fish, farm or work.

The people of New Ningo are fishermen and farmers. The men never go fishing on Tuesdays and there is no farming on Mondays and Thursdays. The women are fish mongers and farmers but it is a taboo for them to use hoes in farming. They are allowed to use only cutlasses.

The fishermen use canoes with nets such as toga, watsa, ali and cast nets to fish. Others also use hook and line.

The farmers plant cassava, beans, maize and tigernuts. Animals such as sheep, goats, dogs, fowls, turkeys, guinea fowls, ducks are reared in the village.

New Ningo has no market. The people sell foodstuffs and a few ware under a big neem tree near the Ajange shrine.



Social activities include festivals, drumming and dancing at funerals and outdoorings of babies. The annual festivals are 'Jange', 'Homowo' and 'Jaliglo'. Many also own television sets and radios.

The major health problems include malaria, headaches, waist pains, measles, fever and scabies.

The common foods are 'kokonte', 'banku', 'ampesi' (cassava) and fufu. The main source of protein is fish and children are weaned on maize porridge and banku.

The level of community development is measured by the presence of facilities such as water, refuse disposal, toilets, bath houses, schools, clinics, good roads and electricity. New Ningo has all the above mentioned facilities except clinics. These facilities were provided by Government with the community assisting, when needed, with labour.

There are different types of buildings at New Ningo. The concrete buildings, with slate roofing, the mud houses with thatch roofs and the mud houses with cement finish and aluminium roofs.



## CHAPTER 2

## PRESENTATION OF RESULTS

SOCIO-ECONOMIC STATUS OF THE SELECTED FISH SMOKERS**2.1 Educational Level of Respondents**

A large proportion (81%) of the interviewees had no formal education. As indicated in Table 1, those who had education up to the primary and middle school levels constitute about 91 percent each.

**Table 1. Educational Level of Respondents**

Educational Level	No. Reporting	Percentage Response
No Education	18	82
Primary School	2	9
Middle School	2	9
<b>Total</b>	<b>22</b>	<b>100.00</b>

**2.2 Age Distribution of Respondents**

The age distribution of the respondents range between 27 and 65 years. Table 2 shows the age distribution groups of the total sample size.

**Table 2. Age Distribution of Respondents**

Age Distribution	No. Reporting	Percentage Response
26.5-36.5yrs	5	23
36.5-46.5yrs	7	32
46.5-56.5yrs	8	36
56.5-66.5yrs	2	9
<b>Total</b>	<b>22</b>	<b>100.00</b>

Thus, about 36 percent are within 46.5 to 56.5 years group. 14 percent of the total sample size are between 36.5-46.5 years while 26.5-36.5 years range constitute about 23 percent and the smallest age range 56.5-66.5 years representing only 9 percent of the total sample size.

### 2.3 Ethnic and Religious Background of Respondents

Of the total sample interviewed, 95 per cent are Dangbes who are natives of Ningo. Only 5 percent represent the respondents from the Krobo ethnic group.

About 45 percent of the total sample size are Christians who belong to the various churches in the area. Some of these churches are the Methodist Church, Pentecostal Holiness Church, Divine Healers, Deeper Life and the Salvation Church. The respondents who do not belong to any religion constituted about 32 percent of the total sample while 23 per cent are pagans. Some of the gods the pagans worship are "Djange" and "Kadjaka". (See Table 3).

**Table 3 Religious Background of the Respondents**

Type of Religion	No. Reporting	Percentage Response
Christians	10	45
Pagans	5	23
No Religion	7	32
<b>Total</b>	<b>22</b>	<b>100.00</b>

### 2.4 Marital Status and Number of Children of Respondents:

A large proportion (86 percent) of the respondents are married. The rest (about 14) are widowed. The number of children each respondent had range between 1 to 10. The women with more than 7 children constituted about 32 percent of the total sample size, about 27 percent had 6-7 children, 18 percent represents those with 2-3 children while only 9 percent of the total respondents had 0-1 child. (See table 4). This gives the indication that the women are not fully aware of the benefits derived from family planning.

**Table 4. Number of Children of the Respondents**

Range	No. Reporting	Percentage Response
0-1	2	9
2-3	4	18
4-5	3	14
6-7	6	27
7+	7	32

### 2.5 Occupational Composition

The main occupation of the respondents is fish smoking. However, 9 percent of the total sample size claimed that in addition to fish smoking, frying fish and selling fresh fish are equally considered as their main occupations. The women are also engaged in other income generating activities such as farming, petty trading, food preparation (kenkey koose, frying kakro and frying fish for sale). Selling local alcoholic drink and cassava processing.

Of the total sample interviewed only 9 percent do not engage in any other income generating activity. Majority of them are engaged in farming (about 59 percent). Some of the crops grown include cassava, beans, maize tomatoes, pepper and Okro (See fig 1). A qualitative description of the relative importance of fish smoking in terms of income generation is shown below (ie. fig.2).

### 2.6 Comments made by Respondents on the "Chorkor Smoker"

Generally, the comments made by the interviewees about the "Chorkor Smoker" was quite impressive. Only 9 percent were ignorant of this new fish smoking technology. Those who had just seen the chorkor smoker but had no idea about its use constitute 9 percent of the total sample size, while 18 percent claimed that it is just an oven for smoking fish. The majority, however, reported that the "Chorkor Smoker" is an efficient fish smoker with proven economic advantage among others. (see table 5).



Fig1 SEASONAL CROP PRODUCTION AND FISHING  
CALENDER

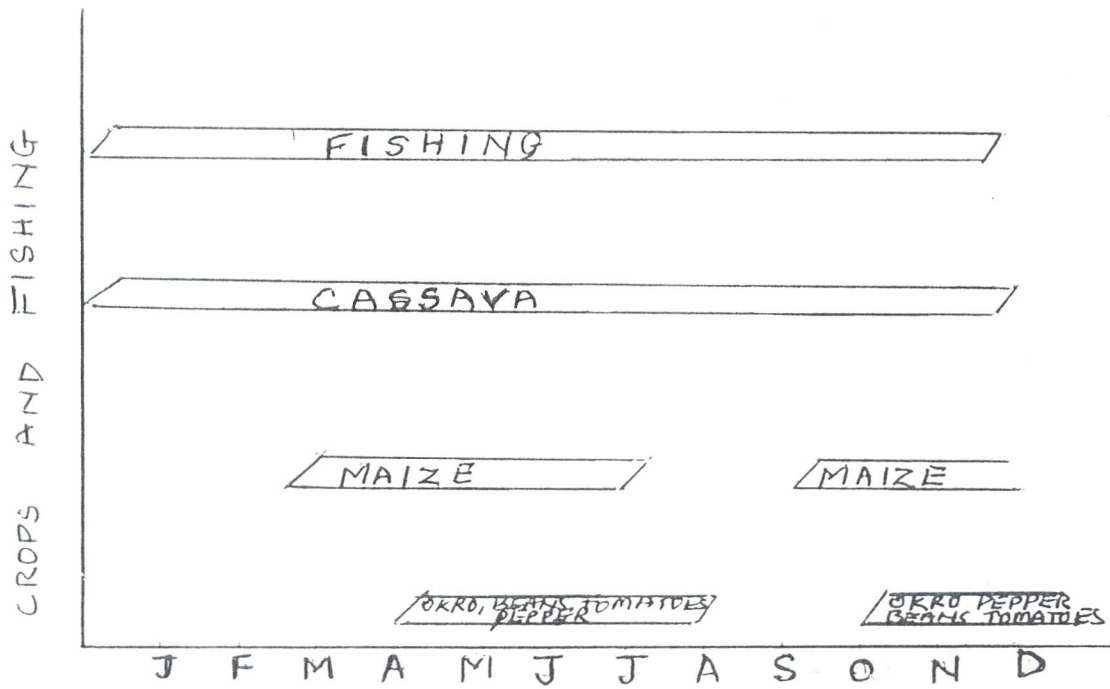
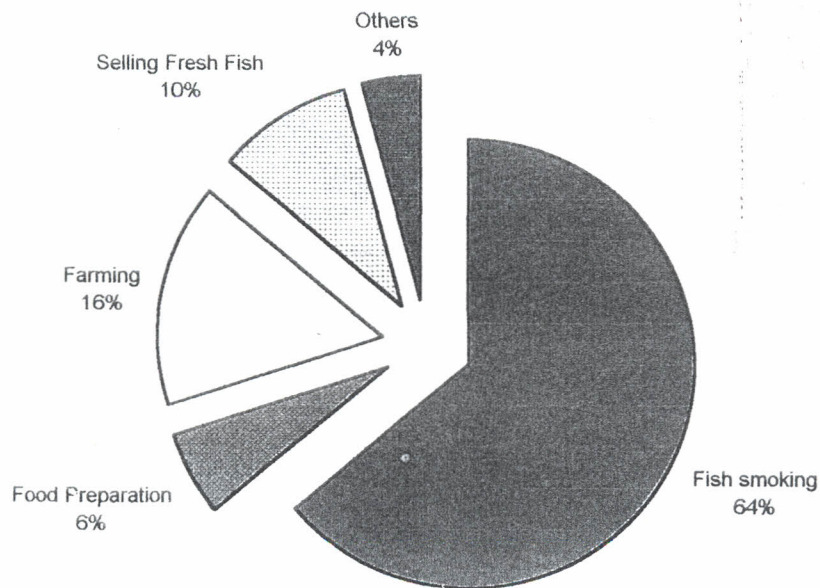


Fig. 2 A Pie Chart Showing Relative Importance of Occupations in Terms of Income Generation





**Table 5. Comments made by Respondents on the "Chorkor Smoker"**

Comments made by Respondents	No. Reporting	Percentage Response
Very Good for fish smoking	14	64
Oven for fish smoking	4	18
Just seen it	2	9
No idea	2	9
<b>Total</b>	<b>22</b>	<b>100.00</b>

## CHAPTER 3

### FISH SMOKING TECHNOLOGY IN THE SURVEY AREA

#### 3.1 Types of Oven Used in Smoking

Round metal and mud ovens are the most common types of ovens used in the study areas. A large proportion (82 percent) of the respondents used only the round metal type of oven. Only 18 percent of the total sample size used both the mud and the round metal ovens. The round metal oven is constructed from metal drums (44-gallon metal drums) whilst the mud oven is made of clay which is easily available. Both ovens are divided into two compartments by a horizontal layer of wooden or iron bars which are evenly spaced and stuck through the wall, a short distance from the top. The ovens are protected from the weather by covering the top with polypropylene sheet or plywood. With proper maintenance, the life span of the ovens is averagely 10 years.

#### 3.2 Cost of Construction

This involves the cost of materials used for construction and labour. Currently the labour cost is about ₦10,000 and the metal drum is estimated at about ₦20,000.

#### 3.3 Present State of Ovens Used

Majority (59 percent) of the respondents had their ovens in very good conditions. About 41 percent of the total sample size reported that their ovens were not in good working conditions which may be attributed to lack of maintenance.

Although all the respondents prefer working under sheds only 32 percent had constructed sheds over their ovens. About 91 percent claimed their sheds were destroyed whilst 55 percent had never constructed sheds over their ovens. The latter group reported of lack of funds to construct sheds.

Some members of the group, whose ovens are near the shrine (Otofo house) are always afraid of fire outbreaks which might engulf the otofo house and so refrain from building a shed.

Reasons given to support the need for sheds to be constructed over ovens included protection from weather hazards and the associated health related problems.

The sheds are constructed from coconut stems, coconut fronds, wood, palm fronds, roofing sheets and thatch. The average cost involved in constructing a shed ranges from ₺20,000 to ₺40,000 depending on the materials used.

### **3.4 Fuel Used in Fish Smoking**

Neem trees and coconut fibre are the types of fuel used in fish smoking in the study area. The average cost of fuel is estimated at about ₺4,000 and ₺80,000 per headload and a full truck load respectively. A head load of fuelwood could be used to smoke a batch of fish (4 cartons).

### **3.5 Types of Fish Used in Smoking**

All the respondents smoke any type of fish available. The bulk of the fish used in smoking is obtained from the beach in the locality. However, during off season when supply is very low, frozen fish is obtained from Tema Fishing Harbour.

### **3.6 Quantity of Fish Smoked at a Time**

The average quantity of fish smoked per person in a day is about 4 cartons. The capacity of the oven used is about 2 cartons. Intensity of fish smoking activity and fish availability are depicted in figures 3 and 4 respectively.

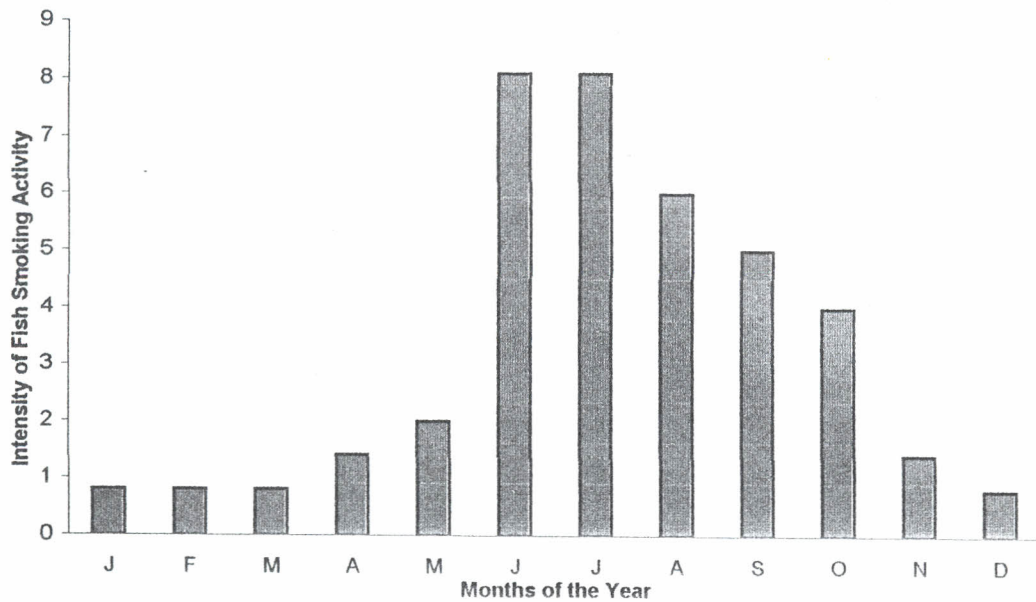
### **3.7 Fish Preparation Before Smoking**

This is a process which basically, involves scaling, gutting, washing and drying. However, fish are treated differently depending on the size and species.

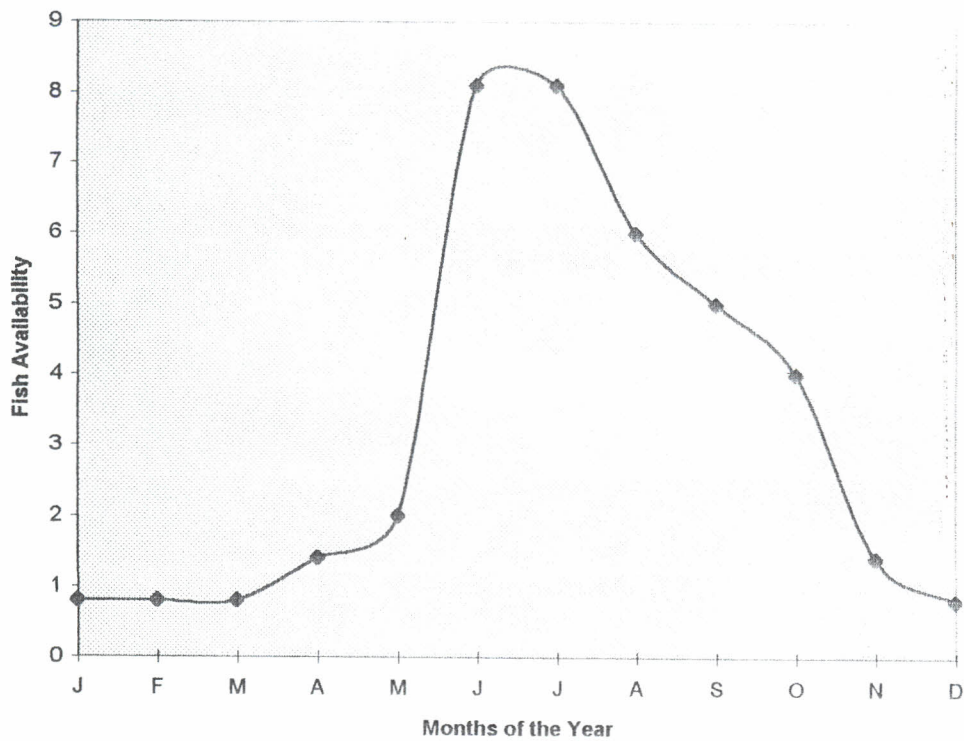
In the survey area, about 73 percent of the sample reported that small sized fish are neither scaled nor gutted but are dried before smoking. They also claimed that the big-sized fish may or may not be scaled, gutted and dried before smoking. Drying is done on polythene sheets and tarpaulin spread on the floor. About 18 percent of the total sample do not dry their fish before smoking for the fear of fish getting rotten and loss of flavour of fish. Those who just drain their fish in baskets before smoking also constituted about 9 percent of the total sample size.



**Fig 3 Seasonal Calendar for Intensity of Fish Smoking Activity at New Ningo**



**Fig. 4 Seasonal Variation of Fish Availability**





### **3.8 People Involved in Fish Smoking**

Fish smoking is generally done by the women and their children. The children are normally engaged in washing and sometimes scaling but the actual smoking is done by the women. Most of the children are not paid for work done, but some of the income from fish smoking is used for their up keep. However, labour provided by non-family members may attract a wage rate of ₱2,000-₱3,000 per day or some gifts.

### **3.9 Problems Encountered During Processing**

Of the sample interviewed, 27 percent had no problems during fish processing. The rest (72 - 73 percent) face a lot of problems such as lack of dried fuelwood during rainy season, lack of financing, weather hazards, irregular supply of electricity and drudgery involved in fish processing. The others are health related problems like waist pains and headaches.

## CHAPTER 4

### STORAGE, MARKETING AND DISTRIBUTION OF PROCESSED FISH

#### 4.1 Storage

Herrings are the type of fish normally stored in the study area.

There are two main places of storage namely, the store rooms and the ovens. Only 18 percent of the total sample have access to store rooms while the rest store fish in the ovens.

The fish are packed in the ovens or cane baskets and covered on the sides and top with cement paper, followed by a sheet of polythene or tarpaulin. The processed fish could be stored for a minimum of 3 weeks and maximum of 4 months period.

Generally, there has not been much change in the method of storage over the years, but some of the respondents commented on the use of oil in processing fish for storage. The period of storage is also reduced due to the decrease in fish supply in recent times.

The storage problems reported by some respondents are theft and pest infestation.

#### 4.2 Markets

All the respondents in the study area established the fact that market is readily available. The major markets visited by respondents are Suhum, Bator and Accra markets on Mondays, Tuesdays and Fridays respectively. Others are Ashiaman, Nsawam, Agomenya, Josinyao, Ada Junction, Koforidua, Dodowa, New Ningo, New Edubiase, Somanya, Akatsi, Akroso and Kumasi markets. Thus, the respondents do not explore markets in the Greater Accra region alone, but study the price trends at the various markets mentioned in order to identify the markets to visit at a particular time.

Accessibility to the above-mentioned markets by the respondents highlights the seriousness and the level of performance in marketing processed fish in the study area.

### 4.3 Distribution Channels

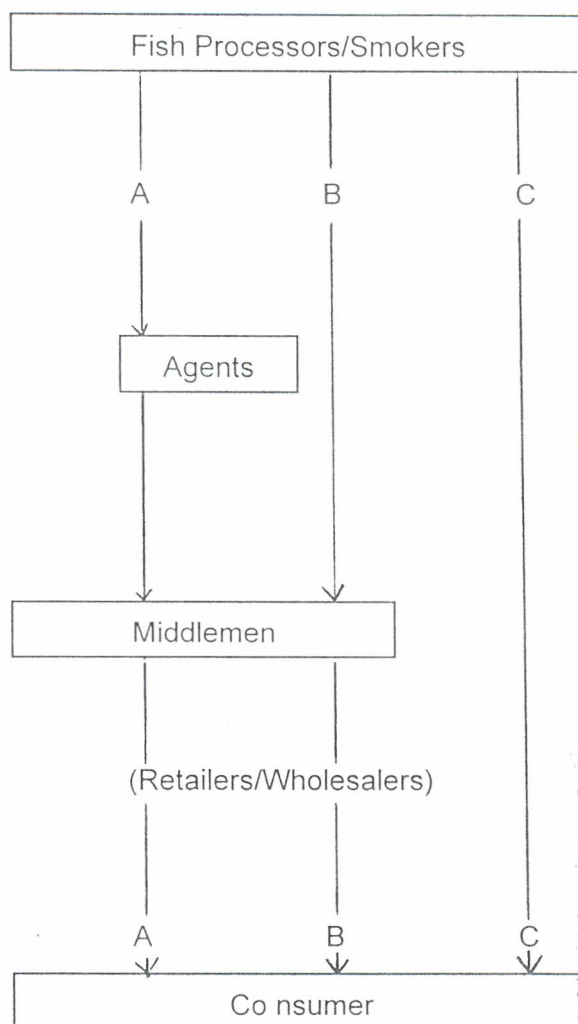
These reveal the types of people involved in the transfer of processed fish from the processors onto the consumers. Two categories of intermediaries are identified in the distribution of processed fish in the study area. The first category is made up of agents who do not take title to processed fish sent to the market, but sell on behalf of the processors for a fee. These agents are mainly found in Accra markets and are members of fish traders association. The other category is composed of middlemen who may be wholesalers or retailers. It was observed that the respondents had their own customers (middlemen) whom they sell to. The distribution channels shown in figure 5 depicts the following scenarios:

- 4.3.1 The respondents could sell their processed fish to middlemen through agents. The middlemen sell either directly to consumers or to retailers who in turn sell to consumers. This is the channel 'A' which is the longest.
- 4.3.2 The respondents could sell to the middlemen directly. The middlemen then sell either to retailers or consumers. This is channel 'B' which is commonly used at other markets outside Accra.
- 4.3.3 The respondents could use channel 'C' which involves direct sale to consumers. This is normally used in the locality and is the shortest channel.



Fig. 5

## Distribution Channels Used By Respondents



#### 4.4 The Unsold Fish

Unsold fish are either reduced to clear, sent back home for re-smoking, left under the care of association members for sale, kept in cold storage at the market or supplied to customers on credit basis. The response to what happens to unsold fish is shown in table 6.

**Table 6      The Fate of Unsold Processed Fish**

Fate of Unsold Fish	No Reporting	Percentage
Reduced to Clear	3	14
Sent Back Home for Re-smoking	5	23
Sold by Association Members	4	18
Kept in Cold Storage	1	5
Given to Customers on Credit Basis	8	36
Both Reduce to Clear and Sells on Credit	1	5
<b>Total</b>	<b>22</b>	<b>100.00</b>

#### 4.5      Problems in Marketing Processed Fish

Marketing of processed fish is beset with a number of problems. Among the problems reported by respondents are high cost of transportation, high charges of market tolls, involvement of agents in the sale of processed fish especially in Accra markets and default in the payment of credit supplies.

#### 4.6      Gross Margins Obtained by Respondents

Gross Margin is the revenue obtained by the respondents less the direct variable cost. Variable cost considered are the cost of fuel used, direct material cost (fresh fish), transportation cost, marketing expenses and labour cost. Thus, the use of Gross Margins as a measure of profitability of the fish smoking business assumes that no fixed cost is incurred.

On the average, gross margin of about ₵40,000 was realised per week per respondent, assuming that 4 big baskets of processed fish are sold in a week.

Some of the factors determining the amount of gross margin realized include the market price, volume of fish supplied and transportation cost.

Almost all the respondents expressed that the gross margins obtained are used to fend for the family. Some of them also plough the margins back into the business. On the whole, only 9 percent of the respondents had built their own houses. The rest did not own any property.

#### 4.7 Financing

The respondents finance their business from their own resources or relatives and loans from money lenders. Of the sample interviewed, 64 percent used either their own resources or funds from relatives, 32 percent used loans from money lenders while 5 percent used both money from their own resources and loan from money lenders. The loans from the money lenders attracted average interest rate of 50% payable within 6 months to 1 year. Most of the respondents who use loans from Money Lenders settle their bills regularly. Only 5 percent had some bills to settle as at the time of interviewing.

**Table 7** Source of Funds For Fish Process By Respondents

Source	No Reporting	Percentage
Own Resources/Relatives	14	64
Money Lenders	7	32
Both Money Lenders & Own Resources	1	4
<b>Total</b>	<b>22</b>	<b>100.00</b>



## CHAPTER 5

GROUP FORMATION**5.1 Societies**

There are four societies in the community, namely, *Wayε Kpo Wayε Dc* (we stay in our village and develop it), *Nyemi Suomi Kpee* (Brotherhood), *Maamiwaye* (for old women) and the 31st December Women Movement Groups (See fig. 6). The objectives of the groups are geared towards development of the community as a whole and helping the individual members. Some of the activities embarked upon are clean up campaigns and offering communal assistance in development projects funded by Government and Philanthropists. Others are giving financial assistance to members in times of sickness, bereavement and outdooing.

About 50 percent of the total sample size interviewed belong to one or more of the societies mentioned above.

**5.2 Present Needs**

The urgent needs of the community members enumerated are funds, "chorkor smokers", sheds, utensils used in processing and food items (rice/yam). Table 8 indicate the preference ranking of needs in the community.

**Table 8** Preference Ranking of Needs in New Ningo

Needs	Ranking
"Chorkor Smoker"	1
Funds	2
Sheds	3
Utensils	4
Food	5

## CHAPTER 6

DISCUSSION AND CONCLUSION

New Ningo can best be described as a small town rather than a large village. It is blessed with all social amenities such as potable water, good roads, schools, electricity etc. with the exception of a clinic. Even then the clinic is a few kilometers away in Prampram. Therefore New Ningo resembles the suburban communities in provision of amenities.

It also resembles the typical fishing villages in housing as well as in occupation. The people at New Ningo are farmers and fisherfolk. Some of the diseases of affluent societies such as hypertension, obesity, etc. in suburban communities are absent at New Ningo. Instead, they suffer from malaria, bodily and waist pains, cough, skin rashes, diarrhoea, headaches and dizziness.

The twenty-two women fish smokers interviewed had their own problems. Over 80% are illiterate and this has been the trend found among the women in all the fishing communities so far visited.

The average age is 46 years which shows that the younger generation is not taking up fish smoking as a profession. The average number of children in the family is around 5.5 which is rather low compared to the other pilot fishing communities so far visited.

The women of New Ningo did not complain about having problems with their fish smoking activities. They are using the round metal and round mud ovens. No chorkor smoker was found there although over 80% of the women have heard of it.

The round metal ovens and mud ovens are the types of ovens used in the study area. This was the trend in all the other fishing communities that the project had transferred the technology except Tema - U compound where there was not a single mud oven. Though it is recommended that sheds be built over ovens to protect them from the weather, the women of New Ningo cover their ovens with polypropylene sheets or plywood. This covering also protects the oven and with proper maintenance, the ovens are able to last for 10 years. Forty percent of the women reported that their ovens were not in good condition.

The cost of the construction of one oven especially the metal drum round oven, is very high - around ₦20,000 and the mud ovens cost about half of this amount to construct. One would expect to see more mud ovens but this is not the case. Both types of ovens look neglected. Over 50% of the women reported lack of funds to construct the shed as the average cost ranges from ₦20,000 to ₦940,000 depending on materials.

Generally, there has not been much change in the method of storage and marketing of processed fish. Two categories of intermediaries is however identified. They are the agents and the middlemen. These intermediaries contribute to the high price of fish in the markets. Some problems faced in marketing of fish are high transportation cost, high charges of market tolls and default in customer payment of credit supplies.

Although one of the objectives of the project is to form groups, this is not necessary at New Ningo because there exist already several womens groups. Some are Nyeni Suomo Kpee (brotherhood), 31st December Movement and others. Their objectives are geared towards development of the community as a whole and helping the individual members.

The community has already established womens group which is very dynamic. This group is being encouraged to take fish smoking seriously and is being introduced to group banking, literacy classes, family planning and health education. The women were very enthusiastic about the whole project and were willing and ready to welcome the course participants into their midst.

In conclusion, the study has provided baseline information about New Ningo, the village selected for the 1997 training course. It has also gathered information about the existing traditional ovens as well as fish smoking methods. The standard of living in New Ningo can be described as medium or fair.



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**APPENDIX**



NEW NINGO: A GROUP OF WOMEN FISH SMOKERS



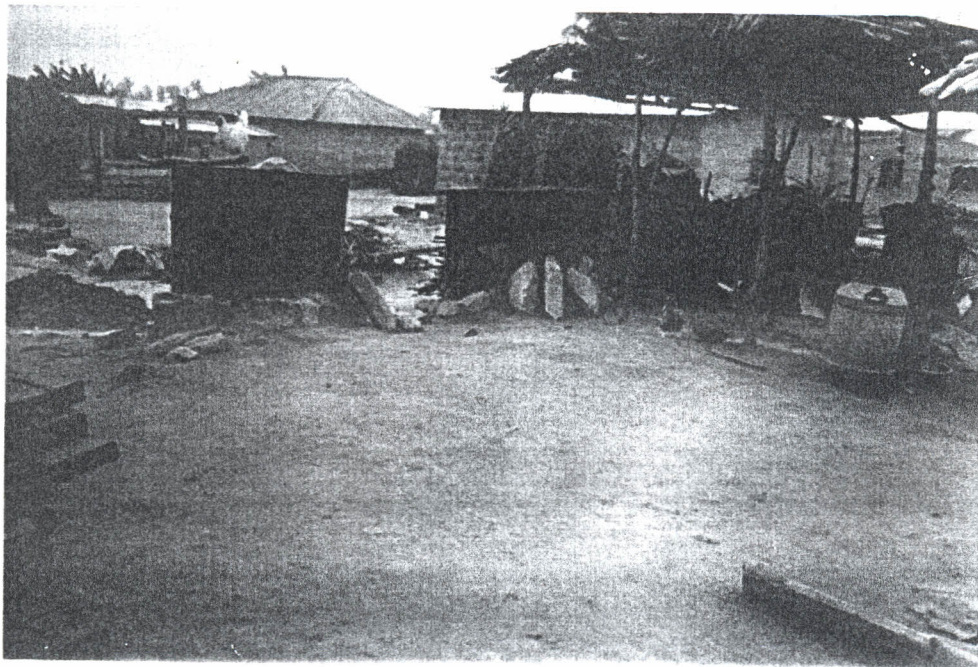
NEW NINGO: A ROUND MUD OVEN







NEW NINGO: ROUND METAL OVENS



**BIODATA OF SELECTED FISH SMOKERS' AT NEW NINGO - A VILLAGE IN THE GREATER ACCRA REGION**

Name of Respondent	Respondent Identity Number	Age	Ethnic Group		Religion	Education	Main Occupation	Other Occupation	No. Of Children	Knowledge about "Chorkor Smoker"
				Marital Status						
Mary Kumordji	1	27	Adangbe	Married	Deeper Life	Middle School	Fish Smoking	Nil	1	Gd. For Fish Smk.
Yoo D. Attah	2	50	- Do -	- Do -	Idol (Djange)	Nil	- Do -	Nil	5	- Do -
Korkor Oman	3	46	- Do -	- Do -	Pentecostal	Nil	- Do -	Petty Trad., Farming	Nil	- Do -
Kwekie Tetteh	4	52	- Do -	- Do -	Worship Idol (Kadjaka)	- Do -	- Do -	Farming	10	- Do -
Kweku A. Martey	5	50	- Do -	Widow	Divine Healer's	- Do -	- Do -	Farming	6	- Do -
Mawude Tetteh	6	52	- Do -	Married	- Do -	- Do -	- Do -	Farming	7	- Do -
S. V Appenyarh	7	58	- Do -	- Do -	Methodist	- Do -	- Do -	Farming	5	- Do -
Ladze Kweitey	8	35	- Do -	- Do -	-	- Do -	- Do -	- Do -	8	- Do -
Rose Kani	9	45	Krobo	- Do -	-	- Do -	- Do -	- Do -	4	Used for Fish Smk.
N. Tetteh	10	48	Odumase	Widow	Pagan	- Do -	- Do -	Farming, Fries Kakro	6	- Do -
T.L. Mamley	11	34	Adangbe	Married	- Do -	- Do -	- Do -	Help with Kenkey mkg	2	- Do -
K. A. Teye	12	55	- Do -	- Do -	Christian	- Do -	- Do -	Cassava Processing	8	-
C.A-Naakwor	13	38	- Do -	- Do -	Presbyterian	Middle School	- Do -	Koose Frying	2	Gd. For Fish Smk.
A. M. Akwetey	14	45	- Do -	- Do -	Divine Healer's	Primary '5'	- Do -	Kenkey Prep.	8	- Do -
C. A. Tawiah	15	53	- Do -	- Do -	Methodist	Primary '6'	Fish Smoking/Farming	Fries Fish	6	It's an Oven
Nartey Felicia	16	35	- Do -	- Do -	-	Nil	Fish Smoking	Farming, Kenkey Prep	3	-
Makutei Dongo	17	40	- Do -	- Do -	Sulration	Nil	- Do -	Kenkey Prep.	6	Seen
Narkie Addo	18	35	- Do -	- Do -	-	- Do -	Fish Smoking/Farming	Kenkey Prep.	9	Gd. For Fish Smk.
Asimenu Narh	19	65	- Do -	- Do -	Aladura	- Do -	Fish Smoking	Farming, Petty Trd.	3	- Do -
Adewor Otu	20	56	- Do -	Widow	-	Nil	Fresh Fish Trading/Smoking	Sells Local Drink	8	- Do -
Ameka Agboo	21	40	- Do -	Married	-	- Do -	Fish Smoking	Farming, Food Prep.	6	Seen
Akwetey Yobiyo	22	45	- Do -	Married	-	Nil	Frying & Smoking Fish	Farming	9	Gd. For Smoking



## SEASONAL CALENDAR FOR CROP PRODUCTION AT NEW NINGO

<u>Month</u>	<u>Activity</u>
January	Harvesting
February	Resting
March	Land preparation for major season planting
April	Planting (maize, cassava)
May	Weeding/planting of vegetables
June	Main fishing season
July	"
August	Harvesting
September	Land preparation for minor season planting (maize and cassava)
October	Weeding
November	Planting of vegetables
December	Weeding

## LABOUR DEMAND/DAILY ACTIVITIES FOR WOMEN & CHILDREN

<u>Activity</u>	<u>Time</u>
Wake-up	6.00 am
Sweeping	6.30 am
Fetching water	7.00 am
Cooking	8.00 am
Farming/fetching fuel wood	9.00 am
Go to buy fish at the beach	4.00 pm
Processing fish/cooking	4.30/5.00 pm
Sleeping	9.00pm