



**NATIONAL BOARD FOR
SMALL SCALE INDUSTRIES**

**'SUSTAINABLE INDUSTRIAL MARKETS FOR
CASSAVA' PROJECT**

PROGRESS REPORT 1 ON PROJECT OUTPUT 2.3.4

**A REPORT ON THE ECONOMICS OF PRODUCTION AND
VALIDATION OF THE COSTS OF PRODUCTION OF GLUCOSE
SYRUP BY THE GROUP AT KOKOFU, NEAR ATEBUBU IN THE
BRONG AHAFO REGION OF GHANA**

By

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1. INTRODUCTION

The production of glucose syrup from cassava is one of the industrial products that has been identified to improve the incomes of rural cassava farmers/processors as well as urban commercial industrialists.

The farmers/processing group at Kokofu has been trained to process glucose syrup from cassava. This study is to find out their present production costs in order to guide them to price their products for the present market for glucose syrup.

2. THE FARMERS/PROCESSING GROUP

The group was established in 2002. It is made up of nineteen (19) farmers/processors with six (6) men and thirteen (13) women. They have been trained under the earlier project “Development of new market opportunities to increase the contribution that cassava makes to the livelihoods of farmers and primary processors in rural Ghana” to produce HQCF and glucose syrup. The group is being managed by Ministry of Food and Agriculture in Brong Ahafo Region.

3. LOCATION OF BUSINESS:

The business is located in the village of Kokofu, which is about 20 km from Atebubu, the district capital of Atebubu District.

4. THE FIXED ASSETS OF THE GROUP

The fixed assets for the group are as follows:

Item	Quantity	Unit Value	Total Value
Production shed (uncompleted)	1		
Boiling container (large size)	1		
Boiling container (medium size)	1		
Boiling container (medium size)	1		
Plastic containers (large size)	2		
Coal burning pot	1		
Wooden spoons (large size)	3		
Measuring plastic container	1		
Measuring kitchen scale	1		
Sieve (large size) for filtration	1		
Sieve (small size) for filtration	1		

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

Table 1: Fixed Assets for the Kokofu group.

5. PRODUCTION LEVELS

Currently the group produces only on Fridays i.e. once a week. They produce 4.5 litres of glucose syrup a week. The production is not continuous as they have not got market for what they have produced due in part to how much to sell their product.

6. RAW MATERIALS COST:

The main raw materials for glucose syrup production are High Quality Cassava Flour (HQCF) and malted rice.

The HQCF is produced by the men in the group and supplied to the women in the group to produce the glucose syrup. The HQCF is supplied at ¢2,000/kg. The seed rice used for the malted is obtained from Afife Rice Farms in the Southern Ghana. Malted Rice is bought at ¢1,500/kg.

7. OTHER COSTS:

The other costs associated with the glucose syrup production of the group are:

(i)	Labour Costs: 5 people @ ¢10,000/day	¢50,000
(ii)	Fuel Cost : Charcoal	...	3,000
	Kerosine for lighting and starting fire	...	3,000
(iii)	Water	...	2,000

8. OUTPUTS – PRODUCTION OF GLUCOSE SYRUP

The present output is 4.5 litres of glucose syrup per production/per one day /per week.

This is not continuous as stated elsewhere in this report. Large quantities of glucose can be produced by using the large and medium boiling pans. These pans have large capacities/ volumes than the present aluminium-boiling pan being used.

9. SALES/MARKET FOR GLUCOSE SYRUP

No sales have been made at present.

10. DEMAND/MARKET FOR GLUCOSE SYRUP

Local market for glucose syrup has not been supplied by processors. The local managing partners and some potential private processors are making efforts to assess the local

demand and supply them. The group at Kokofu will be part of the supply chain to this yet to be supplied market/demand.

11. THE PRODUCTION COST AND PRICING STRUCTURE FOR GLUCOSE SYRUP BY THE KOKOFU GROUP (CURRENT)

The present production cost structure of glucose syrup of Glucose Syrup at Kokofu is as follows:

PRODUCTION COST AND PRICING STRUCTURE FOR A DAY'S OUTPUT OF GLUCOSE SYRUP AT KOKOFU

ITEM	AMOUNT
▪ 5 kg. Of HQCF @ ¢2,000/kg	¢10,000
▪ 400 gm of malted rice @ ¢1,500/kg	600
▪ Water	2,000
▪ Charcoal	3,000
▪ Kerosene for lighting and starting coal fire	3,000
▪ Labour – 5 people ¢10,000/day	50,000
Total Production Cost	68,600
Total Daily Output 4.5 litres of glucose syrup	
▪ Unit cost/litre of glucose syrup	15,245
Profit margin/mark-up price @% of total cost	-
Selling price	15,245
Prevailing market price for imported glucose syrup	7,000
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* Foreign Exchange Rate used (August/2003) = £1 = ¢14,000

11B. THE PRODUCTION COST AND PRICING STRUCTURE OF THE AVAILABLE SYRUP (SCENARIO II)

By using the full boiling capacity of the available boiling pans/vessels and doubling the monetary incentives to the producers/boilers the following structure is suggested:

ITEM	AMOUNT
▪ 50 kg. of HQCF @ ¢2,000/kg	¢100,000
▪ 4 kg of malted rice @ ¢1,500/kg	6,000
▪ Water	6,000
▪ Firewood/Charcoal	10,000
▪ Kerosene for lighting and starting coal fire	3,000
▪ Labour – 5 people ¢20,000/day	100,000
Total Production Cost	225,000
10% contingency of Costs	22,500
Total Daily Output 45 litres	
▪ Unit cost/litre of glucose syrup	5,500
Profit margin or mark-up price @ 20% of unit cost	1,100
Selling price	6,600
Prevailing market price for imported glucose syrup	7,000
	-

* Foreign Exchange Rate used (August/2003) = £1 = ¢14,000

COMMENTS:

During the study it was found out that the women were eager to undertake the glucose syrup production business if they are assured of incomes that would improve their livelihoods. The men were also prepared to produce the HQCF to be converted to glucose syrup. There are available cassava farms to be harvested to produce HQCF. What is needed is backstop technical support from MOFA and FRI and business training/orientation by Business Advisory Centre of NBSSI at Atebubu. It is financially viable to supply a percentage of the present market for glucose syrup. Though the Scenario II did not factor in depreciation, interest on loan, losses, handling costs, etc. Variations can be made taking into consideration contingency costs and mark-up margins made in it.

RECOMMENDATIONS

Glucose syrup can profitably be produced at Kokofu to supply part of the current demand at the given market price. This view is based on the following:

1. There is a large supply base of raw cassava, which can be processed into HQCF by the men in the group.
2. The HQCF will be supplied to the women to produce glucose syrup. It can be supplied on soft credit terms.
3. The women have developed the basic skills for production and MOFA and FRI can provide back-up technical support.
4. The group has the necessary boiling capacity to produce the glucose syrup.
5. To ensure the quality of the glucose syrup produced there is the need to procure a Refractometer for the group.