2019

C:AVA II-GHANA PROJECT COMPLETION REPORT

C:AVA II-GHANA TEAM

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I. EXECUTIVE SUMMARY

The Cassava: Adding Value for Africa, Phase II (C:AVA II) Project was a 5-year project funded by a grant from the Bill and Melinda Gates Foundation. The project started in April 2014 and ended in March 2019. The project sought to consolidate the successes achieved during the implementation of the first phase which ran from April 2009 through March 2014. C:AVA II Project was implemented simultaneously in five African countries namely Nigeria, Ghana, Tanzania, Uganda and Malawi with technical support from the Natural Resources Institute (NRI) of the University of Greenwich, UK. The project was managed internationally by the Federal University of Agriculture, Abeokuta, Nigeria (FUNAAB). The project was hosted in Ghana by the Food Research Institute of the Council for Scientific and Industrial Research (CSIR-FRI) and implemented in the Volta, Brong Ahafo, Eastern, Ashanti, Central and Greater Accra regions of Ghana. The primary objective of the Project was to increase the incomes of at least 200,000 cassava value chain actors, especially smallholder farmers and processors in the five African countries mentioned, by at least USD177 million in 5 years. The C:AVA II Ghana team through its implementation activities mobilized 457,504 tonnes of Fresh Cassava Roots (FCRs) for various cassava value chains as against the target of 360,423. The 457,504 tonnes of cassava mobilised for the various cassava value chains in Ghana by the C:AVA II Ghana team generated a gross income of USD 24,516,103.00 for smallholder farmers. The implementation of the project was successful with structures left for the sustainability of a viable cassava value chain in Ghana.

II. COUNTRY CONTEXT

Cassava is the most widely cultivated crop in Ghana, with 90% of all rural households involved in its production. Its emergence as a cash crop has, however, been quite recent and due mainly to growing urban demand for processed cassava products as well as its potential industrial utilisation. Cassava's combined abilities to produce high yields under poor conditions and store its harvestable portion underground until needed makes it a classic "food security crop". It is a root crop of choice to subsistence farmers because it provides food security and cash income when required. The diversity of secondary products cassava offers, makes it a very useful root crop. However, once harvested, cassava roots are highly perishable and signs of deterioration begin to appear. Due to the high perishability of cassava, early processing of the roots is an inevitable option once they are harvested. Processing provides a means of producing shelf stable products (thereby reducing

losses), adding value and reducing the bulk to be marketed. Apart from its use as food, cassava is very versatile and its derivatives and starch are applicable in many types of products such as foods, confectionery, sweeteners, glues, plywood, textiles, paper, biodegradable products, monosodium glutamate and drugs.

Ghana produces about 17 million metric tons of cassava annually (Ministry of Food and Agriculture Statistics, 2016) and ranked the 6th leading producer of cassava in the world. The contribution of cassava to Ghana's agricultural GDP is 22%, compared with 12% by cocoa and 7% by all cereals including maize. Cassava is suitable for cultivation in Ghana in large quantities because it is able to grow almost anywhere. Until about a decade and half ago, ccassava was mainly cultivated in Ghana as a subsistent crop. The crop is usually eaten at household levels without much use in industry. The bakery, brewery and plywood industries had used cassava in the past decade as a substitute for products such as wheat and starch.

The vision of the first phase of C:AVA was that, within the lifetime of the project, the annual incomes of over 20,000 farmer households increases by a minimum of over 50% through linkages that would supply grits to intermediaries in the emerging high-growth chain for producing HQCF which is subsequently transformed into cassava-based products. The model chain allows farmers to sell increased volumes of fresh roots (grown as a result of the adoption of high-yielding varieties) as grits to intermediary enterprises producing HQCF, which is sold to other manufacturers for use in improved "traditional" cassava food products such as Instant Fufu and to plywood manufacturers.

CAVA II project sought to consolidate the successes achieved during the implementation of the first phase and to expand into other regions (Ashanti, Eastern and Central regions). The project was hosted in Ghana by CSIR-Food Research Institute, Accra. The main objective of the project was to increase the incomes of smallholder farmers (SHFs) and community processors through participation in profitable and sustainable value-added cassava chains. The project started in April 2014 and ended in March 2019. The project was implemented with support from a team of experts who provided technical support to farmers, processors and end users.

A. PROJECT DESCRIPTION

Cassava is strategically important as a food source and famine reserve, combining high calorific efficiency with versatile low cost/input, reliable and flexible production, but is now seen as a means of improving incomes of the rural poor; especially smallholder farmers (SHFs). Lack of markets for cassava is a common constraint across Africa, against which the first phase of the Cassava: Adding Value for Africa project (C:AVA) focused on the development of value chains for High Quality Cassava Flour (HQCF), as a means of expanding market opportunities and significantly increasing smallholder incomes. A key intervention was the development of intermediaries who either purchase, or act as agents for fresh or semi-processed cassava from SHFs in order to bulk and further process to produce HQCF for sale to food and commercial end-users (including wheat millers, biscuit manufacturers, bakeries, paperboard and plywood manufacturers). Developing a consistent supply of raw materials and ensuring end-users' confidence in HQCF were key elements of C:AVA.

CAVA II built on the first phase of the project, which successfully developed value chains for HQCF in Nigeria, Ghana, Uganda, Tanzania and Malawi and provided carefully considered, apolitical advice to governments, aid agencies and agribusinesses. CAVA II sought to increase the income of at least 200,000 value chain actors, especially SHFs and processors, in five African countries by at least USD 177 million in 5 years. This was to be achieved through the sale of more than 2 million tonnes of fresh cassava into HQCF and other processed cassava product value chains. CAVA II was to support smallholders technically to increase cassava yields by 25% within 3 years through adoption of improved varieties and better agronomic practices.

CAVA II was to achieve these results in five years by focusing interventions in three types of value chains that had been thoroughly researched in each country in market studies and follow-up investment studies conducted in C:AVA. They are:

1. Developing profitable and sustainable smallholder-inclusive supply chains for 472,606 tonnes fresh cassava roots primarily for 6 large industries in Nigeria, using lessons learned from C:AVA.
2. Scaling-out and scaling-up the development of HQCF and industrial grade cassava flour (IGCF) value chains to create a demand for 749,353 tons of fresh cassava roots from SHFs.

3. Developing new, profitable value chains for additional dried cassava products, such as improved chips and grits for inclusion in livestock and fish feeds, as well as a substitute for imported maize, demanding 304,039 tons of fresh cassava roots from smallholder farmers and processors.

In addition it was anticipated that there will be spill-over benefits into traditional cassava product value chains through access to improved planting materials and capacity building of SHFs in focus areas.

CAVA II was to create opportunities for smallholder farmers to supply cassava roots to large industries. It was to encourage the use of dried cassava products in livestock and fish feed enterprises, creating new demand which could be supplied by many small farmers, and other actors in the new market-led, sustainable livelihood opportunities. Many of those benefitting will be women, youth and socially excluded groups. CAVA II provides the opportunity to contribute to national economic growth by (i) improving incomes of SHFs, (ii) providing employment opportunities, and (iii) improving balance of payments by reducing imports of, for example, wheat.

B. CAVA II Project Components and Activities as Implemented

Develop profitable and sustainable smallholder-inclusive fresh cassava roots supply systems for large-scale enterprises producing HQCF, starch and ethanol

- Establishment of participatory demonstration farms by the regional coordinators of the project and community network of farmers, led to the adoption of good agronomic practices.
- Effective monitoring and technical backstopping of farmers by the regional coordinators also contributed largely to the success story of improved farmer yields. The farmer fields cassava yields per ha indirectly increased the SHFs incomes during the period of the project.
- The regional coordinators in collaboration with the BDEs of the project also carried out market linkage activities by linking SHFs to cassava processors within communities. This ensured the easy supply of FCRs to processors for processing into intermediary or final cassava products. Farmers therefore had ready market or assured markets for their produce which encouraged them to produce more FCRs to improve their incomes and livelihoods.

Scale-out and scale-up development of high quality and industrial grade cassava flour value chains

- Aggressive awareness creation and technical support to processors by the C:AVA II Ghana team, increased processing of cassava over the project period.
- Attraction of several investments into the cassava value chain promoted the use of FCRs in Ghana.
- Handheld training of processors on quality management systems led to the adoption of good quality management practices and certification of products/facilities, resulting in most processors now supplying cassava products to end markets with less quality issues.
- Technical support was provided to cassava processing companies under the government's One District One Factory policy.

Develop new and profitable value chains for additional dried cassava products, such as improved chips and grits for inclusion in livestock and fish feeds

- Training in good record keeping practices and the adoption of such by farmers and processors led to increased access to credit by smallholder farmers and processors and subsequent improvement in profitability. Series of training were conducted by the team to emphasize the importance of good book keeping of business transactions by farmers and processors. C:AVA farmers/processors who adopted the training were able to access credit facilities in the Brong Ahafo Region of Ghana after a Rural Bank was satisfied with the book keeping of their businesses. The credit facilities promoted the production and processing of FCRs which indirectly increased SHFs and processors incomes and profitability.
- Facilitating support from large scale processors to out-growers in terms of tractor services, planting materials and agro inputs to ensure regular supply of FCRs also promoted the profitability of the cassava value chain in Ghana.
- Linkages created between processors and new end markets (Gari) by the Business Development Experts (BDEs) led to the increased exports of improved traditional products to Europe and USA.

- The first ever National Symposium on cassava organised in collaboration with the Ghana Industrial Cassava Stakeholders' Platform (GICSP) to promote cassava as an industrial crop in Ghana, generated a renewed interest in cassava as a commercial crop.

The interventions listed above have collectively increased the cultivation of more fields of cassava and increased yields per hectare in Ghana which has led to an increase in supply of FCRs and subsequently an increase in the incomes of SHFs and processors of cassava in Ghana during the project period.

C. SUSTAINABILITY AND SCALABILITY

The risks to sustainability when the project exits include the absence of a source of information and technical/business assistance similar to what was provided by the CAVA II Project. Mitigation plans for this include the establishment of the Ghana Industrial Cassava Stakeholders Platform, the production of various technical manuals, and the advent of the AGRA (Alliance for Green Revolution in Africa) Cassava Project.

The C:AVA II Ghana team was very instrumental in the establishment of the Ghana Industrial Cassava Stakeholders Platform (GICSP). The platform brought together key stakeholders (farmers, processors, end users, entrepreneurs in the cassava business) to discuss and promote the cassava value chain in Ghana. This the C:AVA II Ghana team believed should keep the key players in the cassava value chain always in touch for business. This should be able to sustain the value chain linkages established by the C:AVA II Ghana team at the end of the project and beyond.

The following Technical reports developed from experiences and lessons learnt from the implementation of the C:AVA project could always serve as reference points for entrepreneurs especially new entrants who are willing to venture into the cassava value chain business in Ghana:

- An Overview of Cassava Interventions in Ghana (2008-2019): The C:AVA Experience.
- Enhancing Cassava Farmers' Productivity and Access to Markets: The C:AVA Experience.
- Capacity Building for Cassava Value Chain Actors in Ghana: The C:AVA Experience

- Building Networks of Smallholder Cassava Farmers around Processing Industries in Ghana: The C:AVA Experience.

CSIR-FRI, besides being ever ready to share the experiences and lessons learnt from the implementation of the project for sustaining the cassava industry in Ghana, is also part of the AGRA Cassava Project and the expertise of CSIR-FRI personnel is still available to assist cassava value chain actors whenever necessary within the framework of the AGRA Cassava Project.

The attained results enumerated below define what the funding from the Gates Foundation helped the CAVA II Project to achieve in Ghana.

D. INTENDED RESULTS VERSUS ATTAINED RESULTS

Table 1: C:AVA II Ghana general highlights

Parameter	*Target*	*Achieved*	*Achieved (%)*
Volume of roots going into targeted value chains from smallholder farmers (tons)	360,423	457,504	127
Total smallholder farmers income (USD)	15,978791	24,516,103	-
Number of processors			
SME - Flash dryers	22	2	9
SME – Bin dryers	20	21	105
SME – Sun and solar dryers	0	0	
CPGs	444	215	48

Table 2: C:AVA II Ghana value chain highlights

Value chain End Users	*Projected FCR intake (tons) for Project*	*Achieved FCR (tons)*	*% Achieved for 5 years*
Animal feed	84,560	59,064	70
Composite flour (Bread, Biscuits and Pastries)	82,906	81,475	98
Plywood	46,340	43,709	94
Traditional value chains	146,617	185,894	127
Breweries	0	18,995	-
Distilleries	0	27,796	-
Improved Gari	0	40,571	-
Total	**360,423**	**457,504**	**127**

The C:AVA II Ghana team was able to mobilize 457,504 tonnes of FCRs between April 2014 and December 2018, representing 127% of FCR project target for Ghana. The main drivers for the mobilization of FCRs for the period were High Quality Cassava Flour (HQCF) for the bakery, pastry and other food mixes, Industrial Grade Cassava Flour (IGCF) for the plywood industry, High Quality Cassava Chips (HQCC) for the animal feed industry, Ethanol for the distillery industries and Improved Gari for the export market. The sale of the 457,504 tonnes of the FCRs mobilized resulted in an income (gross) of US$ 24,516,103.00 for SHFs as against project target of US$ 15,978791. There was an increase in smallholder cassava farmers' yields from 16 tonnes/ha in 2014 to 38 tonnes/ha in 2018 due to adoption of good agronomic practices most especially planting on ridges.

E. KEY LESSONS

The farm gate price of FCRs remains one of the key elements of cost of production of cassava products. The farm gate price affects the final cost of the cassava product. It is therefore prudent to always target minimizing the cost of FCRs. The farm gate prices of cassava also fluctuate at different seasons of the year in Ghana with price hikes between January and April where the ground is hard making it very difficult to uproot the roots. This phenomenon attracts extra labour cost during the period. For processors to remain in business, they are encouraged to always have

controlled back-up cassava farms to ensure consistent supply of cassava roots to cut down on raw material cost and thereby improving on profit margins.

The expansion in the industrial use of cassava is positively correlated to the adoption of improved cassava varieties by farmers. When farmers are assured of off-takers of their produce, they are ever ready to grow or adopt varieties or practices that would enhance their yields and subsequently improve their income and livelihood.

For SMEs to be well positioned to secure off-take agreements from industry, they need to expand their processing capacities. The processing of fresh cassava into quality flour is one key challenge in the cassava value chain. A key technology involved here is drying. Though several dryers are available for drying cassava, the most cost effective one is the flash dryer. The cost involved in acquiring the flash dryer is however far beyond the reach of the cassava processors in Ghana. Unfortunately, the project was not able to assist processors financially to acquire these flash dryers to facilitate the value chain in Ghana.

III APPENDICES

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B. SERVICE PROVIDERS

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C. KEY STAKEHOLDERS

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D. END MARKETS

Name Of Partner	***Key Person***	***Position***	***Contact***
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E. FABRICATORS

Name Of Partner	***Key Person***	***Position***	***Contact***
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Dzokoto Fabrications	Fred Dzokoto	CEO	0208219820
First Product Enterprise	Emmanuel K Duah	CEO	024136412
Lawrence Amening	Lawrence Amening	CEO	0203927911

F. FARMERS

Name Of Partner	*Key Person*	*Position*	*Contact*
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Ayigbe farmers and processors group	Daniel Amisah	President	0204914687