



MINISTRY OF FOOD AND  
AGRICULTURE

**‘SUSTAINABLE INDUSTRIAL MARKETS FOR  
CASSAVA’ PROJECT**

**FINAL REPORT ON PROJECT OUTPUT 3.3**

**AWARENESS CREATION ON THE USES OF HIGH QUALITY  
CASSAVA FLOUR  
AND  
FOLLOW-UP MEETINGS WITH TRAINED BAKERS AND  
CONFECTIONERS  
IN  
THE ATEBUBU AND SENE DISTRICTS OF BRONG-AHAFO REGION**

By

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## **EXECUTIVE SUMMARY**

In order to disseminate information on the potentials of cassava as an industrial commodity, five awareness seminars were organised in five communities – Bantama, Gariderma, Old Kokrompe, Parambo/Sawaba and Akokoa - where cassava production is high. A total of 453 persons comprising 297 males and 156 females attended the seminars. The highest attendance was at Bantama (133) whilst the lowest attendance was at Old Kokrompe (73). The focus of the information disseminated was the production of high quality cassava flour, for use in pastry products as well as in the production of glucose syrup, paperboard and plywood adhesives. The resource persons included Lawrence Krampa, Peter Fiashey, Martin Aduko, and Mawuko Dorkeno all of MoFA,; Nanam Dziedzoave (FRI) and Mrs Gladys Wilson, a professional baker based in Atebubu. After presentations by the resource persons participants were given the opportunity to taste samples of cassava flour-based bakery products and glucose syrup and to ask questions. The resource persons responded to the questions. Participants were generally excited by the opportunities presented to them on the potentials of cassava but were concerned about how to get adequate training, access markets for the products and also get loans to expand their farms and businesses. The meeting with the bakers revealed that there was a realisation of the need to increase the use of the HQCF in order to increase their profits since the rising cost of wheat flour was gradually eroding their profits.

## **INTRODUCTION**

The search for new markets for cassava, led to the development of technologies intended to make cassava a dependable industrial raw material. The technologies developed and currently being promoted within the frame work of the project include the production of high quality cassava flour as a raw material for the production of bakery and confectionery products, technologies for the production of cassava flour-based glucose syrups, paperboard adhesives and plywood adhesives.

Adequate training has been undertaken for bakers and those in the confectionery industry especially in the project areas for the use of composite cassava flour in the pastry industry. It was therefore necessary to create the awareness for both consumers and farmers to know the other uses cassava can be put to apart from local uses like cassava fufu, kokonte, gari, starch etc and to encourage them to form local groups to process the cassava into flour. It was also thought necessary to organise follow-up meetings for bakers who have already been trained in the utilisation of HQCF in bakery products.

This report presents details of the awareness seminars organised (SECTION I) and meetings held with already trained bakers (SECTION II).

## SECTION I: AWARENESS SEMINARS

### 1.1 AWARENESS CREATION AT BANTAMA

The awareness creation was held at Bantama in the Sene district on the 8<sup>th</sup> May 2003, with 88 males and 45 females totalling 133. There is lot of cassava produced here with majority of it being used in the production of kokonte (dried fermented chip). The team comprised Lawrence Krampa, Peter Fiashey, Martin Aduko, Mawuko Dorkeno (MoFA) and Nanam Dziedzoave (FRI).

Samples of bakery products as well as glucose syrup were displayed during the awareness creation. The bakery products include bread, bofrot, sweet bud, togbee, cake. Samples of cassava flour were also shown to participants. The forum started with the introduction of the team by the AEA of the area with the participants making self introduction. Participants were asked to mention the uses of cassava they were aware. Majority of them mentioned fufu, kokonte, gari and fermented cassava dough as been the main items cassava is used for.

They were then told about the other uses of the cassava which included the uses of the flour for glucose syrup production, as adhesives for the plywood and paperboard industry. Mention was also made of it being used for industrial alcohol. Samples of the products were given to the participants taste. This generated a lot of excitement among the participants. What actually fascinated them most was the glucose syrup because of its sweetness.

The participants were then briefly introduced to process of cassava flour production.

#### General Discussions

The following were some of the questions asked by participants during discussion time after the team's presentation.

Q. The production of HQCF may need some skill. In case we want to start processing, who will train us

*A: The project will arrange to train you. You can also be linked with existing groups at Watro or Kokofu who can also train you.*

Q. Is it possible for the project to buy the processing equipment for us?

*A: The project has no funds to buy the equipment for you but you should organise yourselves into groups and source for funding from local NGO's operating in this community*

Q. How can we get market for the cassava processed?

*A: If you can process enough flour, you could be linked to entrepreneurs in the urban areas who will purchase your products.*

Q. Will the Ministry of Agriculture be willing to buy the cassava roots from us?

*A: MoFA will not be in able to purchase the cassava from the farmers*

Q: Will the project buy a tractor for us to cart our cassava to the processing sites.

*A: The project does not have funds to buy you a tractor but if you are well organised you could ask local financial institutions to assist you.*

Q. Could we be trained in the use of composite cassava flour in the preparation of bakery products?

*A: The project was ready to assist those bakers willing to be trained by linking them with those who had already been trained.*

Q. Will the Ministry of Food and Agriculture advance loans to them for the expansion of their farms?

*A: The ministry is not a financial institution. You can get assistance from the banks or local NGO's but all depends on you by forming the a group/association.*

Q. Are you really sure that the glucose syrup was made from cassava?

*A: Yes it was made from cassava flour. Cassava has some level of sugar that is why sometimes when you dry fresh cassava, you see a lot of bees*

Q. Do you use a special variety of cassava for syrup production?

*A: No, any variety which is edible can be used.*



Assembly man and others listening



Participants in the community listening



Participants testing bakery products



Resource persons cutting up some samples for tasting

## **1.2 AWARENESS CREATION AT GARIDERMA**

This was held on the 9<sup>th</sup> May 2003 at Gariderma a community noted for the cultivation of cassava and yams in the Atebubu district. The team was made up of Lawrence Krampa, Peter Fiashedey, Martin Aduko, Mawuko Dorkeno (MoFA) and Nanam Dziedzoave (FRI). The participants at the forum included farmers, chiefs, opinion processors (gari) and religious leaders (Muslim). Participation was fairly good with 54 males and 24 females in attendance. Count was not made of the numerous children who also attended

The team carried along some samples of glucose syrup, bread, bofrot, meat pie, sweet bud, 'togbee' and cake.

One of the team members started the ball rolling after Muslim prayers and self introduction by telling the people present about the purpose of the meeting. He explained that apart from local uses of cassava known to them, the root can be processed into flour and used for bakery and pastry products such as bread, cake meat pie, bofrot, togbee. Other team members spoke about glucose syrup that is made from cassava flour and the use of the flour as an adhesive in the plywood and paperboard making.

Later after the explanations, the samples were given to the people present to taste and give their reactions and also ask questions for clarification

### **General Discussions**

The following were some of the questions the participants asked when the floor was opened for discussions.

Q. Who will train us in the production of High Quality Cassava Flour (HQCF)

*A: The project will arrange for the training. You can also be linked with existing groups at Watro or Kokofu who can also train you. The MoFA Extension officers in the area can also train you*

Q. Can kokonte also be used to make bread and other confectionery products?

*A: Kokonte cannot be used for the preparation of bread and other pastry products because there is fermentation during drying of kokonte and this does not make it good for use. Konkonte is a fermented product whilst HQCF is not fermented and that makes the different.*

Q. Will the Ministry of Agriculture be willing to purchase the processing equipment for the community?

*A: The Ministry of food and Agriculture does not have the funding to purchase the equipment for you but can advice you on how to link with the financial institutions and other donors for assistance*

Q. Who will buy the flour from us since we had experience from a company who was buying our cassava chips but later never came back to buy what was produced.

*A: The project will arrange for the purchase of the flour by linking you with entrepreneurs outside their areas. But it is necessary for you to form groups and maintain regular supply if the marketing avenue is open. When you production level is increasing, we will introduce you to the marketing avenues so you can have a direct them and not through us*

Q. Will the Ministry of Agriculture be willing to buy the cassava roots from us and then process it themselves into flour for sale?

*A: The Ministry of Food and Agriculture cannot buy the cassava roots for processing. It is the farmer who is to process and sell. The Ministry will attempt to link you with processors who can also buy the roots from you and process*

Q. Who will train us in the use of composite cassava flour in the preparation of bread and other pastry products?

*A: The project will arrange for the training through resource persons who are in the district.*

Q. Will the Ministry of Food and Agriculture advance loans to us for the expansion of our farms?

*A: The Ministry of Food and Agriculture can link them to local financial institutions and NGOs for assistance. You can also contact local NGO's operating in your areas. But it all depends on the formation of groups since most financial institutions prefer working with groups rather than individuals.*



A participant discussing a point with Agricultural Extension officer



Members of Gariderma community listening to presentation



Participants at Geriderma tasting some pasties



A participant at Gariderma asking a question at the forum

### **1.3 AWARENESS CREATION AT OLD KONKROMPE**

The forum was held at Old Konkrompe a small village which is mostly noted for the production and processing of cassava into chips (kokonte) on 10<sup>th</sup> May 2003 with 39 males and 34 females in attendance. The participants included opinion leaders, farmers and processors. The resource team comprised three Agricultural Extension Agents, the project leaders for MoFA and FRI.

The team carried along some samples of glucose syrup, bread, bofrot, meat pie, sweet bud, togbee, and cake. Some cassava flour was also brought to show the participants. The presentation started with the introduction of the team by L. K. Krampa (project leader MoFA). The audience were then told about the purpose of the forum and asked



to mention the uses of cassava which they were aware of. Majority mentioned that cassava could be used for fufu (local food), kokonte, starch, gari, and agbelima. One participant said that he sometimes used it to feed his animals (goats and sheep).

Mr Nanam later told them about the other commercial uses of cassava which they did not mention such as the use of flour for the production of bakery and pastries such as bread, bofrot, meat pie, sweet bud, togbee, and cake. The use of the flour for glucose syrup was mentioned and its uses in the food and pharmaceutical industry.

Participants were then given the samples to taste. This generated some controversy since most of them did not believe that the products were made from cassava. What even fascinated them most was the glucose syrup which was made from cassava. After the tasting of the products, the floor was then opened for them to ask questions.

### **General Discussion**

These were some of the questions asked by participants during discussion time after the team's presentation.

Q. Are all varieties of cassava good for the production of cassava flour?

*A: All varieties are good for the cassava flour production so far as it edible*

Q. Who will train us to know how to produce the cassava flour?

*A: The project will organise the training for the farmers who are interested in processing, but it will be good if they can organise themselves into groups.*

Q. Do you need any special equipment in the production of glucose syrup?

*A: Production of glucose syrup in small quantities does not need any special equipment. But in large quantities, you will need special equipment and special materials for filtration.*

Q. Is it advisable to harvest cassava and leave overnight before processing it into flour?

*A: It is not advisable to harvest cassava and leave it overnight before processing it into flour because the cassava left overnight will start fermenting and will not be suitable for the products intended for.*

Q. Will the project buy a tractor for us to cart our cassava to the processing sites?

*A: The purchase of tractor is beyond the capabilities of the project if you organise yourselves into group then you could liaise with local banking institutions or VIP to get funds to purchase the tractor.*

Q. Will the Ministry of Food and Agriculture advance loans to us for the expansion of their farms?

*A: The ministry is not a financial institution and therefore cannot help in that respect. However you can get assistance from the banks or local NGO's operating in your community but all depends on the formation of well organised groups.*



Chiefs and elders at Old Kokrompe listening at the forum



Tasting of bakery products at Old Konkrompe



Women in the community listening



Some members of the community at the forum

#### **1.4 AWARENESS CREATION AT PARAMBO/SAWABA**

This is a town located on the Atebubu/Yeji road. Majority of inhabitants migrated from the north and are predominantly farmers. The main crops cultivated include cassava, yam and maize. The Kokomba tribe form the majority. The awareness was held on the 18<sup>th</sup> July 2003 with 59 males and 23 females.

The team comprised Lawrence Krampa, Peter Fiasidey, Martin Aduko, Mawuko Dorkeno (MoFA) and Nanam Dziedzoave (FRI).

Bread, bofrot, sweet bud, 'togbee', cake and glucose syrup were some of the samples shown to them as well as cassava flour. The participants included the chief of the Kokonbas, farmers and assembly member of the area, processors and three bakers. The forum started with prayers and subsequent self introduction by the team.

Participants were informed about the essence of the forum and were asked to mention the uses of cassava. Fufu, kokonte, gari and fermented cassava dough were the main items mentioned.

Peter Fiasidey, Martin Aduko, Mawuko Dorkeno (MoFA) later told them about the other uses of cassava which include the use of flour for the production of bakery and pastries such as bread, bofrot, meat pie, sweet bud, togbee, and cake. The use of the flour for glucose syrup was mentioned and its uses in the food and pharmaceutical industry. They were also told about the use of the flour as an adhesive in the plywood and paperboard industry.

They were then given the samples to taste. There were arguments among the participants since most of them did not believe that the products were made from cassava. What even surprised them most was the glucose syrup.

After tasting session, the floor was then opened for questions.

### **General Discussions**

After the presentations the farmers were then given the chance to ask questions. Some of the questions asked were:

Q. Now that we have heard about the uses of cassava, who will train us in the production of the flour?

*A: The project can organise training for you. Also the MoFA staff in your area can also be of assistance to you..*

Q. In case we want to go into the processing of the flour, how can we acquire the equipment since we cannot afford the cost?

*A: In the acquisition of the processing equipment, we advise you to form organised groups and source for funding from local NGO's operating in your community.*

Q. If we start producing the flour, how can we get market for it?

*A: The project will link the processing groups to entrepreneurs in cassava business so flour produced could be bought from you. But it is necessary to maintain quality, and ensure regular production to meet the market demand especially with respect to quantity delivery and timely delivery.*

Q. Can the Ministry of Agriculture be willing to buy the cassava roots from us?

*A: The Ministry of Food and Agriculture is not in any position to purchase the fresh cassava roots for you. We assume you find your own markets.*

Q. How can you assist us to get loans for the expansion of our farmers?

*A: The Ministry can link you to get assistance from the banks or local NGO's working in your community but all depends on you coming together as a group.*

Q. Our farms are far and will it be possible for the Ministry to help us acquire a tractor to help cart our cassava to the sites for processing?

*A: The purchase of a tractor is beyond the capabilities of the project but the processing group formed could liaise with local financial institution assistance.*



A section of participants at Parambo/Sawaba



Another section of participants at Parambo



Participants tasting bakery products at Parambo



Participants listening to presentations.

## 1.5 AWARENESS CREATION AT AKOKOA

Akokoa is a village on the main Atebubu/Ejura road. The awareness was held on the 15<sup>th</sup> October 2003. In attendance were 57 males and 30 females. The team comprised Lawrence Krampa, Peter Fiashey, Martin Aduko, Mawuko Dorkeno (MoFA) and Nanam Dziedzoave (FRI). Bread (50% cassava), bofrot (50% cassava), sweet bud (100% cassava), 'togbee' (100% cassava), cake (100% cassava) and glucose syrup were some of the samples shown to them as well as cassava flour. The participants included the chief of the village, farmers and assembly member of the area, processors and some traders who were in the village to buy charcoal. As usual,

introduction was made by the Agricultural Extension officer of the area. A member of the team then proceeded to explain to the participants the reasons for the forum. Explanations were made on the various uses of cassava apart from the normal uses known to them (kokonte, fufu, gari, agbelimo). They were told how cassava flour can be used for bread and pastries such as bofrot, sweet bud, 'togbee', cake and meat pie with the combination of either cassava and wheat flour or purely with cassava flour. The team spoke about how cassava can be made and the differences between kokonte and that of flour for the preparation of the bakery and pastries.

### **General Discussion**

After the presentations from the resource persons, the farmers were then given the chance to ask questions.

These are some of the questions asked.

Q. We are very interested in producing the cassava flour. Will you come down to teach us when we make the request?

*A: The project will organise the training for you. But it is necessary for you to organise yourselves into groups to make it easy for you to produce large quantities of the cassava flour.*

Q. If we want to produce the flour, we may need the equipment for the processing. How do we get this machine?

*A: The project can not purchase the processing machine for you but you can seek assistance from local NGO's operating in your community.*

Q: How can we get market for the flour when we start production?

*A: The Ministry will link you to some entrepreneurs who use cassava flour. You can also supply to bakers in Atebubu and Sene districts who use it in baking and pastries.*

Q. Presently, we have a lot of cassava and we do not get market for it. Will the Ministry of Agriculture or project be willing to buy the cassava roots for processing?

*A: The Ministry of Agriculture cannot buy the cassava for you. You can either process it into kokonte or cassava flour*

Q. Will the project assist us buy a tractor to cart our cassava to the village for processing?

*A: The purchase of tractor is beyond the capabilities of the project but with organised groups you could liaise with local banking institutions for assistance.*

Q. Who will organise training for our bakers in the use of composite cassava flour in the preparation of bread and other pastries?

*A: The project will be ready to organise training for bakers willing to know how to use the composite flour in baking in the community*

Q. How best can the Ministry of Food and Agriculture help us get loans to expand our farms?

*A: The ministry is not a financial institution but can only assist you to form groups and then assist you to seek financial assistance from the banks or local NGO's.*

Q. How long can you take to make glucose syrup?

*A: The preparation of the glucose takes just a day. But it all depends on when you start processing. The earlier you start, the earlier you finish*



Tasting of bakery products at Akokoa



Participants at Akokoa listening to presentations

Cassava-Based Products



'Bofrot'



Cake



Pancake



Rock Buns



Bread

## SECTION II

### FOLLOW-UP MEETINGS WITH TRAINED BAKERS AND THOSE IN THE PASTRY INDUSTRY

In order to strengthen the activity base of those who have already been trained in the use of cassava flour in baking and pastry activities, it was found necessary to hold meetings with them to know their problems and discuss strategies to improve upon their business. Meetings were therefore held with bakers in Atebubu, Yeji and Kwami Danso.

The team which held the meeting with the bakers comprised Lawrence Krampa, Mrs Wilson, Aduko Martin and Peter Fiashedy. The purpose of the meeting was to access the rate at which HQCF is been used by them as composite flour in their bakery products. The meetings were held on different occasions at Atebubu, Yeji and Kwami Danso

The participants comprised mainly those who were trained by the project. They expressed their gratitude for having benefited from the training. During general discussions it came to light that the price of the wheat flour has been increasing steadily. As at the time, the cost of 50kg of wheat flour at Atebubu was ₦ 245,000 (two hundred and forty-five thousand cedis); ₦260,000.00 (two hundred and sixty thousands cedis) at Yeji and ₦270,000.00 (two hundred and seventy thousand cedis) at Kwami Danso. The bakers have now realised that there was the need for them to increase the use of the HQCF in order to increase their profit since the high cost of wheat flour has reduced considerably their profits. Some of the participants also said that they were out of business since they could not afford the high cost of the wheat flour.

#### Problems

The main problems that the participants enumerated were:

- ❖ Bread made from composite flour did not store for a long period.
- ❖ High cost wheat flour in the market
- ❖ Not able to carry out the accurate measurement for composite flour in bread making.
- ❖ Some bakers out of business due to the high cost of wheat flour

#### Suggestions from the participants

- ❖ If the project could update their training so that 100% cassava flour could be used for bread
- ❖ If they could be linked to financial institutions to acquire assistance to improve their business

#### Reactions from the team

In reactions to the problems and suggestions, Mr. Krampa said that the project had linked some farmers/processors in Watro for financial assistance and so will get back



to them if there will be any possibility to assist. He also said that he will contact Business Advisory Centre at Atebubu. There is also the possibility of contacting the Ministry of Women Affairs to assist them.

## **CONCLUSIONS**

The seminars were well attended in each community and the trend of the discussions reflected the high interest of the various communities not only in the utilisation of the cassava for the products being promoted but also in expanding cassava farms to meet the potential demand that the uptake of the technologies being promoted would put on fresh cassava. The issues of common concern in all the communities were:

- How to market the products if they should take up the technologies.
- How they can be adequately trained to be conversant with these technologies.
- How to obtain loans to expand farms and purchase farm inputs and equipment.

The first two issues are within the mandate of the project to handle technically but more resources would have to be sought to deliver adequately and monitor progress in all these communities. The third issue of concern would require the project team linking up with institutions providing microfinance for assistance and it would be pursued. The project team would need to source for funds and make urgent follow-ups on the issues arising from the awareness seminars.