



MINISTRY OF FOOD & AGRICULTURE

## **REPORT ON INVESTORS' FORUM ON PARBOILED PLANTAIN CHUNKS TECHNOLOGY**



**Held at**

**Directors' Conference Room, CSIR-Food Research Institute, Accra on 9<sup>th</sup> August, 2022**

**By**

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## **EXECUTIVE SUMMARY**

The Council for Scientific and Industrial Research-Food Research Institute (CSIR-FRI) organized an Investors' Forum at the Directors' Conference Room, CSIR-Food Research Institute, Accra on Tuesday, 9<sup>th</sup> August, 2022. The theme for the forum was, "*Towards sustainable postharvest management of plantains*". The day forum was attended by four (4) Research Scientists, eleven (11) processors, two (2) MoFA Officers, eight (8) Administration Officers, two (2) DAEs, four (4) from CSIR-MAG Secretariats, one (1) Principal Technologist, four (4) Senior Technologists, and three (3) Technician. A total of 37 participants attended the Investors' Forum organized by CSIR-FRI under the MAG project. The purpose of the forum was to expose participants to frozen plantain chunks technology and products for uptake and commercialization to reduce postharvest losses of plantain. It was aimed at creating a common platform for investors, entrepreneurs, processors, farmers, research scientist and financial institutions. The forum was chaired by Prof. Charles Tortoe, the Director of CSIR-FRI.

## **CHAPTER ONE**

### **1.0 Introduction**

The investors' forum was held at the Directors' Conference Room, CSIR-FRI, Greater Accra Region of Ghana on Tuesday, 9<sup>th</sup> August 2022. It was organized by the CSIR-FRI under the MAG project, Ghana with funding from the Global Affairs, Canadian. The theme for the forum was, "*Towards sustainable postharvest management of plantains*".

The purpose of the forum was to create an avenue for investors, agro-processors, researchers, entrepreneurs, processors, export promoters and importers, and other stakeholders in the agricultural value chain to appreciate and adopt newly developed technology to reduce postharvest losses of plantain. There was an exhibition of samples of frozen parboiled plantain chunks to encourage participants to up-scale the new technology for commercialization and utilization.

The CSIR-FRI is one of the key institutions involved in the MAG project with the aim to address the constraints identified in production and postharvest value chain through the Regional Extension Farmers-based Linkages Committee (RELC) at the regional and districts levels using existing food processing technologies developed over the years. The CSIR-FRI in its implementation of the project developed a technology for parboiled frozen plantain chunks to address postharvest losses of plantains.

### **1.1 Participating Institutions**

Participants at the Investors' Forum had representatives from the CSIR-MAG Secretariat, CSIR- Head Office, CSIR-Food Research Institute, MoFA, Food processors, potential

investors, Entrepreneurs, Agribusiness enterprises, Researchers, and Technologist among others.

## **1.2 Welcome to CSIR-Food Research Institute**

The training started with an opening prayer by one of the participants, which was followed immediately by self-introduction of participants, facilitators and organizers. This was led by Dr. (Mrs) Charlotte Oduro-Yeboah. She briefly introduced the agenda of the day. Mr. Jeremiah Brown moderated the meeting to its fruitful end.

## **1.3 Opening address by the Director of CSIR-Food Research Institute**

In an opening address delivered by Prof. Charles Tortoe, Director of CSIR-Food Research Institute, he stated that CSIR FRI is mandated to undertake demand-driven research into food processing, preservation and utilization of our local foods to support the local food industry. He iterated that the institute is mandated to advise Government on food policy. In the pursuit of this mandate, he said the CSIR-FRI undertakes Research and Development as its core business and other complimentary business lines which include the provision of analytical and technical services to industry; production and sale of research by-products and also a provision of business incubation services to potential entrepreneurs.

Prof. Charles Tortoe indicated that the technologies developed by the CSIR-FRI-MAG Project will not contribute to national development if they are not taken up by industry to become beneficial to the citizenry. He said it is in this regard that the CSIR-FRI is organizing such a forum to bring together the Researchers who developed the technologies, Investors who can take up these technologies and commercialize them. He directly touched on the significant contribution of plantain to national development, food security and human health.

#### **1.4 A brief on the MAG project in Ghana by Prof. PN-T Johnson**

A brief address on the MAG project was given by Prof. Johnson. He said that the MAG project in CSIR is spearheaded by the CSIR-MAG secretariat which is established for the Monitoring and Evaluation to support the mandate and activities of the Executive Committee and the day-to-day activities related to the implementation of the MAG program. In the presentation, it was known that MAG is a 5-year Adaptable program that solely focuses on modernizing the agriculture system in Ghana. He said the project covers production, processing, preservation, postharvest and agribusiness. In implementing the MAG program, he said that the secretariat was mobilizing, coordinating, tracking and overseeing the activities of other institutes. He encouraged the participants to take up the technology to make the MAG program a success and also for national development.



Fig.1: An opening address delivered by Prof. Charles Tortoe, Director of CSIR-Food Research Institute



Fig.2: Keynotes address delivered by Prof. PN-T Johnson, CSIR-MAG Secretariat

## **CHAPTER TWO**

### **2.1. Presentation on MAG project by Dr. Charlotte Oduro-Yeboah**

For the presentation on MAG project, Dr. Charlotte Oduro-Yeboah noted that CSIR-FRI is one of the key institutions involved in the MAG project to address the constraints identified in postharvest issues through the Regional Extension Farmers-based Linkages Committee (RELC) at the regional and districts levels using existing food processing technologies developed over the years which is funded by Canadian Government Budgetary support and technical assistance. This she said is in response to the objectives of FASDEP, METASIP and GSGDA. She acknowledged that over the years, CSIR-FRI has trained more farmers, agro-processors, AEAs, WIAD, SME's in different districts and Regions of Ghana. According to her, trainings focused on processing, preservation, postharvest management of cereals, legumes, root and tuber, fish and fish product, and aflatoxins. She revealed that the impact



derived from these training has been significant to reduce postharvest losses, ensure food security, job creation, income generation and improvement of livelihood.

In her closing presentation, she told the participants that postharvest losses from plantain is massive and steps should be taken to reduce the losses. This is the reason why the technology for parboiled frozen plantain chunks has been developed by CSIR-FRI to address postharvest losses of plantains.



Fig.3: A presentation on MAG project by Dr. Charlotte Oduro-Yeboah, MAG Focal person

## **2.2 A presentation on Research work on Frozen Parboiled Plantain Chunks Technology by Dr. John Edem Kongor**

On the new technology developed, Dr. John Edem Kongor indicated that postharvest losses confronting Ghana, especially from plantain is extensive. He mentioned the need for the reduction of these postharvest losses through processing and value addition. He cited yam chips which are currently patronized by Ghanaians were processed from yam to reduce postharvest losses and the same concept was replicated in the plantain to achieve the same results. In response to the challenge that usually come about from the plantain glut, he said that value can be added to plantain for uptake by farmers, investors, exporters, processors, importers, and entrepreneurs as a drive for national development. He stated that it was for this reason that the Frozen Parboiled plantain technology was developed. He disclosed that the main goal of this new technology is to make plantain convenient and also to reduce postharvest losses which are normally associated with climacteric plantain.



Fig.4: A presentation on Research work on parboiled plantain chunk technology by Dr. John Edem Kongor

### **2.3 Presentation delivered by Mr. Stephen Nketia on Business development and marketing of plantains and CSIR-FRI Business**

In the presentation on business development and marketing of plantain, Mr. Stephen Nketia touched on the commercialisation of plantain recipes. According to him, business development entailed upstream which includes raw materials, resources, product registration and certification. He said that in setting up business, certain factors must be considered in product downstream such as storage capacity, distribution, inventory, promotion, customer availability and monitoring of business development and continuous feedback. This he said could make the business more viable and sustainable if they are keenly considered during the initial stage and during the business.

On the marketing of plantain, Mr. Nketia reiterated the importance of using marketing tools to meet and exceed customer expectations. He told the participants that marketing usually involved cost-benefit analysis, product life cycle behavior, and Total Quality Management. Others he pinpointed were marketing planning which must be taken into consideration prior to the establishment of the business. He finally echoed that GAPS, SWOT, and PESTEL analysis must be done and understood before venturing into any kind of business.



Fig.5: A presentation on Business Development and Marketing of plantain chunks by Mr. Stephen Nketia

### **CHAPTER THREE**

#### **3. Discussions, Contributions, Question and Answers**

After the presentations, Dr. Charlotte Oduro-Yeboah opened the floor for questions, contributions, enquiries, and further discussions on the newly developed technology. Some of the questions asked were around the nutritional quality, techniques in the technology, and feasibility of export. On the clarification, Prof. Paa Nii Torgbor Johnson answered all the questions posed and the participants were fully impressed. They indicated that the program had been educative and had learnt a lot about the products developed from the frozen plantain chunks which still looked fresh after a 6-month of storage in a normal deep freezer.



Fig.6: Participants asking a question on the technology developed



Fig.7: Prof. PN-T Johnson responding to some of the questions raised during the forum



### 3.1 Closing address by Director of CSIR-Food Research Institute

For the climax of the forum, Prof. Charles Tortoe encouraged the participants to take up the technology developed to help minimize post-harvest losses of plantain and also come back for continuous engagement and business to make use of other technologies available at CSIR-FRI. He thanked all the participants for making time to participate in the program. The program ended at 12.00 pm with a prayer by Mr. Jeremiah Brown.

A group photograph was taken after the closing remarks. An exhibition of the cooked parboiled plantain chunks was displayed. The exhibition had three different products prepared from frozen parboiled plantain chunks; 1. Lemon treated frozen parboiled *apem*, *apantu* and *oniaba* plantains at different time stored for 6-months; 2. Normal parboiled *Apem* and *apantu* plantain chunks.



Fig.8: Products developed from frozen parboiled plantain and normal parboiled plantain

**Appendix: Investor's forum participants database**

**INVESTORS' FORUM ON FROZEN PARBOILED PLANTAIN CHUNKS TECHNOLOGY (MAG PROJECT): TOWARDS  
SUSTAINABLE POSTHARVEST MANAGEMENT OF PLANTAINS**

**CSIR-FOOD RESEARCH INSTITUTE**

**PARTICIPANTS ATTENDANCE LIST**

<b>S/N</b>	<b>NAME</b>	<b>DESTINATION</b>	<b>ORGANISATION/ADDRESS/CONTACT</b>	<b>CONTACT</b>
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7	Prof. Charles Tortoe	Accra	CSIR-FRI	0243241801
8	Dr. John Edem Kongor	Accra	CSIR-FRI	0245696020

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10	Dr. Charlotte Oduro-Yeboah	Accra	CSIR-FRI	0249277401
11	Stephen Nketiah	Accra	CSIR-FRI	0244992897
12	Sampson Dorcoo	Accra	DAES-MoFA	02411276229
13	Prospera Anku	Accra	DAES-MoFA	0244608110
14	Kofi Ntow	Accra	JILKK	0208197895
15	Daniel K. Jectey-Asonre	Accra	Nkulenu	0209129942
16	Asante Eric	Accra	Nkulenu	0246051851
17	Barbara Asunka	Accra	CSIR-FRI	
18	Ebenezer Asiamah	Accra	CSIR-FRI	0545181395
19	Constance Boateng	Accra	CSIR-FRI	0244207489
20	Nkaliban Wujangi	Accra	Agriculture and More Ltd	0244631705
21	Fafali Azaglo	Accra	Otaomina Women Processing Group	
22	Mahama Samuel	Accra	CSIR-Head Office	0243188409
23	Ama Annan	Accra	CSIR-FRI	0249699127
24	Saviour G. Cudjoe	Accra	CSIR-FRI	



25	Eric Ofori	Accra	CSIR-FRI	0504278751
26	Alice Padi	Accra	CSIR-FRI	0541949625
27	Charity	Tema	Meannan Foods	0244280527
28	Derick Sallah	Accra	CSIR-FRI	0276445004
29	Felina Mensah	Accra	Spring-Forth Foods	0555758045
30	Vivian Anane	Accra	CSIR-FRI	
31	Ohene Williams	Tema	Eden Tree	0555958811
32	Perpetual Salvo	Accra	Perp Stores	0543174417
33	Rachel Boateng	Accra	CSIR-FRI	0573765228
34	Faustina Sowuah	Accra	CSIR-FRI	
35	Naomi Ashong	Accra	Otaomina Women Processing group	0243467202
36	Barbara Asunka	Accra	CSIR-FRI	0500025011
37	Papa Toah Akonor	Accra	CSIR-FRI	0261670099

