

MARKETING OF SMOKED FISH AT ELMINA

BY:

P.A. KURANCHIE, Food Research Institute

SUMMARY

Fish smoking at Elmina has not been able to attract young women. The enterprise is largely in the hands of fairly old people. Almost all the smokers have off-season engagements - the trigger fish industry providing an important off-season employment.

2. Total volume of fish smoked per season varies considerably between the women depending upon the type and gravity of constraints faced. The major constraints facing the smokers include / firstly limited funds for the purchase of fresh fish, fuel and for hiring labour, secondly, the shortage of labour during the season and thirdly the lack of space for the construction of more smoking and storage kilns.

3. Baskets are still more widely used than boxes as packaging containers. They have relative advantages over boxes in terms of their costs, length of useful life and capacity. Smoked fish is stored for only limited periods before despatch and this<sup>is</sup> usually done to accumulate enough load for economic transportation and handling.

4. Three categories of fish wholesalers exist in the fish trade: the smokers who do their own marketing; itinerant wholesalers who travel from up-country to purchase fish from Elmina and agent wholesalers who sell on behalf of the smokers. Most of the fish despatched to the urban markets by the smokers go unaccompanied but the agents have a simple way of identifying consignments meant for them.

A. INTRODUCTION

The object of this report is to highlight some aspect of smoked fish marketing at Elmina. Emphasis is however, laid more precisely on the performance of the function of physical supply by the fish smokers. The study is based on the results of analysis of answers given by some thirty-one fish smokers interviewed from a randomized sample frame about their smoking activities for the last (1972) herring season.

The Organization of the Fish Smoking Business

2. Fish smoking becomes the most important economic activity of many women at Elmina during the herring season. Fish landed by the fishermen are sold to smokers by their wives. The sale is usually on cash basis but where an established business relationship exists between the smoker and the fisherman's wife the former may purchase the fish on credit. Some smokers are canoe or boat owners and these smoke the fish caught with their canoes.

3. Most smokers rely on agents operating in big markets centres for the sale of their fish and in many cases these agents contribute to the operating capital used by the fish smoker. This contribution may be in the form of cash and containers - boxes and baskets. In such cases, the total net returns accruing from the business are shared between the agent and the smoker at the end of the season. Most of the women interviewed, however, financed their operations from their own resources.

4. Individual smoking unit is usually operated by one woman who may be assisted by her daughters while hired labour is also most frequently used. No smokers' cooperative was found but it was not uncommon for a relatively wealthy smoker to employ smokers and porters throughout the season. There is an honorary queen smoker, a more or less tutelar head of all smokers at Elmina. She settles disputes among smokers and between smokers and buyers arising from the fish smoking business.

## B. CHARACTERISTICS OF FISH SMOKERS

### Age of Smokers and Off Season Engagements

5. Fish smoking at Elnina is done largely by fairly old women. The women encountered in the survey were of the ages between 30 and 65 years with the average age being about 45 years. Fish smoking ~~was~~<sup>was</sup> their major occupation during the herring season. However, 22 out of the 31 women answering questions salted trigger fish during the off season with 4 of them combining the salting of trigger fish with the cultivation of shallots and cassava. Six of the women traded in fresh fish while 5 others engaged in bread baking, oil making (palm kernel oil) and retail trading in mechandize goods. Only one of the 31 women had no off-season engagement.

### Scale of Operation

6. The volume of fish smoked last year (1972) was fairly high. The women interviewed produced from 20 to 96 basketfuls of smoked fish while the average volume of fish smoked per woman was estimated at 51 basketfuls - the standard deviation and coefficient of variation being 23 and 45% respectively. This indicates that there is great disparity among the smokers in terms of the size of their enterprises. An average size basket can take up to about 1500 single pieces of smoked fish.\*

### Constraints to Expansion

7. All the women interviewed intimated that but for one constraint or another, they would have liked to smoke more fish. Fifteen out of 31 interviewed mentioned capital for the purchase of fresh fish and fuel as their most important constraint to expansion. Eleven mentioned labour shortage as their limiting factor while three others blamed their inability to expand their size of operation on the number of smoking and storage kilns they have and the lack of space for the construction of more kilns. Four women, however, did not smoke more fish because their profit expectation for last season was low.

\* P.A. Kuranchie, - "Cost and Returns to fish Smoking at Elnina" (Memo)

C. FISH STORAGE & PACKAGING

Storage of Smoked Fish

8. Contrary to the impression obtaining that most fish smokers store their produce over a long period for speculative reasons, it was found from the study that fish is usually stored for only limited periods. Only 3 out of the 31 smokers interviewed stored their fish for about one month. Five did not store the fish at all while the rest stored for fairly short periods ranging from 2 days to one week. Those who did not store their fish sold them immediately to get money to finance their subsequent operations. For the majority of the people 2 days to one week affords the opportunity to accumulate enough fish for economic transportation and handling and to await the arrival of boxes and baskets used for packaging the previous consignment of fish. Those who stored up to 28 days indicated that they did so for only speculative reasons. All storage is done on storage kilns.

Fish Packaging

9. Both baskets and boxes are used for the packaging of smoked fish. However baskets are still more widely used. Eleven of the women interviewed used both baskets and boxes while 15 and 3 used only baskets and boxes respectively. Two women however possessed no packaging containers. They sold their fish at Elmina and from the storage kilns. Most of the boxes used are not specially constructed for packaging fish. Any convenient size 'packing case' is used. Infact only one of the women using boxes had her boxes specifically constructed for the purpose. She indicated that she did so in order to make the boxes last longer.

10. Boxes used were all rectangular in shape but varied considerably in dimension. Thirty-three boxes which were measured had capacities varying from 3.4 to 12.0 cubic feet. The average capacity of the boxes was 8.0 cubic feet with the standard deviation\* and co-efficient of variation being 3.0 cubic feet and 38 percent respectively. All the boxes encountered were purchased in Kumasi and at an average cost of £2.30 each with the range of 90 to £4.00. It also cost an average of about 60 pesewas to transp

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\* See Appendix 4 for Frequency Table.

the empty box from Kumasi to Elmina. It was therefore estimated that an average size box of about 8 cubic feet capacity delivered at Elmina cost about ₵3.00

11. Like the boxes, the baskets encountered were of various sizes and they cost differently. However whereas almost all the boxes were bought in Kumasi, most of the baskets were purchased at the Mankesin market. Fifteen of the 26 women who possessed baskets obtained their supplies from Mankesin; 8 got theirs from Elmina while 2 and 1 of the women obtained their supplies from Kumasi and Obuasi respectively. No measurements were taken of the baskets because of the difficulty of reconciling their capacities. It should be noted that baskets are usually overloaded with the fish forming a cone on top.

12. The Relative Advantages of Boxes and Baskets

The baskets are less costly than the boxes to purchase and to transport. They can normally take more fish than the boxes of the same volume because they can be loaded above their brim. With regards to length of useful lives, analysis of answers given by the women indicates that while this depends very much upon handling, there is not much difference between the boxes and baskets although the baskets have a slight edge over the boxes. Whereas the range of useful life was indicated to be from 2 to 18 trips to Kumasi for both baskets and boxes the average was estimated to be 6 trips for boxes and 7 trips for baskets. It was estimated that the women made an average of 19 trips last season. This implies that the average smoker had to purchase three batches of baskets and boxes to carry out her business during the last herring season. The boxes do not last longer because they get broken up when they are thrown about during loading and unloading. On the other hand the baskets are much more flexible and are able to withstand rough handling. By far the greatest disadvantage of the baskets is that fish packed in them sustain much more breakages than those packed in boxes and

this is the most important reason why most women prefer the use of boxes to baskets. Loading of the boxes on the vehicles is also easier. Boxes are placed one on top of another in such a manner that they do not sit on the fish. However, some of the women interviewed argued that baskets serve as better containers for fish with low moisture content while boxes are more suitable for packaging fish with high moisture content. According to the women less breakages are sustained by the fish. This calls for further investigation.

D. TRANSPORTATION & SALE OF FISH

Transport Arrangements

13. Many lorries converge at Elmina to cart fish during the herring season. They may arrive upon invitation by booker resident at Elmina or upon information by other drivers that loads of fish exist to be carted. The number of 'bookers' resident at Elmina increases during the season. When the drivers arrive the 'bookers' negotiate on their behalf for the fares the women should pay for their loads and actually load the fish on the lorries.

14. Some women, particularly, those who specialize as wholesale dealers accompany their fish during transportation whereas most of the smokers send their fish unaccompanied to their agents. However the agents have a way of identifying consignment or loads of fish meant for them. For example, containers - baskets and boxes may have particular signs drawn on them or they may bear the initials of either the smoker or her agent. Pieces of old cover cloths are also used to facilitate identification. At the beginning of the herring season the agents abroad send to their suppliers (principals) at Elmina their symbols for identification usually of strips of old cloths. From these the smokers tear off tiny pieces which they tie to every package of fish depatched. When the smoked fish arrives, the agents identify their consignment from the strips pieces of cloth tied to the packages. Any representative of the agents relies on the same symbols in taking delivery of the fish.

Places and days of sales

15. Fish supplies from Elmina serve a number of urban markets in Ghana. Most of it however is fed to the Kumasi market. Ten out of the 31 women interviewed sold all their smoked fish in Kumasi market. Only six consigned all their supplies to Elmina; while another 6 supplied Kumasi and other places like Tarkwa, Obuasi, Mankesin, Prestea and Elmina itself. Other markets indicated were Bolgatanga, Kasewa (near Accra) and Beposo (near Sekondi).

16. Relatively few smokers had specific days on which they despatched or sold their fish. Those who sold on the periodic markets of Mankesin, Kasewa and Beposo arranged their sales to coincide with the respective market days while the others who sold on the daily urban markets did not have specific days for the despatch of fish.

Pricing of the Smoked Fish

17. Fish smoked at Elmina and bound for the urban centres is priced first by the smokers before despatch and second by the agents who do the sales at the urban centres. The smokers, when pricing the fish take into account the cost of production - the fresh fish, fuel, transportation and other costs incurred by the smokers. In addition to the total production costs the smokers add a margin (profit) for their labour and interest on capital utilized. The final price arrived at is represented by a number of palm kernels and pebbles which are tied on a strip of cloth and placed on top of the fish. One palm kernel in the trade represents £2.00 while £1.00 is represented by a pebble. Thus the first thing that the agents look for when they open the fish containers is the knot containing the palm kernels and pebbles which enable them to know the price at which the fish is supposed to be sold.

18. The second pricing is done by the agents in the urban markets. They take into consideration the market situation of demand and supply - the ruling market prices and may add a margin as for their services. The rewards of the agents consists therefore of the additional revenues they are able to realize above those indicated by the smokers. Where the going market prices are lower than those indicated by the smokers, the agents sell the fish using their discretion and communicate the market conditions immediately thereafter to the smokers at Elmina.

#### Rendering of Accounts

19. The empty fish containers are usually returned on the third or fourth day after the despatch of fish from Elmina. Proceeds derived from the sale of one batch/consignment of fish are usually needed for financing the smoking of subsequent batches. It is therefore important that accounts are rendered and proceeds made as readily available as possible to the smokers at Elmina. Proceeds from sales of fish are usually delivered through drivers. In some cases, the agents may travel down to Elmina to make personal delivery of the money while the smokers may send people for collection after three or four consignments have been sent away. Total accounts of the season's operations are however rendered at the end of the season, very often, at Christmas time, and 'Bakatue' festivals.

#### CONCLUSIONS

20. To remove the major constraints facing fish smokers at Elmina it is suggested that the following action be taken:

1. The complaints of the lack of space for the construction of more smoking and storage kilns should be further investigated with the view



to providing a large stretch of dry land for the purpose. Alternatively efforts should be made to introduce to the smokers a new type of kilns which will combine (economic and technical) efficiency with large capacity.

2. That the smokers should be organized into groups or co-operatives and given loans to operate during the season.
3. Although the existing marketing system which uses wholesale agent has thrived for a long time, its heavy reliance upon good-will and trust between the smoker and agent calls for some modification in view of complaints made by the smokers. It is suggested that the possibility of establishing wholesale market for smoked fish at Elmina be investigated.
4. Because of its relative advantage in terms of availability, cost, capacity and longevity the use of baskets as containers for smoked fish is expected to continue for a long time. Perhaps rectangular baskets could combine the advantages of both boxes and the round baskets now in use. This needs further investigation.

APPENDIX I

DIMENSIONS OF FISH BOXES ENCOUNTERED -  
INCHES

1. 26 x 34 x 17	17. 28 x 36 x 21
2. 26 x 16 x 31	18. 40 x 28 x 18
3. 20 x 23 x 14	19. 20 x 28 x 36
4. 21 x 25 x 17	20. 31 x 34 x 21
5. 16 x 17 x 23	21. 31 x 34 x 21
6. 17 x 31 x 21	22. 31 x 34 x 21
7. 17 x 31 x 21	23. 31 x 34 x 21
8. 21 x 26 x 26	24. 31 x 34 x 21
9. 21 x 26 x 26	25. 31 x 34 x 21
10. 21 x 26 x 26	26. 31 x 34 x 21
11. 21 x 26 x 26	27. 31 x 34 x 21
12. 21 x 26 x 26	28. 20 x 17 x 26
13. 25 x 23 x 15	29. 14 x 25 x 19
14. 21 x 21 x 33	30. 13 x 25 x 25
15. 25 x 27 x 14	31. 33 x 22 x 15
16. 24 x 31 x 16	32. 35 x 23 x 14
17. 21 x 25 x 17	33. 33 x 22 x 15
18. 15 x 17 x 23	34. 31 x 34 x 21
19. 17 x 31 x 21	35. 31 x 34 x 21
20. 17 x 31 x 21	36. 31 x 34 x 21
21. 21 x 26 x 26	37. 31 x 34 x 21