

# WOMEN IN AGRO-PROCESSING IN GHANA: A CASE STUDY OF THE STATE OF WOMEN IN SMALL-SCALE FISH SMOKING IN THE CENTRAL REGION OF GHANA

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## Abstract

*The role of women in food production, processing and marketing has become more relevant as a way of fighting poverty and ensuring food security in Africa. This study was undertaken to assess the state of women in small-scale fish smoking in the Central Region of Ghana. The study involved 150 women fish processors. Descriptive and correlational statistics were used to analyze the data.*

*The findings revealed that the women fish processors were mainly full-time fish processors with a minimum of 10 years experience in fish processing. The women fish processors were generally poor income earners with great responsibility of catering for a large number of dependents. Inadequate capital was the most important constraint for the women fish processors. Many of them need a little additional money to revamp their business, but only few of them could obtain loans from commercial banks. Personal savings were their main source of capital. Full-time status of the fish processors was significantly and positively related to age ( $r=0.28$ ,  $p=0.001$ ) and negatively related to education ( $r=-0.37$ ,  $p=0.000$ ). This indicated that the fish processing business in the Central Region of Ghana is aging (mean age » 50 years) and not attracting the literate and the youth who may have the capacity to manage things better.*

*The Ministry of Food and Agriculture (MoFA) has not done much in terms of establishing contact with fish processors and providing training to support the efforts of small-scale women fish processors in the Central Region. The inability of MoFA to achieve greater and wide-ranging effectiveness in supporting women fish processors was attributed to inadequate staff, logistics, and financial support from government and development organisations.*

*There is the need for the government of Ghana (local and national) to play a catalytic role in terms of financial, material and technological support and to ensure linkages among women in fish processing, non-governmental organizations, research and training institutions and MoFA. This will ensure a sustained economic development especially in the fishing communities in the Central Region of Ghana.*

## Introduction

Despite the role of women in the production, processing and marketing of agricultural produce in many countries in Africa, agricultural information and production resources are not reaching and benefiting them in the food security chain. Recent reports in Africa show that agricultural productivity on the continent has not satisfied the requirement for food fibre and other raw materials despite efforts by governments to develop agriculture. The FAO argues that studies in Africa show that the poor achievement of the agricultural goals on the continent in terms of efficiency, sustainability and equity is due to the predominant practice of directing training and resources to men only (FAO, 1993). This realization has brought about a growing concern about gender issues in agriculture in recent times. The focus of many African governments now is to increase the productivity of the agricultural sector by improving the condition of women, especially those in the rural and semi-urban areas. In Ghana's Medium Term Agricultural Development Strategy (MTADS) and the Vision 2020 Development Plan, the strategies are: (1) to bring services physically closer to women; (2) to involve women in the formation and management of programmes affecting them; and (3) to make women (individually or in groups) the contact point in the delivery of services directly to the beneficiaries and to receive feedback (MoFA, 1990).

In Ghana, the high population growth of about 3% which far exceeds food production of about 2%, has made the role of women in food production, processing and marketing more important in ensuring that people in the country are not underfed and do not suffer from malnutrition. The two main sources of quality protein available in Ghana and many African countries are livestock and fish. The productivity of the livestock industry in Ghana is woefully inadequate. This is attributed to inconsistent government policies concerning the industry, high cost and sometimes unavailability of livestock feed, poor management practices, and disease outbreak among others. In Ghana, like in many African countries, the popular option is fish. Fish is relatively available throughout the year and its varying cost falls within the economic means of most family budgets.

Although fishing is done on a continuous basis in Ghana, it is noticeable that a significant bumper harvest occurs mostly between the months of July and September. To ensure the availability of fish throughout the year, especially during the lean season, it is essential to preserve fish in appreciable quantities in good condition until its use is required. If a country such as Ghana is committed to solving the perennial problem of protein malnutrition, then high post-harvest losses in fisheries should be minimized or eliminated. Ironically, research in Africa has indicated high post-harvest losses in fisheries over the years. For instance, heavy post-harvest losses (as high as 40%) were reported in the mid-1970s in the Nigerian part of Lake Chad. However, this was reduced to about 10% after processing techniques and transportation on the lake were improved (FAO, 1982). A recent report in Ghana indicated that about 100,000 tonnes of fish go to waste annually through bad handling and non-hygienic treatment, as well as absence of improved technologies for preservation and processing (Mensah, 1997)

Currently, there is a growing concern that priority should be given to the food processing industry in Ghana. Traditionally, food processing has been the domain task of

women in Africa and Ghana is no exception. It is the belief that given the chance women can contribute substantially to the development of this sector of the food processing industry in Ghana.

### **Objectives of the Study**

The purpose of the study was to assess the state of small agribusiness women in fish smoking in the Central Region of Ghana and possible ways that can be adopted to improve their condition. The specific objectives of the study were:

1. To describe the socio-economic characteristics of women processing fish in the Central Region of Ghana in terms of: age, educational level, number of dependants, capital needed for the business and amount of money spent on food.
2. To establish the current status of agricultural extension service provided to women in fish processing in the Central Region of Ghana.

### **Hypothesis**

The study sought to determine whether any relationship existed among age, educational level and full-time/part-time status of the fish processors. The main hypothesis was that there is no significant relationship between age, level of education, and full-time/part-time status of the fish processors.

### **Methodology**

A descriptive-correlational survey design was used for the study. This study investigated the state of women in fish smoking as small-scale businesses in selected fishing towns along the coastal strip of the Central Region of Ghana. The Central Region of Ghana covers a total land area of approximately 9,826sq km, with about 3,144 sq. km under cultivation and borders the Atlantic Ocean to the South. It has a population of about 1,114,233 people with about 690,000 being in agriculture (Population Census Data, 1984). The main occupation of the people is farming and fishing.

A stratified random sample, based on the scale and the extent of fishing, was used to select 150 small-scale women fish processors from the five Districts of the Central Region of Ghana. The districts were Komenda-Edina-Eguafo-Abrem (KEEA), Cape Coast, Mfantseman, Gomoa and Ewutu-Efutu-Senya Districts.

Through consultations with the District Agricultural Extension and Fisheries Departments, key informants who were themselves women fish processors were identified and selected from the districts for focus group discussions. The informants comprised leaders of co-operatives and groups, representatives of fish processors and active fish processors as judged by the Fisheries Department. In addition, all Regional and District Heads of the Department of Women in Agricultural Development (WIAD), Fisheries and Agricultural Extension (total of 13) formed part of the study sample.

Three content-validated questionnaires were developed and used for data collection. A participatory approach was employed in the group discussions to generate the qualitative

information. These quantitative data were analyzed using descriptive statistics including means, percentages, frequencies, and standard deviations. Associations between the bivariate: age and full-time/part-time status, level of education and full-time status, and age and education were assessed using the Pearson's Coefficient of correlation (r). All differences were tested at  $p < .05$ .

## **Results and Discussion**

### **Characteristics of Women in Fish Processing in the Central Region of Ghana.**

The respondents were predominantly older women with an average age of about 50 years. About one-third (26%) of them were between 20-40 years old. Most of the women (80.7%) were illiterates. Nearly nine percent (8.7%) had had primary education and 10% had attained elementary education. Only one respondent, representing 0.7%, had gone beyond the elementary level to a vocational school. All the women had dependants with an average of six persons per household. Majority of them (56.7%) had four to seven dependants living with them.

The main source of capital for the fish processors was their individual personal savings at home. Only few of the women fish processors (14.7%) who were in co-operatives indicated that they obtained loans from commercial banks. The low access to bank loans in the study area is relatively higher than what has been recorded in other developing countries such as Gambia, Kenya and Bangladesh where data gathered from 800 randomly selected households found only 2.8% of women as borrowers of formal credit (Hossain, 1989).

The results also showed that the women needed capital ranging between ₵300,000-₵10,000,000 (US\$120-\$4000) to revamp their business. Majority (60%) gave the range of ₵500,000-₵1,000,000 (US\$200-\$400). The average capital needed by women fish processors was estimated to be about ₵1,400,000 (US \$560). From the results in Table 1, 76% of the fish processors spent between ₵20,000.00 - ₵60,000.00 (US\$8 - \$24) weekly to purchase food for a family of six persons. Food (fish) provided by the women from their business may not be accounted for so this could raise the amount spent on food per week. Since it is believed that a significant portion of family income is spent on food, and coupled with the economic situation in Ghana where the minimum wage is ₵2,900.00 (US\$1.16) per day, any family that spends an average amount of about ₵50,000.00 (US\$20) on six dependants for food per week is living under economic stress. Only 6.7% of the women spent above ₵80,000.00 (US\$32) on food per week.

### **Correlation Between Age, Education and Full/Part-time Status of Women Fish Processors**

Age and level of education were found to be correlated with full-time status of the fish processors (see Table 2). Age was positively and significantly associated with full-time status ( $r=.28$ ) even though the coefficient of correlation was small. Thus, the older the woman was the more probable it was that she was a full-time fish processor. Educational level, on the other hand, was negatively and significantly related to full-time status ( $r=-.37$ ) and age ( $r=-.44$ ) of the fish processors. The younger fish processors tend to be better educated than their older counterparts and were found to be mainly part-time fish processors.

**Table 1. Socio-economic Characteristics of Women Fish Processors in the Coastal Districts of the Central Region.**

Characteristics and Categories	Percentage of respondents reporting characteristics					
	KEEA (n=30)	CAPE COAST (n=30)	MFANTSIMAN (n=30)	GOMOA (n=30)	E-E-S (n=30)	TOTAL (n=150)
Use family labour in my work	43.3	40.0	13.3	6.7	53.3	31.3
Use hired labour in my work	20.0	6.7	-	6.7	26.7	12.0
Use both hired and family labour	36.7	53.3	86.7	86.7	20.0	49.3
Source of capital						
-self/family	6.6	56.7	36.7	80.0	6.7	49.3
-Money lenders	6.7	26.7	6.7	3.3	40.0	16.7
-Bank	16.7	10.0	26.7	6.7	3.3	13.3
-Friends	10.0	-	-	10.0	33.4	10.7
-Susu	-	6.7	30.0	-	6.7	8.7
Amount of money spent on food per week (in thousand of cedis):						
¢20-40	70.0	73.3	50.0	23.3	13.3	46.0
¢41-60	23.3	20.0	43.0	56.7	6.7	30.0
¢61-80	3.3	-	-	16.7	66.7	17.3
¢81-100	3.3	6.7	6.7	3.3	13.3	6.7
Capital required for business (in millions of cedis (¢)):						
Below 0.5	23.3	10.0	6.7	-	-	8.0
0.5-1	60.0	43.3	93.3	56.7	46.7	60.0
2 - 3	13.3	26.7	-	36.7	53.3	26.0
4- 5	3.3	20.0	-	3.3	-	5.3
Above 5	-	-	-	3.3	-	0.7

Note: KEEA = Komenda - Edina - Eguafu - Abrem District, E - E - S = Ewutu-Efutu-Senya District

Source: Survey Data 1998

**Table 2. Correlation Coefficients for Selected Characteristics of Women Fish Processors in the Central Region Of Ghana. (N=150)**

Characteristics	Correlation Matrix		
	Age	Education	Fulltime/Part-time Status
Age	1.00		
Education	-0.44*	1.00	
Full/Part-time Status	0.28*	-0.37*	1.00

\* Means significant at  $p < 0.01$ . Source: Survey Data 1998

### **Extension Services to Women in Fish Processing in the Central Region of Ghana**

The current status of extension services to fish processors was assessed to determine the current role of MoFA and particularly the departments of WIAD, Fisheries and Agricultural Extension in fish processing in the Central Region. It also assessed extension contact and sources of information to fish processors. When the heads of these departments at the Regional and District levels were asked about whether they have any role or function to play as far as fish processing was concerned, there was 100% "yes" response. The duties given by the three departments overlapped, and in summary, were as follows: developing improved skills and knowledge on fish processing (technology development); transfer of improved skills and knowledge on fish processing to fish processors (technology transfer); organizing women into groups or co-operatives and assisting them to acquire financial support from banks; monitoring the payment of loans; training of Frontline Staff (FLSs) on improved skills and knowledge on fish processing; training of fish processors on proper fish handling and environmental sanitation; developing fish processing training materials (e.g. training guides, folders, etc.) for fish processors; and training fish processors on record keeping.

### **Extension Contact and Training as Reported by Fish Processors**

The study revealed that only 10% of the subjects of the study were in contact with extension services and only 6% claimed to have actually had some training in fish processing from extension agents (see Table 3). Many of the women (77.3%) were getting their information from other fish processors. According to 21.3% of them, their source of information was from the Department of Fisheries.

In the group discussions, it was also established that extension agents were not visiting fish processors as often as they should. Fish processors, however, expressed much desire to be in contact with extension agents. It was, therefore, not surprising that 86.7% of respondents expressed their wish to have extension contact. If the belief that the extent to which a farmer is aware of and in contact with MoFA and its change agents (the FLSs) is usually a general indicator of the level of his success is still valid, then it suggests that the small scale fish processing industry in the Central Region of Ghana will not be performing satisfactorily because extension contact and training is low in the Region. It was therefore not surprising when the heads of department of Agricultural Extension, WIAD and Fisheries gave low success rates of their activities with fish processors. When the heads of the departments were asked to estimate the extent to which they had achieved their aims and objectives with respect to fish processing in the Central Region, they estimated their success rates as ranging between 20 – 40%. The heads, however, gave some reasons, which might account for the relatively low performance. The most important ones were: inadequate number of staff to reach fish processors; financial constraints (inadequate budgetary allocation from government); inadequate material support (input and training materials needed to support the technologies); inadequate and or untimely credit for fish processors making adoption of some technologies difficult (e.g., use of Chorkor smoker); and mistrust and suspicion among fish processors making group formation and maintenance difficult and ineffective.

The heads of departments stressed the problem of funds and personnel as critical. For instance, there were only two technical staff responsible for all WIAD activities in the whole Central Region. There were no WIAD representatives or development officers at the district level.

**Table 3. Extension Contact and Training as Reported by Fish Processors (N=150)**

Parameters	Freq.	%
Women receiving extension contact	15	10.0
Women who have had some extension training before	9	6.0
Women who wanted to have extension contact	130	86.7
Women who were aware of extension agent in their area	32	21.3
Other sources of information other than the Agric. Extension Department (MOFA)		
- Other processors	116	77.3
- Fisheries Department	32	21.3
- Self (personal experience)	2	1.4

Source: Survey Data 1998

### **Conclusions and Policy Implications**

The fish processors were generally poor with great responsibility of catering to a large number of dependents. This is consistent with Uwakah, Uwaegbute, and Madukwe (1991) who made a similar observation when they investigated the role of rural women farmers in Eastern Nigeria. The fish processing enterprise in the Central Region is aging and not attracting the young literate generation who may have the capacity to manage things better. The need to integrate fishing and fish processing into the formal education agricultural or vocational studies curriculum at the Junior Secondary School level has become very important. This will help the youth in the coastal towns of the country to learn formally and understand the main occupation in their communities.

The Ministry of Food and Agriculture (MoFA) has not done much in terms of contact with fish processors and training to support the efforts of women in fish processing in the Central Region. If the notion that the extent to which a farmer is aware of and in contact with extension agent is a general indicator of the level of his success, then the small scale fish processing industry in the Central Region will not be performing satisfactorily because agricultural extension contact with the women fish processors was found to be very low. The major constraints identified by the MoFA officials as responsible for their current state were inadequate personnel and material and financial support to give effective and wide-ranging coverage of their duties for fish processors in the Central Region. To address the issue, it will

be important to recruit and train more extension agents especially women, in fish processing to take up the challenge. Furthermore, the Agricultural Extension Services organisation of the Ministry of Food and Agriculture should be resourced by government with the necessary materials and financial supports to efficiently and effectively execute their programmes for fish processors in the Central Region. There will also be the need the MoFA departments to integrate and have training programmes together. In addition, if the fish processors are able to organise themselves into groups or co-operatives, their problem of low extension contact can be minimized because extension agents can more easily provide them with useful information and advice. Again, their main constraint, which is inadequate capital, can be minimized since commercial banks, micro-finance institutes, and district assemblies are more willing to grant loans to groups than to individuals.

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