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**REPORT ON TRAINING NEEDS ASSESSMENT OF THE
MEDIUM TO LARGE SCALE PROCESSORS IN THE
VOLTA, BRONG AHAFO AND GREATER ACCRA
REGIONS IN GHANA**

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EXECUTIVE SUMMARY

Training needs assessment was conducted for nine medium to large scale cassava processors in Ghana. In the Volta region the cassava processors were Marbert Limited located at Akrofu-Xeviope, Caltech Ventures located at Ho-Hodzo, God's Way Enterprise located at Agate, Have and Majestic Agribusiness Centre located at Hohoe. Cassava processes assessed in the Brong Ahafo region were Cassacoxa Limited located at Sunyani-Chiraa, Bredi Agricultural Enterprise located at Bredi, which is 12km north of Duayaw Nkwanta and 1st Door Agro-processing Enterprise located at Atebubu. In the Greater Accra Region the processors visited were Amasa Agro-processing Company Limited located at Ayikai Doblo and Afrimat Global Enterprise Limited, Fiasie.

The aim of the training needs assessment was to gather information to effectively plan specific training programme for each of the processing sites to make them sustainable and effectively deliver consistent good quality and required capacity High Quality Cassava Flour as specified on the C:AVA Objective 2 document.

All the processors visited produced HQCF and other cassava products such as *Agbelima* dough, *Agbelima* flour, cassava *fufu* flour, *gari*, tapioca, *kokonte*, glucose syrup and etc. God's Way Enterprise was the only processor using HQCF for biscuits production and Afrimat Global Enterprise Limited was the only company into production of glucose syrup from HQCF. Apart from Caltech Ventures, processors require some form of additional equipment for effective HQCF production as stated above. All the processors assessed used inadequate hygienic practices and quality control for the production of HQCF. Access to markets for HQCF was a challenge for all processors except Caltech Ventures, which had good arrangement with buyers. Availability of funds for operation and expansion was a challenge to all the processors.

Training needs of the processors identified included hygienic practices, equipment handling and maintenance, technological-know-how on HQCF production, quality control for production of HQCF and Commercial Development of Business Organisation (CDBO).

INTERMEDIARIES VISITED

- Marbert Limited located at Akrofu-Xeviope
- Caltech Ventures located at Ho-Hodzo
- God's Way Enterprise located at Agate, Have
- Majestic Agribusiness Centre located at Hohoe
- Cassacoxa Limited located at Sunyani-Chiraa
- Bredi Agricultural Enterprise located at Bredi
- 1st Door Agro-processing Enterprise located at Atebubu
- Amasa Agro-processing Company Limited located at Ayikai Doblo
- Afrimat Global Enterprise Limited, Fiasie

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CHAPTER 1

GENERAL INTRODUCTION

1.0 INTRODUCTION

The task order for Objective 2 of the FRI-C:AVA programme stipulates that by March 2010, at least ten medium to large scale processors (40% women) strengthened with relevant skills to effectively and efficiently employ good manufacturing practices and quality management systems to profitably process and deliver 15.68 and 47.04 tonnes per month per medium and large scale processor respectively of High Quality Cassava Flour (HQCF).

Secondly, by March 2011, additional ten medium to large scale processors (40% women) strengthened with relevant skills to effectively and efficiently employ good manufacturing practices and quality management systems to profitably process and deliver 15.68 and 47.04 tonnes per month per medium and large scale processor respectively of High Quality Cassava Flour.

Finally, by March 2011 there is sustainable production and delivery of consistent good quality High Quality Cassava Flour as well as good quality service delivery.

In order to meet these objectives, a training needs assessment was conducted at nine selected medium to large scale processing sites in three regions in Ghana.

In the Volta Region of Ghana the training needs assessment was conducted from 4th to 6th May, 2009, for Marbert Limited located at Akrofu-Xeviope, Caltech Ventures located at Ho-Hodzo, God's Way Enterprise located at Agate, Have and Majestic Agribusiness Centre located at Hohoe.

In the Brong Ahafo Region the training needs assessment was conducted from 12th to 16th May, 2009. The three selected sites assessed were Cassacoxa Limited located at Sunyani-Chiraa, Bredi Agricultural Enterprise located at Bredi, and 1st Door Agro-processing Enterprise located at Atebubu.

The training needs assessment was conducted in the Greater Accra Region from 20th to 21st May, 2009. The two selected sites visited were Amasa Agro-processing Company Limited located at Ayikai Doblo and Afrimat Global Enterprise Limited, Fiasie in the Greater Accra Region.

The training needs assessment was important to effectively plan specific training programme for each processing site in order to make these sites sustainable, and deliver consistent good quality HQCF, meet the required capacity of HQCF production and implement proper service delivery. Further, it was necessary in order to involve the processors in drawing up a suitable work plan to effectively meet FRI-C:AVA Objective 2 tasks as stipulated above.

CHAPTER 2

VOLTA REGION (HO AND HOHOE DISTRICTS)

2.1 MARBERT LIMITED

Marbert Limited is a registered liability company located at Akrofu-Xeviope, which is about 10 km from Sokode-Gbogame and is off the Accra-Ho highway. It had been in existence since 2004. Marbert Limited had eight employees, two men and six women and contracts ten casual women peelers on demand.

2.1.1 PRODUCTION

Currently the company processes 3 tonnes of fresh cassava per batch twice a week. It produces dried grits for HQCF production as a major product alongside *Kokonte*, *gari*, wet *Agbelima* dough and dried grits for *Agbelima* flour production, Tapioca and cassava *fufu* flour on request. Some of the varieties Marbert processes are *Afiasiafi*, *Tek bankye*, *Abasa fitaa*, *Gbelima duade* and *Esam bankye*. The companies' main sales outlets are Ashben Limited, Accra, Food Research Institute, Accra and Amasa Agro-Processing Company Limited. Processing activities are done using harvested rain water.

2.1.2 EQUIPMENT

The company owns a cassava grater, plate attrition mill, 8-horse power diesel engine, double screw press (200 kg/half day) and traditional cane dough sieves. It employs solar drying using black polythene sheets spread on the ground. A 200 kg capacity wood fuel fired oven dryer (Djilemo oven) was under construction at the processing site by the Root and Tuber Improvement Programme (RTIP).

2.1.3 MAJOR CHALLENGES

- ❖ Pressing and drying of grated cassava were the major challenges slowing down processing and limiting production quantity.
- ❖ Absence of a hammer mill to complete the processing line into milled finished product.

- ❖ Absence of a mechanical dryer to do two shifts per day.
- ❖ Difficulty in marketing of cassava grits.
- ❖ The company aspires to produce starch for the pharmaceutical industries.
- ❖ Inability to develop dried cassava peels into animal feed as a by-product.

2.1.4 OBSERVATION

- ❖ Marbert Limited had no work plan for daily activities.
- ❖ Hygienic conditions on the site were not up to standard, example no working gear, head gear, nose mask, no changing rooms, and improper disposal of effluent and use of unclean harvested rain water in processing.
- ❖ There were no washing troughs for washing fresh cassava.
- ❖ There were no mosquito netting in the processing hall, changing rooms and stores.
- ❖ The working area was very unhygienic.
- ❖ Drying of cassava grits was done on black polyethylene sheets on the ground, which could lead to product contamination.
- ❖ No fencing provided at drying area to wade off wandering animals.
- ❖ Cleaning of the processing hall was done without any detergent.

2.1.5 RECOMMENDATIONS/ TRAINING NEEDS

- ❖ To be able to meet the set target of 16 tonnes of HQCF (grits) per month, Marbert Limited will need to install additional grater, press and a mechanical dryer.
- ❖ The company would need a hammer mill and a sifter to process to finished product (HQCF).
- ❖ Training on hygienic practices is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological-know-how on HQCF production is required.
- ❖ Training on quality control for production of HQCF is required.
- ❖ Orientation of workers to business consciousness is required.
- ❖ A wire mesh fence must be constructed to enclose the surroundings of the company.
- ❖ Raised platforms should be used instead of black polyethylene placed on the ground. Patios must be constructed to avoid drying of cassava grits on the ground.
- ❖ A work plan to meet set targets needs to be developed for the company.

2.2 CALTECH VENTURES

Caltech Ventures is a limited liability company located at Ho-Hodzo. It had been in existence since 2006. The company have 250 employees including 120 females and 130 males out of which 80 are permanent workers. The company often employs 30 female peelers and 20 farm workers as casual hands. Caltech Ventures is involved in cassava plant multiplication, farming and processing. Presently, it have 1,600 acres cassava plantation.

2.2.1 PRODUCTION

Caltech Ventures processes 15 tonnes of fresh cassava daily and works six days in a week. Its major product is HQCF. In addition, *gari*, *Agbelima* dough and grits for *Agbelima* flour were also produced. Some of the varieties processed were *Afiasiafi*, *Doku duade*, *Sesepe* and *Agbelifia*. Ayensu Starch, Bojuase in the Central Region, Piccadially Limited, Accra, Food Research Institute, Accra and the open market were the main sales outlets. Water for processing activities was obtained from a borehole on the company's premises. Caltech Ventures have separate processing sections such as peeling, pressing, drying, milling and packaging. Products are often mechanically dried but sometimes sliced cassava is dried into chips using solar energy.

2.2.2 EQUIPMENT

Caltech Ventures operates with six graters and currently three are operational, two double screw presses, one diesel operated indirect bin dryer, a hammer mill, a sifter and a plate attrition mill.

A new cassava processing plant, which is a continuous flow production system capable of processing ten tonnes of cassava into HQCF per day had been installed and was under testing. The company had acquired a pelleting machine to pellet cassava peels as by-products for cattle feed. Cassava effluent is channelled into a drain tank and used for biogas production.

2.2.3 MAJOR CHALLENGES

- ❖ The difficulty in uprooting cassava from the field slows down production capacities.

- ❖ Manual washing of cassava slows down the processing of cassava.
- ❖ Some workers of Caltech Ventures often waste production time arguing or quarrelling among themselves slowing down production.
- ❖ Pressing of wet cassava dough was a challenge limiting production quantity.
- ❖ Commitment to work as a result of punctuality by employees was a major task facing the company.
- ❖ Adhering to hygienic practices by workers needs improvement.
- ❖ Operation and maintenance of machines needs improvement.
- ❖ Absence of a work plan to meet set targets for the company.

2.2.4 OBSERVATION

- ❖ Caltech Ventures was installing state-of-the-art cassava processing plant.
- ❖ Its large acreage of cassava plantation enables it to process cassava throughout the year.
- ❖ The company employs good management system for administration, security and workers' welfare.
- ❖ It was connected to the national grid for easy access to electricity and had a stand-by-generator.
- ❖ There was no mosquito netting in the processing hall.
- ❖ Washed polyethylene sacks after pressing was dried on bare ground.
- ❖ The work force comprises of primary, secondary and tertiary educational level employees.

2.2.5 RECOMMENDATIONS /TRAINING NEEDS

- ❖ Workers must be taught how to maintain hygienic conditions on the premises.
- ❖ An easy process of uprooting cassava is required.
- ❖ Simple methods for washing cassava are required.
- ❖ Training on hygienic practices is recommended.
- ❖ Training on equipment handling and maintenance is recommended.
- ❖ Training on technological-know-how on HQCF production is needed.
- ❖ Training on quality control for the production of HQCF is needed.
- ❖ Orientation of workers to business consciousness is required.

2.3 GOD'S WAY ENTERPRISE

God's Way Enterprise is a limited liability company located at Agate, Hve. It had been in existence for the past 11 years. The company have six permanent workers comprising of three males and three females. The company's major product is composite flour (50% cassava flour and 50% wheat flour) for biscuit production. It also produces HQCF grits and *Agbelima* flour. God's Way Enterprise activities are supported by a group known as Tonyeli Women Development Association. God's Way Enterprise is into partnership with Tonyeli Women Development Association, which is also a cassava processing group. Sometimes the two groups process cassava together and other time God's Way Enterprise buys HQCF grits from them. Tonyeli Women Development Association is a farming group which also processes grits for HQCF production and *Agbelima* grits. God's Way Enterprise is made of ten workers, six permanent with three females and three males. Tonyeli Women Development Association has 32 women consisting of two groups.

2.3.1 PRODUCTION

God's Way Enterprise processes 500kg cassava daily, five times in a week. It produces dried grits for HQCF production in addition to biscuits and *Agbelima* flour production. The major cassava variety used by the company was *Afiasiafi*.

The companies' main sale outlet was Amasa Agro-Processing Company Limited, Accra. Processing activities were done using pipe-borne water.

2.3.2 EQUIPMENT

God's way Enterprise owns one cassava grater, one cassava press, one electricity-gas bin mechanical dryer, one plate attrition mill, four traditional cane sieves, one charcoal oven for baking biscuits. The company employs solar drying using black polythene spread on the ground during sunny days. Sometimes the company hires a portable grater for on farm grating of cassava. God's Way is currently constructing a new processing plant which is about 50% completed through a contracted loan.

2.3.3 MAJOR CHALLENGES

- ❖ Lack of funds to complete a new processing hall.
- ❖ Lack a portable grater, mechanical dryer and a sifter to enhance processing activities.
- ❖ Conveying cassava from farms to processing hall was a problem and requires a vehicle.
- ❖ The company lack access to cassava grits markets.
- ❖ The company needs 10 presses to meet sets targets
- ❖ The company requires two (7-10 horse power) electric motors to improve efficiency.
- ❖ Working capital was a major challenge to the company.
- ❖ The company wishes to acquire its own farms but lacks funds.
- ❖ The company's pipe-borne water had been disconnected because of non-payment of bills.
- ❖ There are inadequate processing bowls and baskets for cassava processing.
- ❖ A work plan to meet set targets needs to be developed for the company

2.3.4 OBSERVATION

- ❖ God's Way Enterprise had no work plan for daily activities.
- ❖ Hygienic conditions were not up to standard, example there are no working gear, head gear, nose mask, no changing rooms and improper disposal of effluent.
- ❖ There was no washing trough.
- ❖ There are no mosquito netting in the processing hall, changing rooms and stores.
- ❖ The working area was very unhygienic.
- ❖ Drying of cassava grits was done on black polyethylene sheets on the ground.
- ❖ God's Way Enterprise new processing plant was sited on a steep hill' slope which will make it difficult for the supply of raw materials and carting of finished products.

2.3.5 RECOMMENDATIONS /TRAINING NEEDS

- ❖ In order for the company to meet the set targets (1 tonne of dried grits) of HQCF production per day, it needs to install a grater, press and mechanical dryer.
- ❖ The company will need a hammer mill and a sifter to process cassava grits into HQCF.
- ❖ Training on hygienic practices is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological-know-how on HQCF production is recommended.
- ❖ Training on quality control for the production of HQCF is required.

- ❖ Orientation of workers to business consciousness is required.
- ❖ Training on packaging (biscuits, HQCF and *Agbelima* flour) is required.

2.4 MAJESTIC AGRIBUSINESS CENTRE

Majestic Agribusiness Centre is a registered non-governmental organisation located at Hohoe. It had been in existence since 2007. It was originally set up to process dried ginger for export and dried seed maize for farmers. The centre supplies seed maize to Ho, Kumasi and Accra. The company is now preparing for processing HQCF from pressed cake obtained from nine farmer processors.

Majestic Agribusiness Centre had ten employees and four casuals and intends to process six times in a week. The Centre owns eight acre cassava farm.

2.4.1 PRODUCTION

The centre intends to dry two tonnes of pressed cake received from farmer processors into HQCF. Majestic Agribusiness Centre intends to supply HQCF to Volta Forest Products for plywood processing. It also intends to process cassava chips for the pharmaceutical industry.

2.4.2 EQUIPMENT

The Centre owns a hammer mill, a slicer and a mechanical bin dryer.

2.4.3 MAJOR CHALLENGES

- ❖ Majestic Agribusiness Centre lacks a press and a grater to enhance its operations.
- ❖ The centre lacks netting and ceiling of the processing hall.
- ❖ Untimely delivery of cassava pressed cake from farmer processors to the centre.
- ❖ Commitment of farmer processors for preparing quality cassava pressed cake.
- ❖ The centre lacks working capital.
- ❖ The centre intends to acquire a stand-by generator for its operations.

2.4.4 OBSERVATION

- ❖ Majestic Agribusiness Centre had no work plan for daily activities.
- ❖ Hygienic conditions were not up to standard, example absence of working gear, head gear, nose mask, changing rooms, stores, mosquito netting in the processing hall.

2.4.5 RECOMMENDATIONS/ TRAINING NEEDS

- ❖ Training on hygienic practices for employees is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological know-how on HQCF production is very important for the Centre.
- ❖ Training on quality control for the production of HQCF is needed
- ❖ Orientation of workers to business consciousness is required.
- ❖ A work plan to meet set targets needs to be developed for the company

2.5 CONCLUSION

All four medium to large scale intermediary cassava processors visited require training on technological know-how on HQCF production, hygienic practices, quality control for HQCF production and orientation of workers to business consciousness. There is the need to develop specific action working plans for the cassava processors to meet their set targets.

CHAPTER 3

BRONG AHAFO REGION (CHIRAA, DUAYAW NKWANTA AND ATEBUBU DISTRICTS)

3.1 CASSACOXIA LIMITED

Cassacoxia Limited is a registered liability company located at Chiraa, which is 25km from Sunyani on the Sunyani-Techniman highway. It was established in 2007 as a cassava processing plant to produce High Quality Cassava Flour (HQCF) for the plywood industries and additional processing into ethanol. The company had six permanent employees with 12 casual female workers.

3.1.1 PRODUCTION

Cassacoxia Limited processes 2.4 tonnes of fresh cassava per batch thrice a week. The main product is HQCF alongside *Kokonte*, soya gari, and *Agbelima* flour. The companies' main sales outlet was ABTS Company Limited, Berekum, which takes five tonnes of HQCF per week for plywood production. Processing activities was done using water from a deep well located at the premises of the company. Cassacoxia Limited had linked up with 30 farmers with 100 acre cassava farms at Trome, which is 20km from Chiraa for the supply of fresh cassava.

3.1.2 EQUIPMENT

The company owns a cassava grater, plate attrition mill, indirect fuel powered mechanical dryer, single screw press and a sifter. It had two large patios for solar drying using black polythene sheets. The company had acquired a new tractor for carting fresh cassava from farms to processing site.

3.1.3 MAJOR CHALLENGES

- ❖ Marketing of the HQCF was a major challenge for the company.
- ❖ High fuel cost had increased the drying cost of HQCF.

- ❖ The company needs additional press, grater, sifter and a hammer mill to meet set targets.
- ❖ Processing and storage rooms were not kept clean.
- ❖ The company's surroundings need fencing to prevent wandering animals.
- ❖ The off-white flour produced from cassava chips (Compliant from end-users).

3.1.4 OBSERVATION

- ❖ Cassacoxa had no work plan for daily activities.
- ❖ Hygienic conditions on the site were not up to standard, example no working gear, head gear, nose mask and unused changing rooms.
- ❖ There was no mosquito netting in the processing hall, changing rooms and stores.
- ❖ The working area was very unhygienic.
- ❖ Drying of cassava grits was done on black polyethylene sheets on the ground, which could lead to product contamination although they had two large patios.
- ❖ There was no fencing provided at drying area to wade off wandering animals.
- ❖ Weevil infestation was observed at storage room, changing and drying room.

3.1.5 RECOMMENDATIONS/ TRAINING NEEDS

- ❖ To be able to meet the set target of 45 tonnes of HQCF per month, Cassacoxa Limited will need to install additional grater, press and a mechanical dryer.
- ❖ The company will need a hammer mill.
- ❖ Training on hygienic practices is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological-know-how on HQCF production is required.
- ❖ Training on quality control for production of HQCF is required.
- ❖ Orientation of workers to business consciousness is required.
- ❖ A wire mesh fence must be constructed to enclose the surroundings of the company.
- ❖ The company requires a work plan for HQCF production to meet set targets

3.2 BREDI AGRICULTURAL ENTERPRISE

Bredi Agricultural Enterprise is a limited liability company located at Bredi near Duayaw-Nkwanta in the Brong Ahafo Region. It had been in existence since 2006. The company had six permanent employees with four women and eight casual workers for harvesting and peeling. The company had 85 acre cassava farm ranging from 12, 18 and 24 months.

3.2.1 PRODUCTION

Bredi Agricultural Enterprise processes 5 tonnes of HQCF per month at five days per week. Its major product was HQCF. In addition, *gari*, *Agbelima* flour and *kokonte* were also produced. Currently the company depends on its farms for the supply of fresh cassava for processing of which some of the varieties were *Afiasiafi*, *Esam bankye*, *Doku duade*, *Tek bankye* and *Agbelifia*. Cassava was often peeled on the farm. The source of water for processing was a deep well situated 100m from the plant. However, Bredi Agricultural Enterprise plans to construct a mechanised borehole on site. The major sale outlet for Bredi Enterprise was U3 Company Limited in Kumasi, which purchases HQCF for alcohol production.

3.2.2 EQUIPMENT

The company had one cassava chipper, two double screw presses, one single screw press, two hydraulic presses and one hydraulic jack press, two graters and indirect diesel operated bin dryer which is non-functional, one Djilemo (Wooden fuel) oven dryer, one solar tent dryer, wooden raised platforms for sun drying, a hammer mill and plate attrition mill. Cassava effluent was channelled into a bucket, decanted into a man-hole while the starch is dried and added to the product. Bredi Agricultural Enterprise had a washing trough and two holding (fermentation) troughs.

3.2.3 MAJOR CHALLENGES

- ❖ Drying was a major challenge since its dryers were of low capacities and inefficient and the only mechanical dryer was not functional
- ❖ Insufficient working capital affects production of HQCF.

- ❖ Marketing of HQCF was a challenge for the company
- ❖ Adhering to hygienic practices by workers needs improvement.
- ❖ Operation and maintenance of machines needs improvement.

3.2.4 OBSERVATION

- ❖ Although Bredi Agricultural Enterprise operates under sheds, it had all the necessary processing equipment in place except a functional mechanical dryer
- ❖ The company had a well fenced processing site.
- ❖ The ground from operating shed to another was muddy, which may slow down processing activities.
- ❖ The company has no laid-down work plan for daily activities.

3.2.5 RECOMMENDATIONS /TRAINING NEEDS

- ❖ Workers need training on hygienic conditions on the premises.
- ❖ Training on equipment handling and maintenance is recommended.
- ❖ Training on technological-know-how HQCF production is needed (fresh cassava to end-product).
- ❖ Training on quality control for the production of HQCF is needed.
- ❖ Orientation of workers to business consciousness is required.
- ❖ The company requires a work plan for HQCF production to meet set targets.

3.3 1ST DOOR AGRO-PROCESSING ENTERPRISE

1ST Door Agro-processing Enterprise was originally set up for shea butter processing but presently processing HQCF since 2007. It employs 15 permanent workers, with six men and nine women. The company owns a cassava processing plant at Watro, 15km from Atebubu.

1ST Door Agro-processing Enterprise owns a 21 acre cassava farm. However, it had stopped processing HQCF for the past three months.

3.3.1 PRODUCTION

The company started at the end of 2007 processing one ton per week of HQCF and working five days in a week. The companies' main sale outlets for HQCF were Samatech Plywood Company at Samaboi, Bompilex Company and Jokers' Farms and another outlet at Aflao for *fufu* production; however the company was unable to meet the request for 100tons per month. Processing activities were done using water from a dam near Watro. The company employs solar tent and patios for drying cassava grits. Currently 1ST Door Agro-processing Enterprise had acquired a new processing site at Atebubu and plans to install processing equipment to process eight tons of pressed cakes from satellite farmers into HQCF in a week. Wet cassava cake will be bought from satellite processing sites at Kwame Danso, Ejura, Nkoranza and Atebubu districts.

3.3.2 EQUIPMENT

1ST Door Agro-processing Enterprise owns three cassava grater, three cassava presses, one plate attrition mill and four traditional cane sieves. The company owns one tent solar dryer and two patios. In addition to these the company had ordered a hammer mill cum cyclone and sifter, one mechanical dryer, one generator to be installed at the Atebubu processing site.

3.3.3 MAJOR CHALLENGES

- ❖ Working capital was a major challenge to the company.
- ❖ Lack a mechanical dryer, hammer mill, a sifter to enhance processing activities.
- ❖ Means of transportation from satellite processing sites to the company's processing site was a challenge.
- ❖ Power at new site was single phase and needs to be upgraded to three phase.
- ❖ Orientation of workers to business consciousness is required.
- ❖ The company intends to construct a bore-hole at the processing site.

3.3.4 OBSERVATION

- ❖ New processing site was yet to be installed with equipment.

- ❖ The company had no work plan for daily activities.
- ❖ Electricity at processing site was yet to be upgraded to three phase.
- ❖ There were no cassava processing activities at both processing sites (Watro and Atebubu).

3.3.5 RECOMMENDATIONS /TRAINING NEEDS

- ❖ Training on hygienic practices is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological-know-how on HQCF production (pressed cake to finished product and fresh cassava to finished product) is recommended.
- ❖ Training on quality control for the production of HQCF is required.
- ❖ Orientation of workers to business consciousness is required.
- ❖ Development of appropriate work plan to receive pressed cake at various times from satellite processors is required.

3.4 CONCLUSION

The three medium to large scale cassava processors visited require training on hygienic practices, quality control for HQCF production, orientation of workers to business consciousness and technological know-how on HQCF production. All processors visited require equipment and working capital to meet set targets for Objective 2. There is the need to develop specific action working plans for the cassava processors to meet the set targets.

CHAPTER 4

GREATER ACCRA REGION (GA-RURAL DISTRICTS)

4.1 AMASA AGRO-PROCESSING COMPANY

Amasa Agro-processing Company is a registered liability company located at Ayikai Doblo in the Greater Accra Region. It was established in 2002 as a cassava processing plant to produce High Quality Cassava Flour (HQCF) for the plywood industries and other cassava products like gari etc. The Company had six permanent employees with 18 casual workers which include eight females. The company is setting up a modern cassava processing plant at Nkenken in the Afram Plains of the Eastern Region. It had acquired a four mile square cassava plantation to supply fresh cassava to the processing plant at Nkenken.

4.1.1 PRODUCTION

Amasa Agro-processing Company processes 5 tonnes of fresh cassava per batch five times in a week. The main product is HQCF alongside *Kokonte*, maize meal gari, *Agbelima* dough and *Agbelima* flour. The companies' main sales outlets were Verneer and Lumber Company in Takoradi, Ghana Army, Praise Export Ghana Limited, Accra and Kotoko Company Limited in Canada. Processing activities were done using water from pipe-borne water and harvested rain. Amasa Agro-processing Company had 200 acres cassava farm at Ayikai Doblo for the supply of fresh cassava for processing.

4.1.2 EQUIPMENT

The company owns one diesel dryer, one Electric dryer and cassava grater, two plate attrition mills, two hydraulic presses, two graters, one slicer, two sifting machines, one hammer mill three patios, washing trough and fermentation trough. The company owns a tractor and trailer for carting fresh cassava from farms to processing site.

4.1.3 MAJOR CHALLENGES

- ❖ Marketing of the HQCF was a major challenge for the company.

- ❖ High fuel cost had increased the drying cost of HQCF.
- ❖ The patios needs improvement to enhance drying of the cassava grits.
- ❖ The equipment needs upgrading.
- ❖ Access to water for processing was a challenge.
- ❖ Unavailability of national grid demands the acquisition a high –powered generator.

4.1.4 OBSERVATION

- ❖ The company had a work plan for daily activities.
- ❖ There were mosquito netting in the processing hall, changing rooms and stores.
- ❖ The working area was very hygienic.
- ❖ Weevil infestation was sometimes a problem for the company.
- ❖ Storage room for finished products was not satisfactory.

4.1.5 RECOMMENDATIONS/ TRAINING NEEDS

- ❖ To be able to meet the set target of 50 tonnes of HQCF per month, Amasa Agro-processing Company will need to upgrade its equipment.
- ❖ Training on hygienic practices is required.
- ❖ Training on equipment handling and maintenance is required.
- ❖ Training on technological-know-how on HQCF production is required.
- ❖ Training on quality control for production of HQCF is required.
- ❖ Orientation of workers to business consciousness is required.
- ❖ The company requires a work plan for HQCF production to meet set targets

4.2 AFRIMAT GLOBAL ENTERPRISE LIMITED

Afrimat Global Enterprise Limited is a limited liability company located at Fiasie in the Greater Accra Region. It was initially established for the production of Vitamix (cereal-weaning foods). From 2006, Afrimat Global Enterprise Limited started the production of glucose syrup from HQCF. The company had twenty-two permanent employees with fifteen women and ten female casual workers for harvesting and peeling of cassava. The company had a three acre cassava farm.

4.2.1 PRODUCTION

The company processes 3 tonnes of raw cassava for HQCF daily. Its major product was HQCF. In addition, *banku* mix, maize grits, *Agbelima* flour and *kokonte* were also produced. The company depends on out-growers at Kwamoso in the Eastern Region for the supply of fresh cassava. The source of water for processing was pipe-borne water.

4.2.2 EQUIPMENT

The company had one grater, one single screw press, one double screw press, one flash dryer, one bin –dryer, one plate attrition mill, one hammer mill, one sifter, one Djilemo (Wooden fuel) oven dryer and one solar tent dryer.

4.2.3 MAJOR CHALLENGES

- ❖ Drying was a major challenge
- ❖ Insufficient working capital affects production of HQCF.
- ❖ Marketing of HQCF was a challenge for the company
- ❖ Adhering to hygienic practices by workers needs improvement.
- ❖ Operation and maintenance of machines needs improvement.
- ❖ Requires an industrial grater to produce four tons of grater cassava per day.
- ❖ Unavailability of appropriate sieves for sifting of HQCF.
- ❖ Lack of adequate transportation for carting of fresh cassava to processing sites.

4.2.4 OBSERVATION

- ❖ The company is well set-up.
- ❖ The workers were appropriately dressed.
- ❖ The company had a well fenced processing site.
- ❖ The company had a laid-down work plan for daily activities.

4.2.5 RECOMMENDATIONS /TRAINING NEEDS

- ❖ Workers need training on hygienic conditions on the premises.

- ❖ Training on equipment handling and maintenance is recommended.
- ❖ Training on technological-know-how HQCF production is needed (fresh cassava to end-product).
- ❖ Training on quality control for the production of HQCF is needed.
- ❖ Orientation of workers to business consciousness is required.
- ❖ The company requires a work plan for HQCF production to meet set targets.

4.3 CONCLUSION

Both medium to large scale cassava processors visited require training on hygienic practices, quality control for HQCF production, business orientation and technological know-how on HQCF production. All processors visited require equipment and working capital to meet set targets for Objective 2.