NATIONAL BOARD FOR
SMALL SCALE INDUSTRIES

'SUSTAINABLE INDUSTRIAL MARKETS FOR CASSAVA' PROJECT

PROGRESS REPORT 2 ON PROJECT OUTPUT 2.3.4

A REPORT ON THE ECONOMICS OF PRODUCTION AND VALIDATION OF THE COSTS OF PRODUCTION OF HIGH QUALITY CASSAVA FLOUR (HQCF) BY THE GROUP AT WATRO, NEAR ATEBUBU IN THE BRONG AHAFO REGION OF GHANA

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1. INTRODUCTION

In the proceeding project on the "Development of new markets opportunities to increase the contribution that cassava makes to the livelihoods of farmers and primary processors in rural Ghana" Project business plans were prepared for the production of High Quality Cassava Flour (HQCF) in both the rural and urban areas. The cost of production in those studies was based on estimates.

This present study was undertaken to find out the real cost in the production of HQCF by the production group in Watro and validate the production costs with the earlier studies in view.

2. THE FARMERS/PRODUCTION GROUP

The group formed in 1999 comprised thirteen (13) members of nine (9) women and four (4) men. They are all basically farmers and process their produce, to add value to it in order to get higher returns. The group is being managed by Ministry of Food and Agriculture in Brong Ahafo Region.

3. LOCATION OF BUSINESS:

The business is located at the village of Watro, which is about 15 km from Atebubu, the district capital of Atebubu District.

4. THE FIXED ASSETS OF THE GROUP

The fixed assets for the group are made up of the following equipment:

Table 1: Fixed Assets for the Watro Group.

Item	Quantity	Unit Value*	Total Value*
Motorised Grater	1		
Pressing Machine	1		
Pressing Machine (unserviceable)	2		
Seive	1		
Plastic sheets	4		
Drying Cement Floor (Patio)	1		

*The value of the fixed assets were not readily available from coalition partners in MOFA and FRI who supplied the fixed assets to the group.

5. PRODUCTION LEVELS

The group produces HQCF twice a week, i.e. on Wednesdays and Fridays when they do not go to farm.

The details of production are as follows:

i. Daily production – 6 mini bags of fresh cassava of 48 kilos a bag – 288 kgs
ii. Weekly Production – 2 x 288 kg. = 576 kg or 12 mini bags
iii. Monthly Production – 4 x 576 kg = 2,304 kg or 48 mini bags.

6. RAW MATERIAL COST:

The main raw material of fresh cassava is obtained locally from the farms of members and non-members. The price paid for a bag of fresh cassava includes transportation cost from the farm.

The cost of raw material is stated below:

Cost of 1 mini bag (48 kg) of raw cassava =	¢15,000/bag
Daily cost of raw material – 6 x ¢15,000 =	¢90,000
Weekly cost of raw material – 12 x ¢15,000 =	¢180,000
Monthly cost of raw material – 4 x ¢180,000 =	¢720,000

7. OTHER COSTS:

The costs identified were on labour (peeling, washing, drying, grating and pressing) fuel, transportation, milling and packaging. The details of the costs are listed below:

(i) Peeling and drying - ¢2000 per bag by 9 women/day = ¢18,000/day
Grating and pressing - ¢3,000/day by 4 men = ¢12,000/day

(ii) Fuel Cost (Grating Machine)
5 gals of petrol @ ¢20,000/gal for 1 month - ¢100,000
1 litre of engine oil/month - ¢12,000

Sub Total **¢112,000**

(iii) Transportation Cost:
Cost of transporting cassava grits to Atebubu for milling - ¢5,000/bag
Transport fare for 1 worker to Atebubu for milling (return)
¢3,000 x 2 - ¢6,000

(iv) Milling Costs:

Milling of 1 bag of dried cassava grits - ¢3,000/bag

(v) Packaging materials costs:

1 lining sheet - ¢1,000
1 polysack - ¢ 3,000

8. OUTPUTS – PRODUCTION OF HQCF

The information gathered from the processors gives the following figures of the conversion rate of raw cassava to HQCF:

3 mini bags (144 kg) of raw cassava yields I mini bag (50 kg) of HQCF.

Daily Production (6 mini bags of raw cassava) yields 2 bags (50 kgs each) of HQCF.

Monthly Production – 16 bags of HQCF

Conversion Rate - 35%

9. SALES REVENUE

The group sells the HQCF it produces at ¢2,000 per kilogram. This gives the price for 50 kg bag of HQCF as ¢100,000. This is the price that is sold to the main distributor at Atebubu.

10. CURRENT DEMAND/MARKET FOR HQCF

Presently there is a high demand for HQCF in the Atebubu area by bakers. There is a larger demand by end-users in the urban area in Accra-Tema which the group in their present production levels can only supply a very small part.

11. THE COST AND PRICING STRUCTURE OF THE PRODUCTION OF HQCF BY THE GROUP)

With the above data on production of HQCF, the present cost and pricing structure for a month's production by the group is as follows:

PRODUCTION COST AND PRICING STUCTURE FOR ONE MONTH'S OUTPUT OF HQCF AT WATRO

ITEM	AMOUNT
▪ 2,304 kg. (2.3 tons) of fresh cassava @ ¢15,000 per 48 kg/bag	720,000
▪ Peeling cost @ ¢1,000/bag of 48 bags	48,000
▪ Water for washing	20,000
▪ Grating, pressing and drying (labour costs)	240,000
▪ Milling of dried cassava grits (16 bags) @ ¢3,000/bag	48,000
▪ Fuel and oil for grating machine	112,000
▪ Transportation of dried cassava grits to Atebubu for milling @ ¢5,000/bag (16 bags)	80,000
▪ Packaging – 16 pieces of polythene liners and sacks @ ¢4,000 a pair	64,000
Total Production Cost	**1,332,000**
Total Montly Output (16 bags)	
Unit cost per a bag of HQCF	83,250
Profit Margin/Mark up @ …….%	-
Selling Price/1 bag of HQCF (50 Kg)	100,000*
Selling Price of 1 kg. Of HQCF	2,000
Cost of 1 bag of Wheat Flour (50 kg) at Atebubu	190,000

* Foreign Exchange Rate Used (August 2003) - £1=¢14,000

COMMENTS:

(a) Production cost and pricing structure of HQCF by the Watro is not complete as some factors or cost items have been left out. The cost of depreciation and maintenance of machinery and equipment has been left out as their total value is yet to be computed. The interest on money used

to buy raw material and other items have been left out as the money being presently used is being given out for use is without interest. The money is repaid to the donor after sales have been effected. There is no policy of how much mark-up or percentage of profit to be realised from a bag of HQCF to enable them know whether they can produce profitably for the market or not.

(b) **Production Levels**: The quantity of HQCF produced is greatly limited by the size of the drying area. Currently the drying patio can take only 6 bags of grated fresh cassava though there are large acreages of cassava that can be harvested daily and grated. According to the members of the group two to three additional drying floors would enable them increase their daily, weekly or monthly production. This increased output will decrease production cost per unit and thus increase profit.

(c) **Equipment:** The group needs additional equipment like weighing scale, peeling knives, plastic bowls for washing and plastic water tank for water storage. Currently what are being used are supplied freely by members.

(d) **Additional Machinery**: There will be the need for a milling machine when the present production level is increased. An additional press of higher efficiency will also be needed.

GENERAL OBSERVATIONS

(I) **Business Orientation of the Group:** The group are very eager to produce HQCF for profit in order to improve their incomes. They are currently constrained by lack of working capital, drying flour, machinery and equipment and production shed. They also lack entrepreneurial orientation and business management. This entrepreneurial/management deficiency can be rectified by training programmes(s) by the Business Advisory Centre (BAC) of NBSSI at Atebubu.

(II) Commercial Production of HQCF:
In relation to the Business Plans prepared earlier the Watro Processing Group are not producing HQCF on full commercial basis as with the current situation only two days in a week is set aside for constrained production of HQCF. It is envisaged that with additional input of fixed assets, working capital and training in business management the expected goal of income generation by its rural farmers/processors can be achieved.