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**TECHNICAL REPORT ON C:AVA/CSIR-FRI PROJECT ACTIVITIES FOR
THE PERIOD FEBRUARY 2010 THROUGH JULY 2010**

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BY

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Executive Summary

Training and backstopping services, which are the main activities of CSIR-FRI under the C:AVA project, were provided to processors and end users of HQCF by the C:AVA-FRI project team within the period under review. The kitchen staff of ten (10) senior high schools were trained on how to make composite bread (wheat flour and HQCF) and four other pastries (Cassava strips, Chinchin, Ring doughnuts, Doughnuts). The schools trained were Kpando Senior High School (SHS), Kpando, Anfoega SHS, Anfoega, Bishop Herman College, Kpando, Vakpo SHS, Vakpo, Mawuli School, Ho, Mawuko Girls SHS, Ho, OLA SHS, Ho, Awudome SHS, Tsito, Sogakofe SHS, Sogakofe and Anló SHS, Anloga. Six (6) community processors were visited and technical backstopping services were provided to them. The communities visited included Fodome Amle, Likpe Todome, Gbi Wegbe, Ve Koloenu Ando, Pampawie and Ve Golokwati all in the Hohoe and Kadjebi districts of the Volta Region. Nine (9) medium-to-large scale processors were also visited to monitor quality compliance of HQCF production process, equipment and processing environment. The companies visited were First Door Agro-processing Enterprise, Atebubu, Cassacoxa Limited, Chiraa, Bredi Agricultural Enterprise, Bredi, Caltech Ventures Limited, Ho-Hodzo, Godsway Enterprise, Agate-Have, Majestic Agribusiness Centre, Hohoe, Marbert Limited, Akrofu-Xeviofe, Amasa Agro-processing Company Limited, Ayikai-Doblo and Afrimat Global Enterprise Limited located at Fiasie. Most of the processors were doing well but had challenges with price of cassava roots (raw material) and working capital. The wet cake, grits and HQCF produced within the period by community processors met quality specifications of end users. The end users of HQCF (Senior High Schools) were very satisfied with the training provided by CSIR-FRI team and promised to use the HQCF from September 2010 when new academic year begins.

Introduction

Cassava: Adding value for Africa (C:AVA) project, is a project which intends to develop value chains for High Quality Cassava Flour (HQCF) in Ghana and four (4) other African countries as a means of improving the livelihoods and incomes of at least 90,000 smallholder households as direct beneficiaries including women and disadvantaged groups. It is funded by Bill and Melinda Gates foundation. The project seeks to promote the use of HQCF as a versatile raw material for which diverse markets have been identified in a pilot studies. The project focuses on three potent intervention points:

- (i) ensuring a consistent supply of raw materials (cassava roots);
- (ii) developing viable intermediaries acting as secondary processors or bulking agents in value chains and
- (iii) driving market demand and building market share (in bakery industry, components of traditional foods or plywood/paperboard applications). Farmers and farmer/processors will be supported in production and primary processing activities through partnership with Non Governmental Organisations (NGOs) or other extension services. Business development and other specialists will support intermediaries to meet the requirements of end users. End users will be supported technically in adopting HQCF.

Contracts were signed between CAVA (Ghana) and CSIR-Food Research Institute together with other stakeholders to carry out specific activities on the project. The management team of CAVA (Ghana) needs to know from time to time the progress of work of each stakeholder including CSIR-FRI. One of the means by which this can be achieved is by submission of reports of work carried out by each stakeholder at specified periods of project time table. This report covers the work carried out by the project team of CSIR-FRI for the period February 2010 through July 2010.

2.0 Work carried out within the period under review

2.1.0 Training

2.1.1 End users of HQCF

The kitchen staff of ten (10) senior high schools in the Volta Region were trained within the period under review. The training concentrated on composite bread baking with wheat flour and HQCF. Training was also provided on making of four other pastries (Chinchin, Doughnuts, Strips and Ring Doughnuts). The schools involved were Kpando Senior High School (SHS), Kpando, Anfoega SHS, Anfoega, Bishop Herman College, Kpando, Vakpo SHS, Vakpo, Mawuli School, Ho, Mawuko Girls SHS, Ho, OLA SHS, Ho, Awudome SHS, Tsito, Sogakofe SHS, Sogakofe and Anlo SHS, Anloga. There was initial one day training on small scale production of composite bread for the kitchen staff of all the schools above followed by 2 to 3 days (each for all schools) training on large scale production of composite bread for the entire students of each of the schools for one breakfast menu. This was followed by administering of questionnaires based on the attributes of the bread served at breakfast to a number of randomly selected students. Table 1 below summarizes the relevant data on the training of the end users;

School name	Location	Date of on-site trials	Duration of on-site trials	Total number trained	Number of Women trained
Kpando Senior Hihg School	Kpando	9/3/2010	1 day	7	6
Anfoega SHS	Anfoega	12/3/2010	1 day	33	30
Vakpo SHS	Vakpo	11/3/2010	1 day	3	3
Bishop Herman College	Kpando	10/03/10, 23-25/06/10	4 days	17	17
Mawuli School	Ho	6/5/10, 22-23/06/10	3 days	22	19
Mawuko Girls S HS	Ho	6/5/10, 22-23/06/10	3 days	20	18
OLA SHS	Ho	5/5/10, 22-23/06/10	3 days	20	17
Awudome SHS	Tsito-Awudome	7/5/10, 20-21/05/10	3 days	16	13
Sogakofe SHS	Sogakofe	23/3/10, 18-19/05/10	3 days	9	7
Anlo SHS	Anloga	22/3/10, 19-20/05/10	3 days	13	8

Table 1: Data on end users of HQCF trained in the Volta Region.

2.2.0 Backstopping activities

2.2.1 Community Processors

The project team visited the processing sites of six (6) communities within the period under review. The communities visited were Fodome Amle, Likpe Todome, Gbi Wegbe, Ve Koloenu Ando, Pampawie and Ve Golokwati all in the Hohoe and Kadjebi districts in the Volta Region. Samples of cassava grits were taken from all the communities visited for analysis in Food Research Institute laboratories to assess quality compliance. The team also inspected processing equipment available, took note of current production capacities for wet cake and grits and discussed general problems hindering the achievement of set targets for wet cake and grits production in each community. The processing environments of the communities were also assessed. Table 2 below provides information on the communities visited.

Name of Community	Date of sampling	Type of samples taken	Types of analysis undertaken	Number of defective products detected.
Fodome Amle	23/2/2010	Dried grits	Chemical	NIL
Likpe Todome	23/2/2010	Dried grits	Chemical	NIL
Gbi Wegbe	26/2/2010	Dried grits	Chemical	NIL
Ve Koloenu Ando	22/2/2010	Dried grits	Chemical	NIL
Pampawie	25/2/2010	Dried grits	Chemical	NIL
Ve Golokwati	22/2/10	Dried grits	Chemical	NIL

Table 2: Data on community processors visited within the period under review.

2.2.2 Medium-to-large scale processors

The project team visited the processing sites of nine (9) medium-to-large scale processors. The companies visited were First Door Agro-processing Enterprise, Atebubu, Cassacoxa Limited, Chiraa, Bredi Agricultural Enterprise, Bredi, Caltech Ventures Limited, Ho-Hodzo, Godsway Enterprise, Agate-Have, Majestic Agribusiness Centre, Hohoe, Marbert Limited, Akrofu-Xeviope, Amasa Agro-processing Company Limited, Ayikai-Doblo and Afrimat Global Enterprise Limited located at Fiasie. A simple quality assurance assessment form was designed

and used to assess how best the companies were faring in terms of quality compliance. Some of the key questions on the form include whether there had been upgrading of processing materials and equipment, current production capacities for HQCF, problems hindering the achievement of set targets for HQCF and finally general problems facing the production process of HQCF. The processing environments of the companies were also assessed. Samples of HQCF were taken as well for quality analysis at Food Research Institute laboratories. Table 3 below provides some information on the processors visited.

Name of Processing Enterprise	Date of sampling	Types of analysis undertaken	Number of defective products detected.	Date of Equipment Checks	Types of Equipment Checked	Number of malfunctioning equipment found
Afrimart Global Enterprises	-	-	-	19/4/2010	Processing	NIL
Caltech Ventures	17/2/2010	Chemical/Microbial	NIL	17/2/2010	Processing	NIL
First Door Farms	-	-	-	13/4/2010	Processing	NIL
Godsways Biscuit Factory	18/2/2010	Chemical/Microbial	NIL	18/2/2010	Processing	Nil
Majestic Agri-Business	19/2/2010	Chemical/Microbial	NIL	19/2/2010	Processing	Nil
Mabert Enterprises	17/2/2010	Chemical/Microbial	NIL	17/2/2010	Processing	NIL
Amasa Agro-Processing	-	-	-	19/4/2010	Processing	NIL
Bredi-Agricultural Enterprise	15/4/2010	Chemical/Microbial	NIL	15/4/2010	Processing	Nil
Cassacoxa Ltd.,	-	-	-	14/4/2010	Processing	Nil

Table 3: Data on medium-to-large scale processors visited within the period under review.

2.3.0 Working tour to CALTECH

A one day working tour was organized by CRAN in collaboration with CSIR-Food Research Institute project team for Farmers/Farmer Processors in the Hohoe and Kadjebi districts to CALTECH in Ho. The tour took place on the 25th of June 2010. Fifty-five (55) participants took

part in the tour including the staff of CRAN, Hohoe. The visit was to offer the participants the opportunity to have first hand information on processes involved with large scale production of HQCF. Participants were taken through all the processes involved in the production of HQCF at the factory. Further explanations were provided by the factory manager based on different questions posed by participants after the tour. The idea of the visit was initiated by C:AVA-FRI team and was embraced by CRAN. FRI sponsored the lunch package for the participants and CRAN sponsored the transportation and associated logistics. The trip was very successful and participants were very grateful to the organizers and CALTECH for the opportunity.



Fig. 1: Group picture of participants on the training tour at CALTECH, Ho.

2.4.0 Printing of Training Manuals

Five hundred copies each of four set of training manuals were printed within the period under review. The total number of manuals printed was two thousand copies. The titles of the manuals are;

1. The production process of High Quality Cassava Flour (HQCF).
2. Quality control during production of High Quality Cassava Flour and specification for cassava roots, cassava wet cake and HQCF.
3. Environmental and sanitation control during the production of High Quality Cassava Flour.

4. Equipment operation and maintenance for the production of High Quality Cassava Flour.

2.5.0 Meetings

The project team of CSIR-FRI held a general meeting on progress of work on May 14, 2010. All team members were present. Work plan for project year 3 was discussed as well as other pertinent issues regarding progress of work. Members were tasked to work hard as professionals and present reports of work to the team leader promptly to enable the team meet its set targets in terms of project output. The meeting was chaired by Mr. Gregory A. Komlaga, who took over from Dr. Kwame Vowortor as the C:AVA-FRI project leader since February 2010.

3.0 General observations/concerns of processors and end users

3.1 Community processors

Most of the processors complained of the pricing of the wet cake. They said the prices were low compared to other processed cassava products in the market though they had ready market for the wet cake. Some complained of capital for inputs such as sacks and drying black polythene sheets and asked that such inputs should be pre-financed by medium-to-large scale processors who buy their semi finished products for further processing. Price of raw materials (fresh cassava roots) was another concern. The price of cassava normally shoots up during the dry season and this according to the farmers is due to the fact that the grounds become hard during the dry season and much labour is needed to harvest the roots.

3.2 Medium/Large processors

Most of the companies had acquired additional processing equipment to increase their output. Harvesting of cassava during the dry season especially in the months of November, January and February was a big problem because the grounds become so hard during this period. This makes the cassava very expensive. The major challenge for most of the companies was lack of capital and high interest rates by banks that were ready to lend money to the public. Availability of

markets for HQCF and low pricing of HQCF was additional concern for the medium-to-large scale processors.

3.3 End users of HQCF

All the Matrons of the schools trained were happy about the training and were ready to use the HQCF provided they were given the nod by their heads of Institution. They were of the hope that this could reduce the cost of feeding and free up some amount of money meant for wheat flour for other food items on the school menu. They however lamented that wheat flour for the term had been procured and that the HQCF could only be patronized from the beginning of the 2010/2011 academic year which begins from second week in September 2010.

4.0 Conclusion and Recommendations

It was observed that most of the community processors trained had stop the processing of the wet cake and grits at the time of the monitoring. This according to them was due to challenges with capital for inputs as well as pricing of wet cake. The major problem confronting the medium-to-large scale processors was lack of capital to meet production targets. End users (Senior high schools) of HQCF were ready to start using the HQCF when the new academic year begins in September 2010.

A meeting between the community processors and medium-to-large scale processors could be arranged by the NGO's concerned and CSIR-FRI project team to address the challenge of wet cake pricing. It is also recommended that the processing inputs of the community processors could be pre-financed by the medium-to-large scale processors to allow for all year processing of cassava into grits and wet cake.

A follow-up trip to the Senior High Schools who had been trained is recommended before the academic year begins in September 2010. This is to offer the C:AVA-FRI project team the opportunity to remind the school authorities to make provision for HQCF in their procurement budget. This will go a long way to kick-start the use of HQCF by the schools trained.

A loan facility with low interest rates if possible could be arranged for medium-to-large scale processors to procure efficient processing equipment for processing cassava into HQCF. This could also make capital available for other processing inputs.

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