HISTORY OF CSIR-CROPS RESEARCH INSTITUTE

INTRODUCTION

Institutional history is a powerful tool that enable leaders/management to better understand the organization's past and to help shape its future. An organisation's history is critical to understanding change context, corporate culture, as well as its governance. The historical account of CSIR-CRI is to track its record of past staff to inspire and encourage present and future staff commitment to stakeholders. This way, even when times have been tough, the Institute's founding values stayed true, and the Institute will forge ahead to create new successes and continually honour the trust that stakeholders have reposed in it.

It is in this light that the Council for Scientific and Industrial Research (CSIR), tasked each of the thirteen (13) Institutes under its umbrella, of which Crops Research Institute (CRI) is the largest to document their historical account.

The historical account of CSIR-CRI presents its genesis, rationale for establishment, trajectory of growth, individuals and organisations that have contributed to its growth, and collaborations enjoyed since establishment.

The Committee members [Mr. Raphael Kwame Bam (Principal Research Scientist, Chairman), Dr. Ernest Baafi (Senior Research Scientist), Messrs. Emmanuel Afriyie (Senior Administration Officer), and Emmanuel Bonige (Chief Works Superintendent)] tasked to journalise this historical account is grateful to person(s) who contributed to making this exercise possible. The Committee is also grateful to CSIR-CRI Management for the honour to serve the Institute in this capacity.
God Bless CSIR-CRI and continue to make it great and strong.

THE GENESIS OF CSIR-CROPS RESEARCH INSTITUTE (CRI)

The Government of Ghana, (GoG), in its quest to achieve accelerated growth in socio-economic development, created the National Research Council (NRC) in 1958. The first President of the Republic of Ghana, Osagyefo Dr. Kwame Nkrumah, established and Chaired the National Research Council. The Office of the President had direct oversight responsibility over the NRC, which afforded the members of the NRC direct access to the President. Research mandates were then assigned to some institutions.

The Gold Coast Department of Agriculture in the early years after 1900 had a Specialist Branch mandated to carry out research on crops. The Specialist Branch had a Specialist Division located at Kwadaso, which had a predominantly white staff specializing in Plant Pathology, Entomology and Plant Breeding.

Office Complex of the Specialist
Branch, Kwadaso

The Specialist Division was later merged with the Soil and Land-use Survey Department to become the Scientific Services Division of the Ministry of Agriculture in 1959. The Specialist Division was later transferred to the National Research Council (NRC) in 1963 and re-named the Agricultural Research Institute (ARI).

In October 1963, the Ghana Academy of Sciences re-organised the ARI into two (2) units for work emphasis and independence. These were the Soil Research Unit (SRU), originally located at Cocoa Research, Tafo, Eastern Region, but was moved to Kumasi, and the Crops Research Unit (CRU), which became an Institute in 1964 as the Crops Research Institute (CRI) with its headquarters at Kwadaso, Kumasi. The Academy of Sciences was re-organised in 1968 into the Ghana Academy of Arts and Sciences and the Council for Scientific and Industrial Research (CSIR) and CRI became one of the Institutes of the CSIR in 1968.

RATIONALE / JUSTIFICATION FOR THE ESTABLISHMENT OF CSIR-CRI

The President of Ghana, Osagyefo Dr. Kwame Nkrumah was enthused by the Russian System of conducting research. The Russians had a Science City which conducted research into all aspects of the economy up to the highest level. To propel Ghana for industrialization, Osagyefo Dr. Kwame Nkrumah acquired land at Fumesua in the Ashanti region to establish a Science Village. This brought about the establishment of Building and Road Research Institute (BRRI), Crops Research Institute (CRI) and the Forestry Research Institute of Ghana (FORIG) on the same compound, to mimic the Russian model of "Science City".

The objective of establishing the CRI of CSIR was to research into, and develop improved varieties of food and industrial crops and their production technologies for food security, industrialization, national development and poverty reduction. The Vision, Mission, and Mandate of CSIR-CRI are as explained below.

Vision
Become a Centre of Excellence for agricultural research, innovation and capacity building for development.

Mission
Develop and disseminate demand-driven technologies and build capacity for sustainable food and industrial crops productivity to enhance livelihoods.

Mandate
Develop and disseminate appropriate technologies for high and sustainable food and industrial crop production at the national and international levels.

The mandated crops included:

- Legumes (cowpea, soybean. groundnut and bambara groundnut).
- Cereals (maize and rice).
- Roots and Tubers (yam, cocoyam, cassava, taro, and sweetpotato).
- Vegetables (pepper, garden eggs, tomato, onion, and leafy vegetables).
- Tropical fruits (citrus, mango, avocado, pineapple, cashew, and pawpaw).
- Industrial crops (rubber, sugar cane, and bast fibre).

Crops Research Institute (CRI) had general agricultural and extension mandate and established research stations in the various agricultural ecological zones. The outstations were located at Ohawu and Kpeve in the Volta region, Pokuase in the Greater Accra region, Kusi Oil Ppalm Station, Kade, and Plant Genetic Resource Unit (PGRU) in the Eastern region, Aiyinase Station in the Western region, Assin Foso and Boako Stations in the Central region, Akumadan and

Ejura in the Ashanti region, Nyankpala in the Northern region and Manga in the Upper region (now Upper East region).

PERSONS AND INSTITUTIONS BEHIND THE ESTABLISHMENT OF CSIR-CROPS RESEARCH INSTITUTE

Dr. W. K. Agble was appointed as Head of the Crops Research Unit (CRU) effective 1st October 1963. He became the Associate Director of Crops Research Institute in 1964 and then the Director in 1965 till 1987 (22 years) when he retired. Dr. W. K. Agble distinguished himself as a Director for the many years he served the Institute. CSIR conferred on him the "Award for Distinguished and Meritorious Service (Technical)" and requested that a bust of himself is built at the foyer of CSIR-Crops Research Institute to serve as a monument to his memory.

As the only first black Specialist among white expatriate staff in the Plant Breeding Programme of the Specialist Division, Dr. W.K. Agble, who obtained PhD in Plant Genetics in 1955 from the University of Minnesota, United States, , had been the Plant Breeder in the Specialist Branch of the Ministry of Agriculture from September 1955 to 1963.

Prior to his appointment as the Associate Director of CRU, he had initiated and developed the Maize Breeding Programme through which new hybrid maize varieties G.S.1, G.S.2 and G.S.3 were developed and released for cultivation by farmers. He also initiated the rice Improvement Programme through testing of different varieties for higher yields. These varieties were Mendii, S.L. B16/34, S.L. 29/50 and Nigerian White. Dr. Agble was the official Ghana Government representative on the Management Committee of the West African Maize Research Unit and West African Rice Research Station, a role which enhanced the visibility of CSIR-CRI.

The most vibrant project which sustained the Institute's progress was the Ghana Grains Development Project (GGDP), which was initiated by Dr. W. K. Agble and funded by the Canadian government, from 1979 till 1997 (18 years).

Dr. W.K. Agble

Mr. Albert K. Kissiedu, a Senior Research Officer, was transferred from Ohawu Outstation in the Volta Region to CSIR-CRI, Fumesua, to manage the National Root and Tuber Crops Project NRTCP) and led the development and submission of the NRTCP proposal.

Dr. O.O. Okoli, a Root and Tuber crops expert from the National Roots Crops Research Institute, Umudike, Nigeria, the consultant to NRTCP assisted CSIR-CRI to develop the Roots and Tubers Programme at the Institute.

Drs Y.O. Amankwatia, J.K. Twumasi and O.B. Hemeng developed and submitted a proposal and obtained funding for Plantain Research from the International Development Research Centre (IDRC), Canada. The project was to address the Sigatoka disease of plantains and bananas, as well as plantain breeding and agronomy. Dr. O.B. Hemeng coordinated the project, which commenced Plantain Research at CSIR-CRI and later became the Plantain and Banana Improvement Programme in the Institute.

Dr. Y.O. Amankwatia also led in the development and submission of a proposal under the Agricultural Services Rehabilitation Project (ASRP) on Inland Valley Bottom Rice Development Project (IVBRDP). He coordinated the Rice component of the ASRP. This project led to the establishment of the current Rice Improvement Programme at CSIR-CRI.

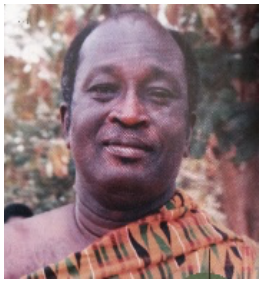
CSIR-CRI made history globally in 1992, when the Institute collaborated with International Maize and wheat Research Center (CIMMYT) to release **High Quality Protein Maize** (**Obatanpa).** The staff who were instrumental in the development and release of Obatanpa variety were S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi, K. Ahenkora, E.A Asiedu, P.P Frimpong-Manso, O. Yeboah, S Apau, A. Mensah-Ansah; W. Haag, B.D. Dzah.

The Biotechnology Programme (Tissue Culture and Molecular Biology Laboratories) at the Institute were commenced by the Late Dr. Ernest Otoo, a Rice Physiologist, and Prof Marian Quain a Tissue Culturist, respectively for rapid multiplication of healthy planting materials.

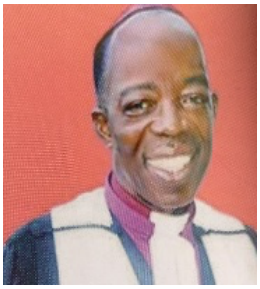
Dr. J.A. Otoo donated scientific materials in November 2015 to the Institute's library to facilitate research activities. These were Production manuals-13; French version of agricultural literature-67; Annual Reports-190; COSCA documents-47; Research guides-115; Thesis-4; Conference papers and proceeedings-110; Text books-421.

The Institute was fortunate to have various competent Management Boards to assist in Managing the affairs of the Institute for improved performance. Persons who chaired the Institute's Management Board over the years were:

i) Prof. E.V. Doku
ii) Mr. David Christian Asante-Kwatia
iii) Rev. Prof. Osei Safo-Kantanka
iv) Mr. Kwasi Ampofo
v) Dr. Michael Abu Sakara Foster



Mr. D.C. Asante-Kwatia



Rev. Prof. O. Safo-Kantanka

Dr. M.A. Sakara Foster

TRAJECTORY OF GROWTH AND DEVELOPMENT

Transition from CRU to CRI

In October 1963, the Ghana Academy of Sciences re-organised the Agricultural Research Insitute (ARI) into two (2) units for work emphasis and independence. These were the Soil Research Unit (SRU), originally located at Cocoa Research, Tafo, Eastern Region, but was moved to Kumasi, and the Crops Research Unit (CRU), which became an Institute in 1964 as the Crops Research Institute (CRI) with its headquarters at Kwadaso, Kumasi.

Establishment of Out-stations

Crops Research Institute (CRI) established research stations in the various agricultural ecological zones. The outstations were located at Ohawu and Kpeve in the Volta region, Pokuase in the Greater Accra region, Kusi Oil Palm Station, Kade , and the Plant Introduction and Exploration Centre (PIEC), in the Eastern region all in 1964, Aiyinase Station in the Western region, Assin Foso and Boako Stations in the Central region, Akumadan and Ejura in the Ashanti region, and Nyankpala in the Northern region and Manga in the Upper region (now Upper East region) both in 1968. Establishment of the Nyankpala and Manga Stations was funded by the German Government through German Development Corporation (GTZ) Project. The rationale for establishment of the out-stations was to strengthen research and extension services linkages across the ecological zones.

Three of the out-stations have become full-fledged Institutes. These were Nyankpala Agricultural Experiment Station which evolved to become Savanna Agricultural Research Institute (SARI) in 1994; Kusi Oil Palm Station which became Oil Palm Research Institute (OPRI) in 1988; and Plant Introduction and Exploration Centre (PIEC) which became Plant Genetic Resources Research Institute (PGRRI) in 2005.

Re-location from Kwadaso to Fumesua

Before the office at Fumesua was constructed, the first and founding Director of CSIR-CRI, Dr. W. K. Agble, was informed by the Queen Mother of Fumesua that she had to perform customary rights to pacify the gods at the dam near CSIR-FORIG and CSIR-BRRI site before construction of the building could begin. CSIR-BRRI was the only Institute which had already occupied their

offices then at Fumesua. A-Lang Company Limited, a construction firm from Switzerland, which was based in Kumasi, Ghana was awarded the contract. The Administrative Centre (Headquarters) of CRI was moved from Kwadaso to Fumesua on the Kumasi-Accra road in 1996. Dr. O.B. Hemeng personally took upon himself, the maintenance of the building with assistance of some of the Plant Health staff, before the entire CSIR-CRI staff were officially moved from Kwadaso to Fumesua.

The total approximate area of 1,497.60 acres of land situate at Fumesua in the Kumasi South District in the Ashanti /region of the Republic of Ghana delineated on the north, and adjoining the northern edge of the Kumasi-Accra Railway line west of Okyerekrom and Kokobra villages, and astride the Sipe -Tinkon-Tikrom motor road and bounded on the north open space and measuring on that side 5,030 feet on the North-East by Pakoso village, and Okerekrom village measuring on that side a total distance of 6,750 feet on the East by the Kokobra village and part of the Fumesua-Pakoso motor road measuring on that side a total distance of 2,415 feet on the South-East by the High Tension Transmission Line and the Kumasi-Ejisu motor road and measuring on that side a total distance of 7,140 feet on the South-West by aforesaid Kumasi-Accra railway line and open space measuring on that side a total distance of 10,570 feet and on the North-West by open space and Pakoso village and measuring on that side a total distance of 7,285 feet on plan number LD 7795^{A}/45065 filed at the Lands Department, Kumasi on file number S.15856/vol 1. This was by the command of the National Redemption Council and dated 17th March 1972, under the Administration of Lands Act, 1962 (Act 123).

Infrastructural Development

The major infrastructure at CSIR-CRI are as indicated on the photographs below:

Biotechnology Lab., Fumesua

Containment Facility, Fumesua

Irrigation Pump House, Fumesua

Paved Walk-Way, Fumesua

Screen House, Fumesua

Dam, Fumesua

Maize Barn, Fumesua

Legumes Barn & Cold Room

Credit Union Office

Garage, Fumesua

Seed Processing Centre & Screen House, Kwadaso

Crop Varieties

The list of crop varieties developed and released by the Institute to date are as listed below;

Cereals

Name of Variety	Breeder (s)/ Scientist	Year of Release
Composite 2	M.K. Akposoe,	1968
Composite W	M.K. Akposoe,	1972
Golden Crystal (OPV)	M. K. Akposoe	
Composite 4	M.K. Akposoe,	
LaPosta	M. K. Akposoe	
Aburotia	S.Twumasi-Afriyie,	1983
Kawandzie	S.Twumasi-Afriyie,	1984
Safita 2	S.Twumasi-Afriyie,	
Dobidi	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi,	
Okomasa	B. Badu-Apraku, Institution	1988
Abeleehi	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi	1990
Dorke SR	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi	1992
Obatanpa (OPV)	S.Twumasi-Afriyie, P.Y.K. Sallah, B. Badu-Apraku, K. Obeng-Antwi, K. Ahenkora, E.A Asiedu, P.P Frimpong-Manso, O. Yeboah, A.O. Apau, A. Mensah-Ansah; W. Haag, B.D. Dzah	
Mamaba (Hybrid)	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi, K. Ahenkora, E.A Asiedu, P.P Frimpong-Manso, O. Yeboah, A.O. Apau, A. Mensah-Ansah; W. Haag, B.D. Dzah	1997
Dadaba (Hybrid)	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi, K Ahenkora, E.A Asiedu; P.P Frimpong-Manso, O. Yeboah, A.O. Apau, A. Mensah-Ansah, W. Haag, B.D. Dzah	
Cida-ba (Hybrid)	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi, K Ahenkora, E.A Asiedu, P.P Frimpong-Manso, O. Yeboah, A.O. Apau, A. Mensah-Ansah, W. Haag, K. Boa Amponsem, K. Ahenkora, A. Agyemang, E.K. Lampoh, B.D. Dzah	
Dodzi (OPV)	S.Twumasi-Afriyie, P.Y.K. Sallah, B.Badu-Apraku, K. Obeng-Antwi, K Ahenkora, E.A Asiedu, P.P Frimpong-Manso, O. Yeboah, A.O. Apau, A.	

	Mensah-Ansah, W. Haag, K. Boa Amponsem, K. Ahenkora, A. Agyemang, E.K. Lampoh, B.D. Dzah	
CSIR-Golden Jubilee (OPV)	M.B. Ewool, P.Y.K Sallah, K. Obeng-Antwi; (CSIR-CRI); M.S. Abdulai, (CSIR-SARI)	2007
CSIR-Aziga (OPV)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi; (CSIR-CRI); M.S. Abdulai, (CSIR-SARI)	
CSIR-Akposoe (OPV)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi; (CSIR-CRI); M.S. Abdulai, (CSIR-SARI)	
CSIR-Etubi (Hybrid)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi, (CSIR-CRI); M.S. Abdulai, (CSIR-SARI)	2010
CSIR-Enii-Pibi (Hybrid)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi, (CSIR-CRI); G. B Adu, M.S. Abdulai, (CSIR-SARI)	
CSIR-Omankwa (OPV)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi, (CSIR-CRI); G. B Adu, M.S. Abdulai, (CSIR-SARI)	
CSIR Aburohema (OPV)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi, (CSIR-CRI); G. B Adu, M.S. Abdulai, (CSIR-SARI)	
CSIR-Abontem (OPV)	M.B. Ewool, P.Y.K Sallah, K. ObengAntwi, (CSIR-CRI); M.S. Abdulai, G. B Adu, (CSIR-SARI)	
Aseda	Manfred Ewool et al./ CSIR-CRI	2012
CSIR-CRI Ɔpeaburo	Manfred Ewool et al./ CSIR-CRI	
CSIR-CRI Tintim	Manfred Ewool et al./ CSIR-CRI	
CSIR-CRI Honampa (OPV)	M. B. Ewool, K. Obeng-Antwi, M. Tengan, F. C. Danso, (CSIR-CRI); A. Haruna, A. S. Mashark, (CSIR-SARI)	
CSIR-CRI Ɔnwanwa (Single cross hybrid)	M. B. Ewool, K. Obeng-Antwi, M. Tengan, F. C. Danso, (CSIR-CRI); A. Haruna, A. S. Mashark, (CSIR-SARI)	
CSIR-CRI Ɔdomfo (Single cross hybrid)	M. B. Ewool, K. Obeng-Antwi, M. Tengan, F. C. Danso, (CSIR-CRI); A. Haruna, A. S. Mashark, (CSIR-SARI)	
CRI-Afriyie	K. Obeng-Antwi, M. B. Ewool, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI);	2015
CRI-Nkabom		

CRI Obotantim	K. Obeng-Antwi, M. B. Ewool, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI);	
CRI Dzifoo	K. Obeng-Antwi, M. B. Ewool, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI);	
CRI Ahoɔfe	K. Obeng-Antwi, M. B. Ewool, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI);	
CRI Ahoɔdzin (OPV)	M. B. Ewool, K. Obeng-Antwi, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI)	
CRI-Nkunim (Proprietory)	M. B. Ewool, K. Obeng-Antwi, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI)	
	K. Obeng-Antwi, M. B. Ewool, M. Tengan, A. Oppong, (CSIR-CRI); M. S. Abdullai, A. Haruna, G. B. Adu, (CSIR-SARI); Wienco	
SC719, Gyemedi (Proprietory)	E. Tembo, SEEDCo; K. Obeng-Antwi, A. Oppong. P. F Ribeiro, M. B. Ewool, (CSIR-CRI); A. Haruna, G. B. Adu, (CSIR-SARI).	2016
CRI-Nkomo	A. Oppong, M. B. Ewool, P. F. Ribeiro, F. C. Danso	2019
CRI-Akomapa	A. Oppong, M. B. Ewool, P. F Ribeiro, F. C. Danso	
SC649-Hwɛfoɔ (Proprietory)	E. Tembo, African Seed Company Ghana Limited; A. Oppong, K. Obeng-Antwi, P. F Ribeiro, (CSIR-CRI); G. B. Adu, A. Haruna, M. S. Abdulai, (CSIR-SARI)	
CRI-Nkwagye	M. B. Ewool, A. Oppong, P. F. Ribeiro, F. C. Danso; (CSIR-CRI); A. Haruna, G. B Adu, (CSIR-SARI)	
CRI-Abebe	M. B. Ewool, A. Oppong, P. F. Ribeiro, F. C. Danso, (CSIR-CRI); A. Haruna, G. B Adu, (CSIR-SARI);	
CRI-Apraku	P. F. Ribeiro, M. B. Ewool, A. Oppong F. C. Danso, (CSIR-CRI); A. Haruna, G. B Adu, (CSIR-SARI);	

Rice

Sikamo (low land/hydromorphic)	R. Bam, E. Otoo, J. Ofori, G. Acheampong, E. Annan Afful, P. K. A. Dartey	1997
Mmotea (upland)	P. K. A. Dartey, R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful	2009
Otoommo (Upland)	P. K. A. Dartey, R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful	
CRI-Amankwatia (Lowland)	R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful, P. K. A. Dartey	2010
CRI-Wakatsuki (Lowland)	R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful, P. K. A. Dartey	
CRI-Bodia (Lowland)	R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful, P. K. A. Dartey	
CRI-Sakai (Lowland)	R. Bam, M. D. Asante, G. Acheampong, E. Annan Afful, P. K. A. Dartey	
AGRA Rice (Lowland)	P.K.A Dartey	2013
CRI-Dartey (Lowland)	M. D. Asante, P. K. A. Dartey	2019
CRI-Kantinka (Lowland)	M. D. Asante	
CRI-)boafo (Lowland)	M. D. Asante	
CRI-Emopa (Lowland)	M. D. Asante	
CRI-Mpuntuo (Lowland)	M. D. Asante, P. K. A. Dartey	
CRI-Enapa (Lowland)	M. D. Asante	

Legumes

Common Bean (*Phaseolus vulgaris*)

Crops- Ɛnnepa	J. Y. Asibuo	2016
Crops- Ad)yɛ	J. Y. Asibuo	
Crops- Sɛmanhyia	J. Y. Asibuo	
Crops- Nsoroma	J. Y. Asibuo	

Cowpea

Hewale Videza Asomdwee	H. Adu-Dapaah, S.N.T.T Addy H. Adu-Dapaah, S.N.T.T Addy H. Adu-Dapaah, S.N.T.T Addy	2012
Crops – Hans Adua Crops-Agyenkwa Nketewade Zamzam	S. Amoah, S.N.T.TAddy, J.Y.Asibuo, H.AduDapaah S. Amoah, S.N.T.TAddy, J.Y.Asibuo, H.Adu-Dapaah S. Amoah, S.N.T.TAddy, J.Y.Asibuo, H.Adu-Dapaah S. Amoah, S.N.T.TAddy, J.Y.Asibuo, H.Adu-Dapaah	2015

Groundnut

CRI-Nkosour CRI-Adepa CRI-Azivivi CRI-Jenkaar	H.K. Adu-Dapaah, J.Y. Asibuo, S. Amoah, B. Asafo Agyei J.Y. Asibuo, H.K. Adu-Dapaah, S. Amoah H.K. Adu-Dapaah, J.Y. Asibuo, S. Amoah, B. Asafo Agyei H.K. Adu-Dapaah, J.Y. Asibuo, S. Amoah, B. Asafo Agyei	2005
Obolo Yenyawoso Oboshie Otuhia	J. Y. Asibuo, H.K. Adu-Dapaah, S. Amoah, S.N.T.T Add J. Y. Asibuo, H.K. Adu-Dapaah, S. Amoah, S.N.T.T Addy, M.K Owusu-Akyaw, M.B. Mochiah (CSIR-CRI); A. Mumuni (CSIR-SARI) J. Y. Asibuo, H.K. Adu-Dapaah, S. Amoah, S.N.T.T Addy J. Y. Asibuo, H.K. Adu-Dapaah, S. Amoah, S.N.T.T Addy, M.K Owusu-Akyaw, M.B. Mochiah (CSIR-CRI); A. Mumuni (CSIR-SARI)	2012

Crops-PION Crops-Abakan Crops –Agbeyeye Crops -Dehyee	J. Y. Asibuo J. Y. Asibuo J. Y. Asibuo J. Y. Asibuo	2019

Soya bean

Anidaso Bengbie	B. Asafo Agyei B. Asafo Agyei	1992
CRI-Nangbaar CRI-Ahoto	H.K. Adu-Dapaah, J.Y. Asibuo, S. Amoah, B. Asafo Agyei H.K. Adu-Dapaah, J.Y. Asibuo, S. Amoah, B. Asafo Agyei	2005
Gyidie Latara	S. Amoah S. Amoah	2016
Toondana Anigyeɛ	S. Amoah, J.Y. Asibuo, S.N.T.T Addy, H. Adu-Dapaah S. Amoah, J.Y. Asibuo, S.N.T.T Addy, H. Adu-Dapaah	2019

Roots & Tubers

Cassava

Afisiafi Abasafitaa	J.A. Otoo, et al. J.A. Otoo, et al.	1993
CRI-Agbelifia CRI-Essam Bankye CRI-Bankye Hemaa CRI-Doku Duade	G. Ampong Mensah, et al. G. Ampong Mensah, et al. G. Ampong Mensah, et al. G. Ampong Mensah, et al.	2005
CRI-Ampong CRI-Broni Bankye	J. Manu Aduening; G. Ampong Mensah J. Manu Aduening; G. Ampong Mensah	2010

CRI-Sika Bankye CRI-Otuhia	J. Manu Aduening; G. Ampong Mensah J. Manu Aduening; G. Ampong Mensah	
CRI-Duade Kpakpa CRI- Amansan bankye CRI-AGRA bankye CRI-Dudzi CRI-Abrabopa CRI-Lamesese	J. ManuAduening J. ManuAduening J. ManuAduening J. ManuAduening J. ManuAduening J. ManuAduening	2015
CRI-Bediako Crops Research	J. ManuAduening J. ManuAduening	2019

Cocoyam

CRI-Akyede CRI-Ma ye Yie CRI- Gye Me Di	E.L. Omenyo E.L. Omenyo E.L. Omenyo	2012

Sweetpotato

Okumkom Santom pona Sauti Faara	J. A. Otoo J. A. Otoo J. A. Otoo J. A. Otoo	1998
CRI-Otoo CRI-Apomuden CRI – Ogyefo CRI – HiStarch	H. K. Dapaah, K. Adofo H. K. Dapaah, K. Adofo H. K. Dapaah, K. Adofo H. K. Dapaah, K. Adofo	2005
CRI-Patron	J. N. Asafu Agyei, Kwadwo Adofo, E. Baafi (CSIR-CRI), Dapaah, H. K. (CSIR-CRI/EUW, Mampong)	2012

CRI-Bohye	J. N. Asafu Agyei, Kwadwo Adofo, E. Baafi (CSIR-CRI), Dapaah, H. K. (CSIR-CRI/EUW, Mampong)	
CRI –Dadanyuie	J. N. Asafu Agyei, Kwadwo Adofo, E. Baafi (CSIR-CRI), Dapaah, H. K. (CSIR-CRI/EUW, Mampong)	
CRI - Ligri	J. N. Asafu Agyei, Kwadwo Adofo, E. Baafi (CSIR-CRI), Dapaah, H. K. (CSIR-CRI/EUW, Mampong)	
CRI-Yiedie	K. Adofo, E. Baafi,	2019
CRI-Gavana	K. Adofo, E. Baafi,	
CRI-Vern Gracen	E. Baafi	
CRI-AGRA SP09	E. Baafi	
CRI-AGRA SP13	E. Baafi	
CRI-Kofi Annan	E. Baafi	

Taro

CRI-Huogbelor	E. Baafi	2019
CRI-Asempa	E. Baafi	
CRI-Agyenkwa	E. Baafi	
CRI-Yen anya woa	E. Baafi	

Yam

CRI-Pona	E. Otoo	2005
CRI-Mankrongpona	E. Otoo	
CRI - Kukrupa	E. Otoo	
CRI-Soanyinto	E. Otoo	2017
CRI-Afase Biri	E. Otoo	
CRI-Afasepa	E. Otoo	
CRI-Ahoodinfoo	E. Otoo	

Pepper

CSIR-CRI Shito Adope CSIR-CRI Mako Ntose	K. Offei Bonsu K. Offei Bonsu	2005

DIRECTORS OF CSIR-CROPS RESEARCH INSTITUTE FROM 1965 TO 2021

Introduction

The CSIR-Crops Research Institute has had eight (8) Directors since its establishment in 1964. Below are the Men and Woman who have steered the affairs of the Institute to its present state.

1. **DR. WILLIAM KWESI AGBLE** ***(PhD. Plant Breeding)-The first and founding Director***

Tenure: 11th July, 1965 to 28th May, 1986

Dr. W.K. Agble

Deputy Director: Mr. Emmanuel Appiah Addisson

Mr. Emmanuel A. Addison

i) **<u>Research Direction:</u>**

As the founding Director, Dr. Agble's tenure continued with agricultural research of the Institute. He was particular about the caliber of staff recruited to the Institute to set high standards for research.

To fulfill the national development agenda, he established research stations in the various agricultural ecological zones. The outstations were located at Ohawu and Kpeve in the Volta region, Pokuase in the Greater Accra region, Kusi Oil Palm Station, Kade, and Plant Genetic Resource Unit (PGRU) in the Eastern region, Aiyinase station in the Western region, Assin Foso and Boako Stations in the Central region, Akumadan and Ejura in the Ashanti region, Nyankpala in the Northern region and Manga in the Upper region (now Upper East region).

Three (3) of the outstations have been upgraded to fully fledged Institutes. These are Savanna Agricultural Research Institute (SARI), Oil Palm Research Institute (OPRI) and Plant Genetic Resources Research Institute (PGRRI). Knowing the importance of scientific information sharing in research, he also led the creation of the Ghana Journal of Agricultural Science, and chaired its Editorial Board for twenty (20) years.

His membership in numerous international and national scientific associations and societies projected the image of the Institute scientifically.

ii) Research Projects and Programmes

The Ghana Grains Development Project (GGDP), a Canadian-sponsored project was initiated and implemented during his tenure from 1979.

iii) Research Collaboration:

- Canadian Government/Canadian International Development Agency (CIDA)
- German Agency for Technical Co-operation (GTZ)
- International Maize and wheat Research Center (CIMMYT)
- International Institute of Tropical Agriculture (IITA)
- International Crops Research Institute for The Semi-Arid Tropics (ICRISAT)
- University of Minnesota
- Ministry of Agriculture (as it then was)

iv) Staff Capacity Development and Expertise

He recruited highly qualified Scientists, Technicians, Administrators and Accountants from Ghanaian and foreign universities. He also ensured staff capacity development.

v) Infrastructural Development

- He secured a portion of the CSIR land at Fumesua for expansion of the Institute which was located at Kwadaso. The commencement and completion of the main 3-storey office block and garages at Fumesua was under his tenure.
- Construction of dams to facilitate irrigation of research fields during off-season at Fumesua were also during his tenure.

vi) Technology Development

Nine improved maize varieties were released during his tenure . The first maize variety, Composite 2, was released by M.K. Akposoe at the Institute during his tenure.

Cereals - 9

- **Maize:** *Composite 2 (pot yld: 4.0t/ha); Composite W(pot yld: 4.1t/ha); Composite 4 (pot yld: 3.9t/ha); Golden Crystal (pot yld: 4.6t/ha); LaPosta (pot yld: 5.5t/ha); Aburotia (pot yld: 4.6t/ha); Kawandzie (pot yld: 3.5t/ha); Safita 2 (pot yld: 3.8t/ha); Dobidi (pot yld: 5.5t/ha).*

2. MR. EMMANUEL APPIAH ADDISSON *(MSc. Plant Pathology)- Director*

Tenure: 29th May, 1986 to 30th September, 1996

Mr. Emmanuel A. Addison

Deputy Directors:

- Dr. Y.O. Amankwatia & Dr. O. B. Hemeng

Dr. Y. O. Amankwatia

Dr. O. B. Hemeng

i) Research Direction

To achieve food security through development of superior cereals, legumes, roots and tubers and horticultural crops and their production technologies.

ii) Research Projects and Programmes

- Ghana Grains Development Project (GGDP) Phase II
- Cowpea Integrated Pest Management
- Inland Valleys Bottom Rice Development Project (IVBRDP).
- National Agricultural Research Project (NARP)
- Agricultural Services Support and Investment Programme (AgSSIP)

iii) Total Inflows

An estimated total inflow of about US$1, 672,345.00. (add inland valley, AgSSIP, GGDP Phase II)

iv) Research Collaboration

- Canadian Government/CIDA
- German Agency for Technical Co-operation (GTZ)
- CIMMYT
- IITA
- ICRISAT
- Japan International Cooperation Agency (JICA)
- Ministry of Food and Agriculture
- International Development Research Centre (IDRC)

v) Staff capacity Development and Expertise

Human resource development through upgrading of Research and Technical Staff was carried out.

vi) Infrastructural Development

- Commencement of Training, Communication and Publication Unit (TCPU) Conference Centre building
- Commencement and completion of Transport and Mechanization building
- Commencement and completion of a second dam at Kwadaso station to aid irrigation of research experimental fields

Training, Communication & Publication Unit (TCPU)

Transport & Mechanisation Section

vii) <u>Technology Development</u>

Eight improved crop varieties were released during his tenure. These consist of maize (4), soybean (2), and cassava (2). CSIR-CRI made history globally in 1992, when the Institute Released **High Quality Protein Maize (Obatanpa).** The first cassava and soybean varieties were also released during his tenure.

Roots and Tubers – 2

- **Cassava:** *Afisiafi (pot yld: 28 - 35t/ha), Abasafitaa (pot yld: 29 - 35t/ha).*

Legumes – 2

- **Soybean:** *Anidaso (pot yld: 1.2 - 2.8t/ha), Bengbie (pot yld: 1.2 - 2.8t t/ha)*

Cereals - 1

- **Maize:** *Okomasa (pot yld: 5.5t/ha); Abeleehi (pot yld: 4.5t/ha); Dorke SR (pot yld: 3.4t/ha);Obaatampa (pot yld: 4.6t/ha).*

viii) <u>Awards and Special Recognition</u>

Awards

i) Best National Researcher. Awarded to M. Owusu Akyaw and M.V.K. Jakpasu Afun. December 1995

ii) National Best Agricultural Award to Dr. Stella Ama Ennin. December, 1994

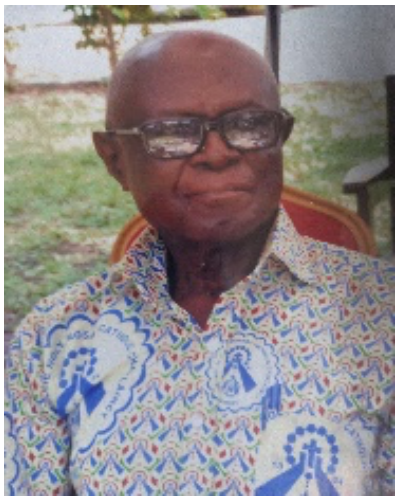
iii) Best Agricultural Research Award to Mr. Peterson Osei Bonsu, 1993

iv) Best Agricultural Research Award to Drs P.Y.K. Sallah, B. Badu Apraku and S. Twumasi-Afriyie. December 1992

v) Cash Award of $100 to Mrs. Joyce Haleegoah for best Paper presented. 28th November 1992.

3. DR. OWUSU BEMPAH HEMENG *(PhD. Plant Nematology) - Director*

Tenure: 1st October, 1996 to 30th November, 1999



Dr. O.B. Hemeng

Deputy Directors:

- Dr. J. K. Twumasi (1st September, 1998 to 30th September, 1999)
- Dr. John Alex Otoo (1st October, 1999 to 31st December, 1999)

Picture of
J.K. Twumasi

Dr. J.A. Otoo

i) Research Direction

- Commodity-based research was started and the various Divisions were re-aligned to achieve the objectives of Vision 2020 of Ghana.
- He initiated publishing of the Ghana Journal of Food and Agricultural Science to publicise agricultural and food research findings.
- Commercialization of research findings was introduced during his tenure.

ii) Research Projects and Programmes

- GATSBY Project
- Inland Valley Consortium (West African Rice Development Association - WARDA)
- Agricultural Sector Services Investment Program (AgSSIP)
- DFID Funded Participatory Varietal Selection Project
- National Agricultural Research Project (NARP)
- Agricultural Sector Services Investment Program (AgSSIP)
- RTIP

iii) Total Inflows

An estimated total inflow of US$181,351.41 was attracted into the Institute.

iv) Research Development and Expertise

Human Resource Development through upgrading of Research and Technical Staff was carried out.

v) Infrastructural Development

- Dr. Hemeng initiated the establishment of CRI Cooperative Credit Union to assist staff to obtain funds due to dwindling Government of Ghana funds for salary advances. He allocated an office for the Credit Union in Fumesua office building to commence operation. He also contributed to the Human Resource capacity of the Union.
- The Structure for the Canteen (summer hut) was commenced and completed during his tenure.
- Constructed the Dam close to Denchemoso at CRI Kwadaso station to facilitate dry season irrigation of research fields

Fumesua Canteen

vi) <u>Collaboration</u>

- Canadian Government/CIDA
- German Agency for Technical Co-operation (GTZ)
- CIMMYT
- IITA
- ICRISAT
- JICA
- Ministry of Food and Agriculture (MoFA)
- AfricaRice

vii) <u>Staff capacity Development and Expertise</u>

Human Resource Development through upgrading of Research and Technical Staff was carried out.

viii) <u>Technology Development</u>

Nine improved crop varieties were released during his tenure. These consist of cereals (5) and roots and tubers (4). The first rice and sweetpotato varieties were released during his tenure.

Roots and Tubers – 4

- **Sweetpotato:** *Okumkom (pot yld: 30t/ha), Santompona (pot yld: 17t/ha), Sauti (pot yld: 19t/ha), Faara (pot yld: 22t/ha).*

Cereals - 5

- **Maize (4):** *Mamaba (pot yld: 6.5t/ha), Dadaba (pot yld: 6.5t/ha), Cida-ba (pot yld: 6.5t/ha), Dodzi (pot yld: 3.3t/ha).*
- **Rice (1):** *Sikamo (poy yld: 6t/ha).*

ix) <u>Awards and Special Recognition</u>

Awards

i) "Certificate of Merit" awarded to the Ghana Maize Improvement Team. April 1999

ii) "Science and Technology Award" to the Quality Maize Protein (QPM) Team, CRI 26-28 October 1998.

iii) Best National Researcher. Awarded to J. A. Timbilla and H. Braimah, December 1998

iv) "Certificate of Merit" (Tenth Anniversary Awards) awarded to the Ghana Maize Improvement Team. April 1997

v) Director-General's Award for the Best Scientific Presentation to Mr. Collins K. Osei, 1997

4. DR. JOHN ALEX OTOO *(PhD. Crop Science)-Director*

Tenure: 1st January 2000 to 17th July 2003

Dr. J.A. Otoo

Deputy Director:

- Rev. Dr. John Nuamah Asafu-Agyei (1st February 2001 to 21st July 2003)

Dr. Rev. J.N. Asufu-Agyei

i) Research Direction

- He continued with the Commodity-based research to achieve the objectives of Vision 2020 of Ghana.
- He introduced the monthly Scientific Seminar Presentations for scientists to share their research findings.

ii) Research Projects and Progrmmes

- IFAD/IITA/WECARD YAM
- Evaluation of some cooking bananas in Ghana
- West African Rice Development Association (WARDA) - PADS Project
- Peri-urban vegetable production: Soil improvement and nematode control using *Crotalaria sp*
- Boost to food security in Ghana: Plantain Pilot project for poverty alleviation
- Food Crops Development Project
- GATSBY Rice
- RTIP
- DFID Funded Participatory Plant (Cassava) Breeding Project
- DFID Funded Participatory Varietal Selection Project (Phase II)
- National Agricultural Research Project (NARP)
- Agricultural Sector Services Investment Program (AgSSIP)

iii) Total Inflows

An estimated total inflow of US$214,142.00 and £350,000.00 was attracted into the Institute.

iv) Research Collaboration

- German Agency for Technical Co-operation (GTZ)
- CIMMYT
- IITA
- ICRISAT
- JICA
- Ministry of Food and Agriculture (MOFA)

v) Staff capacity Development and Expertise

Human Resource Development through upgrading of Research and Technical Staff was carried out.

vi) Awards and Special Recognition

Awards

i) Outstanding Scientist of the 21st Century. Awarded to Dr. Ernest Assah Asiedu 19th October 2001

ii) Certificate of Merit. Awarded to Dr. Ernest Assah Asiedu 7th December 2001

5. Dr. (REV.) JOHN NUAMAH ASAFU-AGYEI *(PhD. Agronomy)-Director*

Tenure: **Acting Director:** 22nd July 2003 to 2nd October 2003.
Director: 2nd October 2003 to 30th April 2008

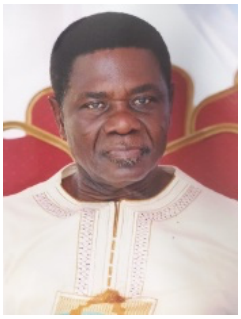
Dr. Rev. J.N. Asufu-Agyei

Deputy Directors:

- Dr. P. Y. K. Sallah (1st October 2003 to 30th November 2005)
- Dr. Godwin K. S. Aflakpui (1st December 2005 to 30th November 2007)
- Rev. Dr. Hans Adu-Dapaah (1st December 2007 to 17th April 2008)

Dr. Peter Y.K. Sallah

Dr. G.K.S. Aflakpui



Rev. Dr. Hans Adu-Dapaah

i) Research Direction

He led the Institute to develop the 'First Real Workable Strategic Plan', which branded the research direction of the Institute as Research for Development. His foresight in applying agricultural biotechnology in speedbreeding led him to release one unit of the Institute Guest House to start the biotechnology laboratory far ahead of government intervention for a state-of-the-art laboratory to be built.

ii) Research Projects and Programmes

From 17 inherited projects in 2003, his tenure saw a progressive increase in number of projects, increasing it by 67% as at time of leaving office. These projects were won mainly through submission of convincing research proposals. CORAF selected the Roots and Tubers Division as the Centre of Specialization for root and tuber crops development for the sub-region.

The projects during his tenure were:

- Training of Extension Agents and farmers in Kwabre District on Rapid Sucker production
- Generational Challenge Program (capacity building)
- Agronomical research in Ghana in the Field of Tree and Food Crops Cultivation
- CORAF/WECARD Cassava tissue culture
- Africa Rice/NERICA
- Export Marketing and Quality Awareness Project (EMQAP/MOFA)
- Root and Tuber and Integrated Marketing Program(RTIMP)
- Measuring the impact of IARC and NARS development projects for clean seed multiplication and new cultivars of banana and plantain: Improving impact pathways for public goods
- Cassava Breeding GCP
- Abiotic Stresses Rice Project (STRASSA)
- USAID Peanut CRSP(GROUNDNUT)
- Rice sector support project RSSP/MOFA
- Alliance for a Green Revolution in Africa (AGRA) Cassava
- West African Agricultural Productivity Project (WAAPP)
- AGRA Cowpea
- WIENCO Maize Project
- Roots and Tubers Integrated and Marketing Project (RTIMP)
- EDIF Mango Weevil Project
- EDIF Pineapple Project
- EDIF Tomato Project
- EDIF Cowpea Project
- CRI Kinki University Sawah Project

iii) Total Inflows

Total estimated inflow of $911,846.00; €184,000.00 and GHC200,735.19 was attracted into the Institute.

iv) Resources from Internally Generated Funds

He revolutionized the commercialization activity of the Institute to reposition CSIR-CRI to generate more Internally Generated Funds (IGF). This saw commercialization activities in breeder and foundation seeds of cereals and legumes, and some

vegetatively propagated crops like mangoes, rubber, citrus, oil palm, avocado pear and plantain, both at Fumesua Station and the out-stations.

v) Research Collaboration

a) GTZ-Ghana funded a consultant for the organizational assessment of the Institute and the Strategic Planning Development Process.

b) To develop demand driven technologies to meet end-user needs, the Institute worked closely with the farmers/farmer based organizations, the Ministry of Food and Agriculture (MoFA), and its related agencies, Ministries of Industries, Education, and Health, District Assemblies, Food and Industrial processors, and NGOs.

c) CSIR-CRI closely worked with International Research organisations: IITA, CIMMYT, ICRISAT, CIAT and CIP for germplasm acquisition, technical backstopping, technology development, post-graduate and technical training, and project management.

vi) Staff Capacity Development and Expertise

A number of staff had the opportunity especially through the AgSSIP Project to upgrade themselves in various discipline and levels for the benefit of the Institute. The Forum for Agricultural Research in Africa (FARA) chose CSIR-CRI as the Focal Institution for capacity development under the Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA).

vii) Infrastructural Development

- Corporate CSIR acquired a brand-new Nissan Patrol (GN 2038 Y) for the Institute, but he kept it for the in-coming Director while he still used the old Director's vehicle.
- Internet Access was improved.
- Borehole was sunk at Fumesua while a well was also dug at Kwadaso to address the perennial water shortage at the Institute.
- Buildings were painted and most staff quarters and guest houses were renovated.
- An office was also built at Ejura.
- Installation of Weather Station at Fumesua and Sokwai near Akropong

viii) Technology Development

Twenty-seven (27) improved crop varieties were released during his tenure. CSIR-CRI made history in Ghana on 4th March, 2005, when the National Varietal Release and Registration Committee pronounced **19 crop varieties** developed by the Institute and

presented for release as commercial varieties released. It was the first time such number of improved crop varieties were released at a go and improved yam varieties also released in Ghana.
The varieties were:

Roots and Tubers – 11

- **Cassava (4):** *CRI-Agbelifia (pot yld: 51t/ha), CRI-Essam Bankye (pot yld: 49t/ha), CRI-Bankye Hemaa (pot yld: 48t/ha), CRI-Doku Duade (pot yld: 45t/ha).*
- **Sweetpotato (4):** *CRI-Otoo (pot yld: 23t/ha), CRI-Apomuden (pot yld: 30t/ha), CRI-Ogyefo (pot yld: 20t/ha), CRI-Hi-Starch (pot yld: 18t/ha).*
- **Yam (3):** *CRI-Pona (pot yld:42t/ha), CRI-Mankrong Pona (pot yld:70t/ha), CRI-Kukrupa (pot yld:50t/ha),*

Legumes – 6

- **Groundnut (4):** *CRI-Nkosour (pot yld: 2.3/ha), CRI-Adepa (pot yld: 2.4t/ha), CRI-Azivivi (pot yld: 2.9t/ha), CRI-Jenkaar (pot yld: 2.5t/ha).*
- **Soybean (2):** *CRI-Nangbaar (pot yld: 2.1t/ha), CRI-Ahoto (pot yld: 2.4t/ha).*

Vegetables – 2

- **Pepper:** *CSIR-CRI-Shito Adope (pot fresh yld: 30t/ha, pot dry yld: 9t/ha), CSIR-CRI-Mako Ntose (pot fresh yld: 35t/ha, pot dry yld: 12t/*ha*).*

The three (3) maize and five (5) cowpea varieties released in 2007 are listed below. The CSIR-Golden Jubilee was the long awaited Yellow Quality Maize (QPM) required for the poultry industry in Ghana.

Cereals - 3

- **Maize:** *CSIR-Golden Jubilee (pot yld: 5t/ha), CSIR-Aziga (pot yld: 5t/ha), CSIR-AKposoe (pot yld: 3.5t/ha); CSIR-Etuto-Pibi (pot yld: 6.5t/ha.)*

Cowpea – 5

- Nhyira (pot yld: 2.3t/ha), Tona (pot yld: 2.5t/ha), Asetenapa (pot yld: 2.5t/ha), Adom (pot yld: 2.5t/ha), Asontem (pot yld: 2t/ha).

ix) <u>Awards and Special Recognition</u>

Recognition Awards

i) Under his leadership (30th July, 2007, Accra-Ghana), CSIR-CRI was awarded **A Ghana @50 Golden Jubilee Business and Financial Services Excellence Gold Award** in recognition of CSIR-CRI's outstanding contributions to the economic and social development of Ghana.

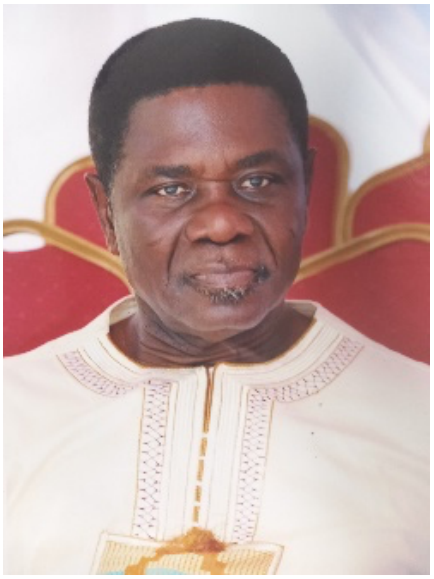
ii) National Best Researcher Award to Dr. Emmanuel Otoo. Year 2006

iii) National Best Researcher Award to Dr. Hans Adu-Dapaah, 2005

6. REV. DR. HANS ADU-DAPAAH *(PhD. Plant Breeding)-Director*

Tenure:____Acting Director: 14th April 2008 to 14th July 2008.

Director: 15th July 2008 to 31st July 2014



Rev. Dr. H.A. Adu-Dapaah

Deputy Directors:

- Dr. Stella Ama Ennin (15th July 2008 to 18th April 2012)
- Dr. J. N. L. Lamptey (19th April 2012 to 31st May 2014)
- Dr. Emmanuel Otoo (1st June 2014 to 31st July 2014)

Dr. Stella A. Ennin

Dr. Joseph N.L. Lamptey

Dr. Emmanuel Otoo

i) Research Direction

To position the Institute to fulfil its vision, mission and mandate to address the indicators in the millennium goals, FASDEP II and CAAD Pillar IV, he established the **Change Management Committee** to review the Institute's Strategic Plan and to develop dynamic strategies for implementation and efficient functioning of the Institute. The **Land Development Committee** was also commissioned to oversee matters relating to the Institute's lands.

ii) Research Projects and Programmes

The Institute successfully implemented a number of demand-driven projects aimed at meeting end-user needs during his tenure. Research and dissemination of appropriate technologies on root and tuber crops as well as the grains (cereals and legumes) were increased, research on horticultural crops was resurrected while research on crop management, socio-economics, plant health, postharvest, biotechnology, and seed science had a new beginning. The projects during his tenure were;

- AGRA Groundnut
- New West Africa Yam Project
- World Food Logistics Training Project
- Rosette Resistant Groundnut Varieties
- Improving Productivity of plantain in West and Central Africa
- AGRA Rice
- CORAF/NECARD USAID YAM
- AGRA IRRIGATION Project
- Sustainable Intensification of Integrated Crop Sheep and Goats Livestock system in West Africa.
- YIIFSWA 1
- Conservation and sustainable use of biodiversity bananas (Musa) for food security in West and Central Africa.
- Clonal selection of plantain landraces for superior characteristics and higher productivity in Ghana.
- Opportunities for agro-ecological intensification and the increased use of agrobiodiversity in banana and cocoa growing communities.
- Banana and Plantain Innovation Platform.
- CRI – IITA, CGIAR Research on R&T and Bananas.
- Enhancement of National Agric. extension for Natural Food security.
- PEARL I
- AfricaRice
- Bioversity International Humid tropics Project
- Millennium Development Authority (MIDA)
- WAAPP
- Nitrogen Use Efficiency, Water Use Efficiency and Salt Tolerance (NUEWEST)

- Australia Agency for International Development (AUSAID)

iii) Total Inflows

He made plantain sucker production a flagship project as source of the Institute's Internally Generated Funds (IGF). There was a total inflow of US$4,411,393.00 and GHC207, 900.00.

iv) Research Collaboration

International collaborations were with North Carolina State University, University of Florida, The University of Georgia, Virginia Tech., and the University of Connecticut.

v) Staff capacity Development and Expertise

Knowing the effect of quality human resource on the Institute's performance, as many as thirty (30) staff had the opportunity to develop their intellectual ability and skills through formal education. These were at different levels from certificate in General Agriculture to PhD (13).

vi) Infrastructural Development

Major infrastructure works during his tenure were:

- The construction of fence wall (approximately 70% completed) to protect the remaining Fumesua lands began under his tenure.
- Construction, completion, furnishing and equipment installation of the WAAPP funded Biotechnology Laboratory complex at Fumesua in October, 2013. Landscaping was also completed.
- Two digital weather station equipment funded by the Generation Challenge Project (GCP), installed at Fumesua and Pokuase in March and November, 2011.
- Installation and use of drip and sprinkler irrigation facilities at Fumesua to irrigate 26.7 ha of research lands, partly funded by AGRA.
- A pump house built to power the irrigation facility at the second dam on the Parkoso road.
- A dual purpose 650KV generator was purchased to power the Training and Communication Centre, and the irrigation facility when the national grid went off.
- Paved the walk-way from the main Office block to the Canteen, the Training Centre and the forecourt car park at Fumesua.
- Four (4) screen houses were constructed and materials for construction of two (2) glass houses were received.
- Two containment facilities at Fumesua and Nobewam for confined trials were constructed.
- A rice store house funded by AfricaRice was constructed at Fumesua for the rice Programme
- A bore hole was sunk and a 1000 litre tank erected at Kwadaso to solve the perennial water shortage at the Station.

- Twenty (20) project vehicles were received during his tenure

Biotechnology Lab., Fumesua

Containment Site, Fumesua

Irrigation Pump House, Fumesua

Paved Walk-Way to Office,

Screen House, Fumesua

Dam, Fumesua

Digital Weather Station

Generator

vii) Technology Development

Thirty-four (34) improved crop varieties were released during his tenure. CSIR-CRI made history in Ghana in 2012, when the National Varietal Release and Registration Committee pronounced three (3) varieties of cocoyam developed by the Institute and presented for release as commercial varieties. It was the first time an improved cocoyam variety had been released in Ghana. In addition, some crop production management technologies were also developed or optimized and disseminated to farmers. The varieties were:

Roots and Tubers – 11

- **Cassava (4):** *CRI-Amapong (pot yld: 45t/ha), CRI-Broni Bankye (pot yld: 40t/ha), CRI-Sika Bankye (pot yld: 40t/ha), CRI-Otuhia (pot yld: 35t/ha).*
- **Sweetpotato (4):** *CRI-Patron (pot yld: 20t/ha), CRI-Bohye (pot yld: 22t/ha), CRI-Dadanyuie (pot yld: 18t/ha), CRI-Ligri (pot yld: 22t/ha).*
- **Cocoyam (3):** *CRI-Akyede (pot yld:7t/ha), CRI-Ma ye yie (pot yld:6t/ha), CRI-Gye me di (pot yld:8t/ha),*

Legumes – 7

- **Groundnut (4):** *CRI-Obolo (pot yld: 2.7/ha), CRI-Yenyawoso (pot yld: 2.7t/ha), CRI-Oboshie (pot yld: 2.6t/ha), CRI-Otuhia (pot yld: 2.4t/ha).*
- **Cowpea (3):** *CRI-Hewele (pot yld: 3t/ha), CRI-Videza (pot yld: 3t/ha), CRI-Asomdwe (pot yld: 2.8t/ha).*

Cereals - 16

- **Maize (9):** *CSIR-Etubi (pot yld: 6.5t/ha), CSIR-Enii-Pibi (pot yld: 5.5t/ha), CSIR-Omankwa (pot yld: 5t/ha), CSIR-Aburohemaa (pot yld: 5t/ha), CSIR-Abontem (pot yld: 4.7t/ha), CSIR-Aseda (pot yld: 6.7t/ha), CSIR-Opeaburo (pot yld: 7.5t/ha), CSIR-Tintim (pot yld: 7.9/ha), CSIR-Sanzal-sima (pot yld: 5.4t/ha).*
- **Rice (7):** *Mmo teaa (pot yld: 4.8t/ha), Otoo mmo (pot yld: 5.6t/ha), CRI-Amankwatia (pot yld: 8t/ha), Wakasuki (pot yld: 8t/ha), Bodia (pot yld: 8t/ha), Sakai (pot yld: 8t/ha), AGRA Rice (pot yld: 8t/ha).*

viii) Awards and Special Recognition

Special recognition and awards received during his tenure are listed below;

a) Special Recognition

- The Institute received **ENDORSEMENT** from many political and intellectual dignitaries which included H.E. Mr. Kofi Annan and Wife, and the Governor General of Canada.
- During his tenure, he ensured very good relationship with the Traditional Authorities on whose lands the Institute was residing. He also extended warm relations with two former Directors of the Institute who were residing in Kumasi and expressed the Institute's gratitude every Christmas.

- He invited former Directors to the Institute's Annual In-house Review and Planning Session.
- Two open days were held during his tenure to improve the visibility of the Institute.

b) Awards

- The Institute was awarded with a **Gold Medallion** by the Governor General of Canada in 2013.
- Scientist at the Institute won the National Best Agricultural Award giving during the National farmers' day twice in 2011 (Jointly won by CSIR-CRI and CRIR-SARI maize research team) and in 2013, which was won by Dr. (Mrs.) Marian Dorcas Quain.
- Dr. Stella Ama Ennin, won the Ghana Women of Excellence Award, awarded by the Ministry of Women and Children Affairs in 2012.
- Three Scientist, Dr. Hans Adu-Dapaah, Dr. Stephen Amoah, and Mr. Michael Osei Kwabena won the National Best Scientist Award, National Best Scientist (Young Scientist category) Silver Award, and National Best Scientist (Young Scientist category) Bronze Award, respectively in 2011.
- Mr. Michael Kwabena Osei won the fifth prize for the Young professional in Science Competition (Sub-Saharan Africa), jointly organized by FARA, CFA, FUFORUM, ATPS, and AGRA in 2010.
- Mr. A. Y. Kwarteng won the best GAWU National May Day Award in 2011.

DR. STELLA AMA ENNIN *(PhD. Agronomy)-Director*

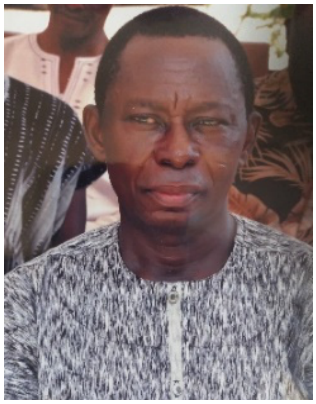
Tenure: 16th October, 2014 to 7th March, 2019

Dr. Stella A. Ennin

Deputy Directors:

- Dr. Emmanuel Otoo (1st June, 2014 to 31st May, 2016)
- Dr. Joe Manu-Aduening (1st June, 2016 to 31st May, 2018)
- Dr. Moses Brandford Mochiah (1st June, 2018 to 31st March, 2019)

Dr. Emmanuel Otoo



Prof. Joe Manu-Aduening

Prof. Moses B. Mochiah

i) Research Direction

She ensured that CSIR-Crops Research Institute continued to deliver on its mandate to make Ghana meet the market needs and demands for crop produce and products the country had comparative advantage. Through a participatory approach, she led the

Institute to review the existing Strategic Plan to develop another one for the period 2015 to 2019, which emphasized on Improvement on System Procedures, Strengthening Partnership with the Donor Community and Private Sector, and Increased Visibility with Integrated Agricultural Research for Development (IAR4D) as the driving force and the Brand. For the first time, Core Values were identified to guide the implementation of the Strategic Plan, and these were:

- Excellence
- Fairness
- Commitment
- Team building
- Transparency and accountability

The Institute under her leadership instituted a vibrant Formal Mentoring Program, where senior scientists formally mentored and guided young scientists over a two-year period, which resulted in an amazing career progression by the young scientists, both male and female. She instituted Monitoring and Evaluation (M&E) Unit at the Institute and hired an M&E expert to lead a team to monitor and evaluate progress of work. ISO 17025 certificate was secured for the virus indexing laboratory while efforts were made to secure ISO 9001:2015 for system improvement.

She ensured that the long-awaited post graduate school which planning and preparatory phase began from her predecessors, got started in 2016.

ii) <u>Research Projects and Programmes</u>

The Institute carried out a number of research projects and programmes during her tenure. Development and strengthening of existing partnerships with the donor community and the private sector to support research agenda through the implementation of the Strategic Plan (2015 – 2019) increased the Institute's visibility through enhanced media engagements and various communication strategies including publication of 248 peer reviewed papers both locally and internationally and attendance of 277 conferences, where research findings of scientists were shared globally. Projects during her tenure are listed below;

- Developing Innovation Platform in Offinso Humid tropics action site
- KAFACI Rice Project
- System of Rice Intensification (SRI)
- CORAF/WECARD – West Africa Seed Program
- AGRA Sweetpotato
- Genetic and trait characterization of farmer and gene bank sources of Bambara groundnut.
- West African Viral Epidemiology Project (WAVE)
- Maize Standardization, Grading and Pricing in Ghana
- Ghana Indian Tomato Project

- YIIFSWA II
- RECIRCULATE
- Community Action in Improving Farmer-Saved Seed Yam (CAYSEED)
- Fall Army Worm (MAIZE)
- AGRA Maize – Soybean Value Chain
- Casa de Ropa collaboration (sweetpotato)
- Integrated Sweetpotato weevil control for Benin and Ghana
- KOPIA TOMATO II
- KOPIA Rice
- KAFACI ENAES II
- Tomato UKAID I
- KOFAG 3 Yam Project
- KOPIA Rice Agronomy
- Harvest Plus Project (IITA) Cassava
- SARD-SC Rice and Maize Project

iii) <u>Total Inflows</u>

She also made great effort to sustain the Institute's Internally Generated Funds (IGF). There was an estimated inflow of £121,000.00; US$5,616,765.00; and GHC10, 485,226.06 during her tenure.

iv) <u>Research Collaboration</u>

The Institute worked with a number of local and International partners during her tenure. The local ones were Framers and Farmer Based Organisations (FBOs), Agro-processors, Assoc. of Ghana Industries, Agro-input dealers, Export Dev't. & Agric.Investment Fund, Ghana Export Promotion Council, MOFA, NGOs, Sister CSIR Institutes and Universities.

The International collaborators were AGRA, AVRDC, BIODIVERSITY INT., CIAT, CIMMYT, CIP, CSIRO, CORAF/WECARD, DANIDA, EMBRAPA, ICRISAT, IFAR, IFPRI, IITA, IPGRI, WARDA (AFRC), Virginia Tech., USA Res. & Dev't Admin. Korea/ Africa Food and Agricultural Cooperative Initiative (RDA-KAFACI) - S. Korea, and CIDA/FABS.

v) <u>Staff capacity Development and Expertise</u>

Staff capacity development was on top of her priority. There were 28 PhD holders, 63 Master holders, 45 BSc holders at the Institute by the time she was leaving office. The vibrant formal mentoring program instituted under her watch where senior scientists formally mentored junior scientists over a two-year period, is to turn out generation thinking (game-changers) young scientists for the Institute.

vi) <u>Infrastructural Development</u>

There was massive improvement on infrastructure during her tenure as elaborated below:

- Refurbishment of the Reception of the main Office Block at Fumesua
- Improved internet bandwidth and service
- Expanded capacity of the two dams at Fumesua for irrigation by de-silting
- Supervised furnishing of the Biotechnology Centre with State-of-the-Art equipment
- Refurbished a major cold room at Kwadaso for seed storage for research and the private sector
- Close to an additional 1km of boundary protection wall constructed at Fumesua
- Commenced the construction of a dwarf wall at Pokuase station to ward off encroachment
- Began the establishment of 600 acres of rubber plantation for boundary protection, research and commercialization at Aiyinase station, Western region
- Improved on management systems through ISO 17025 certification of the biotechnology laboratory and initiated the process of acquiring the ISO 9001: 2015 for enhanced quality management processes
- Re-roofing of the main Office Block at Fumesua.
- Establishment/construction and the commissioning of 200kw grid-tied solar power system to ensure constant supply of green energy for research activities and to reduce the indebtedness of the Institute to ECG.
- About 22 vehicles were received by the Institute through various projects for research and official duties during her tenure. A total of 86 vehicles and four motor bikes were handed over to the next administration at the end of her tenure.

Solar Panel & Re-roofing

Rubber Plantation, Aiyinase

vii) <u>Technology Development</u>

Development and strengthening of existing partnerships with the donor community and the private sector to support research agenda through the implementation of the Strategic Plan (2015 – 2019) led to the development of 61 crop varieties, improved management technologies, new farmer and extension crop production guides and updated also existing ones on the major food crops of Ghana (maize, rice, cassava, yam, sweetpotato , tomato, plantain, pineapple). Crop varieties that were developed and released during her tenure were Roots and Tubers (22), Legumes (16) and Cereals (23), and are listed below. It was during her tenure that the Institute released the first taro varieties and non-sweet sweetpotato varieties, which was the first released in Ghana.

Roots and Tubers – 22

- **Cassava (8):** *CRI-Duade Kpakpa (pot yld: 40-60t/ha), CRI-Amansan Bankye (pot yld: 40 - 57t/ha), CRI-AGRA Bankye (pot yld: 35 -60t/ha), CRI-Dudzi (pot yld: 35 - 50t/ha), CRI-Abrabopa (pot yld: 30 -45t/ha), CRI-Lamesese (pot yld: 40 -50t/ha), CRI-Bediako (pot yld: 36 -40t/ha), CRI-Crops bankye (pot yld: 40 -45t/ha).*
- **Sweetpotato (6):** *CRI-Yiedie (pot yld: 39t/ha), CRI-Gavana (pot yld: 28t/ha), CRI-Vern Gracen (pot yld: 22t/ha), CRI-AGRA SP09 (pot yld: 26t/ha), CRI-AGRA SP13 (pot yld: 39t/ha), CRI-Kofi Annan (pot yld: 19t/ha).*
- **Taro (4):** *CRI-Huogbelor (pot yld: 13t/ha), CRI-Asempa (pot yld: 25t/ha), CRI-Agyenkwa (pot yld: 12t/ha), CRI-Yen anya woa (pot yld: 25t/ha).*
- **Yam (4):** *CRI-Soanyinto (pot yld: 30t/ha), CRI-Afase Biri (pot yld: 44t/ha), CRI-Afasepa (pot yld: 32t/ha), CRI-Ahoodinfoo (pot yld: 35t/ha).*

Legumes –16

- **Groundnut (4):** *CRI-Crops Pion (pot yld: 2.8/ha), CRI-Crops Abakan (pot yld: 2.4t/ha), CRI-Crops Agbeyeye (pot yld: 2.3t/ha), CRI-Crops Dehyee (pot yld: 2.9t/ha).*
- **Cowpea (4):** *CRI-Crops Hans Adua (pot yld: 3.5t/ha), CRI-Crops Agyenkwa (pot yld: 3.3t/ha), CRI-Nketewade (pot yld: 3.2t/ha), CRI-Zamzam (pot yld: 3.0t/ha).*
- **Soybean (4):** *CRI-Gyidie (pot yld: 3.2t/ha), CRI-Latara (pot yld: 3.2t/ha), CRI-Toondana (pot yld: 3.5t/ha), CRI-Anigyee (pot yld: 3.2t/ha).*
- **Common Bean (4):** *CRI-Crops Adoye (pot yld: 1.3t/ha), CRI-Ennepa (pot yld: 2.1t/ha), CRI-Crops Samanhyia (pot yld: 1.9t/ha), CRI-Crops Nsoroma (pot yld: 1.3t/ha).*

Cereals - 23

- **Maize (17):** *CRI-Afriyie (pot yld: 6.8t/ha), CRI-Obotantim (pot yld: 6.5t/ha), CRI-Nkabom (pot yld: 4.6t/ha), CRI-Dzifoo (pot yld: 6.1t/ha), CRI-Ahoofe (pot yld: 6.0t/ha), CRI-Ahoodzin (pot yld: 4.0t/ha), CRI-Nkunim (pot yld: 8.0t/ha), CRI-Gyemedi (pot yld: 12.8t/ha), CRI-Honampa (pot yld: 5.2t/ha), CRI-Onwanwa (pot yld: 7.9t/ha), CRI-Odomfo (pot yld: 6.5t/ha), CRI- Nkomo(pot yld: 5.5t/ha), CRI-*

Akomapa (pot yld: 7.0t/ha), CRI-Hwefoo (pot yld: 8.0t/ha), CRI-Nkwagye (pot yld: 6.0t/ha), CRI-Abebe (pot yld: 6.3t/ha), CRI-Apraku (pot yld: 5.5t/ha).

- **Rice (6):** *CRI-Dartey (pot yld: 9.0t/ha), CRI-Kantinka (pot yld: 8.5t/ha), CRI-Oboafo (pot yld: 8.5t/ha), CRI-Emopa (pot yld: 8.0t/ha), CRI-Mpuntuo (pot yld: 8.0t/ha), CRI-Enapa (pot yld: 9.5t/ha).*

viii) Awards and Special Recognition

Special recognition and awards received during her tenure are listed below;

a) Special Recognition

The Institute received "endorsement" from some prominent personalities, which includes Norman Borloug (Nobel Prize Winner), STI advisor to US Secretary of State, 2016, Dr. Owusu Afriyie Akoto (Minister of Food and Agriculture), Prof. Kwabena Frimpong Boateng (Minister of Environment, Science and Technology), Mr. Ken Ofori Atta (Hon. Minister of Finance), Mrs Patricia Appiagyei (Deputy Minister of Environment, Science and Technology), and Mr. Owusu Aduomi, the Honorable Member of Parliament for Ejisu)

b) Awards

Awards received during her tenure were;

- National Best Agricultural Researcher Awards 2018, awarded to Rice Team led by Dr. Maxwell Darko Asante.
- Most Published Author, Engineering Publications. Awarded to Dr Shadrack Amponsah, 2017
- Joint Best Maize Breeding Team in West Africa 2016.
- Best Innovative Paper published on sweetpotato globally in 2016 Award received by Dr. Ernest Baafi and Team.
- National Best Researcher Award to Dr. Joseph Manu-Aduening, & Mr. Bright Boakye Peprah, Drs. J.N.L. Lamptey, Ruth Prempeh, Adelaide Agyeman, and Grace Bolfery-Arku. 2015.
- Plaque to Drought Tolerant Maize Africa Project, CIMMYT/IITA: Best Maize Technology Development and Dissemination Team – Drs. K. Obeng Antwi, Allen Oppong, and Priscilla F. Ribeiro, Messrs Kennedy Agyeman, Martin Tenegan, Frank Coffie Danso, Michael K. Adu, Francis Ayueboteng, Michael Awasi, Collins Gyimah, Edwin Odame, Sampson A. Glah & Stephen Kunkumah Oware. 2015.
- Award of plaque to Drs. M. B. Mochiah, Grace Bolfrey-Arku, and J.Y. Asibuo, Alhaji Ibrahim Adama, Messrs Anthony Gyimah, Augustine D. Agyekum, Prince Opoku and Douglas Antwi, 2015.

7. PROF. MOSES BRANDFORD MOCHIAH *(PhD. Entomology)*

Tenure: **Acting Director:** 1st April 2019 to 31st July, 2019.

Director: 1st August, 2019 -

Prof. M.B. Mochiah

Deputy Director:

Prof. Marian Dorcas Quain (1st October 2019 to 30th September 2021)

Prof. M.D. Quian

Research Direction

Accelerating technology development and dissemination towards climate resilient crops and transformative farming systems for economic growth. Commercialization of research output is envisioned.

This strategy is built on the approaches developed by predecessors to accelerate the pace of innovation in research and chart new directions. The five (5) priority areas identified for this new Strategic Plan (2019 to 2024) are as follows:

1. Integrated Agriculture Research for Development (IAR4D)
2. Communication
3. Funding
4. Capacity Development
5. Systems and Management Procedures

These five (5) strategic thrust areas are expected to impact positively on Ghana's food security and wealth creation.

i) Research Projects and Programmes

- Partnership for Agriculture Research, Education and Development.
- KOPIA TOMATO I
- Tomato UKAID II
- WAVE II
- Modernizing Agriculture in Ghana (MAG)

ii) Total Inflows

Total inflow so far is estimated at £45,000.00 and US$478,470.00 as at the time of reporting

iii) Research Collaboration

The Institute is working with a number of local and International partners during his tenure. The local ones are Framers and FBOs, Agro-processors, Assoc. of Ghana Industries, Agro-input dealers, Export Dev't. & Agric., Investment Fund, Ghana Export Promotion Council, MOFA, NGOs, sister CSIR Institutes and Universities.

The International collaborators are AGRA, AVRDC, BIODIVERSITY INT., CIAT, CIMMYT, CIP, CSIRO, CORAF/WECARD, DANIDA, EMBRAPA, ICRISAT, IFAR, IFPRI, IITA, IPGRI, WARDA (AFRC), Virginia Tech., USA Res. & Dev't Admin. Korea/ Africa Food and Agricultural Cooperative Initiative (RDA-KAFACI) - S. Korea, and CIDA/FABS.

iv) Staff Capacity Development and Expertise

Staff capacity development has been on top of his priority. Since assuming office, six (6) staff who were pursuing PhD have successfully completed while five (5) other staff who enrolled for Master degree have also completed successfully. His Office is constantly in touch with those on study leave to work hard to complete on time. The vibrant formal mentoring program instituted under his predecessor's watch where senior scientists formally mentor and guide junior scientists over a two year period, has been sustained. Recruitment of Staff, Development of Vehicle Use Policy, and facilitation of in-house Proficiency Training for Junior Staff of CRI staff by NVTI personnel for Promotion and Upgrading of staff have been instituted.

v) Infrastructural Development

Improvement on infrastructure during his tenure has so far been:

- Rebranding of the Fumesua main entrance of the Institute
- Sinking of new bore-hole and connection of pipes to an overhead tank at Kwadaso to boost the irrigation system
- Extension of the irrigation facility to increase irrigable research fields at the Kwadaso Station.
- Privatization of the Cottage to increase IGF.
- Setting up of Vehicle and Equipment Hiring Committee to manage vehicle and equipment hiring for increased IGF.
- Digitization of Institute Files.
- Improvement of security at Kwadaso Station, by provision of metal barrier to restrict unauthorized thoroughfare.

Fumesua Main Gate

vi) Technology Development

There are a number of technologies in the pipeline to be released.

vii) Awards and Special Recognition

The Awards and recognition received by the Institute so far are:

a) Special Recognition

The Institute received "endorsement" from Some Prominent personalities, which includes Dr. Kwaku Afriyie (Minister of Environment, Science and Technology) and the Director-General of CSIR Prof. Victor Kwame Agyeman.

b) Awards

Awards that have been received are:

- Best Maize Breeding Team, 2021.
- Ghana Development Award: Best in Agricultural Development, 2020
- National Academy of Science Award, 2020
- CSIR Chairman's Trophy for generating the 3rd Highest Amount of IGF for 2018/2019. Award received in 2019.
- Most Published Author Award presented to Dr. Shadrack Amponsah, 2019.

TOR 6: CONTRIBUTION OF PARTNERS OF CSIR-CROPS RESEARCH INSTITUTE FROM 1965 TO 2021

The Institute has benefitted from financial support, research collaboration as well as capacity development from a number of organizations/Associations, Institutions/Agencies, and Governments at the local and international level. These include;

LOCAL LEVEL PARTNERSHIP

- **Farmers and FBOs:** Participatory research in crop production and utilization technology development.
- **MoFA:** Collaboration in research and crop production technology development, Extension of crop production and utilization technologies, identification of value chain constraints and dissemination of interventions through the RELCs, and joint development and submission of project proposals through GoG.
- **Agro-processors:** Participatory research in crop production and utilization technologies development
- **Assoc. of Ghana Industries:** Participatory research in crop production technologies development
- **Agro-input dealers:** Participatory research in crop production inputs technologies development.
- **EXIM Bank:** Off-takers of research outputs.
- **Ghana Export Promotion Council:** Promotion of research outputs.
- **NGOs:** Collaboration in research, crop production and utilisation, technology development and dissemination, identification of farmers' constraints and consultancy services.
- **Sister CSIR Institutes:** Collaboration in research, crop production and utilization, technology development and dissemination, identification of value chain constraints and dissemination of interventions through the RELCs, and joint development and submission of project proposals for funding.
- **Universities:** Collaboration in research and capacity development, joint development and submission of project proposals for funding.
- **Casa Da Ropa:** Off-taker of research outputs
- **GoG flagship programs e.g. Planting For Food and Jobs (PFJ), PERD, etc:** Off-takers of research outputs

REGIONAL/INTERNATIONAL PARTNERSHIP

CIDA/FABS: Research support and capacity development through funding towards food and nutrition security
Bill and Melinda Gates Foundation: Research support through funding.
Alliance for a Green Revolution in Africa (AGRA): Research support through funding.
USAID: Research support and capacity development through funding.
UKAID: Research support and capacity development through funding.
DFID: Research support and capacity development through funding.

DANIDA: Research support and capacity development through funding.
INIBAP: Research support through provision of genetic materials.
FRENCH GOVERNMENT: Research support through funding.
GATSBY CHARITABLE FOUNDATION UK: Research support through funding.
BIODIVERSITY INT.: Research support through genetic material outsourcing, capacity development and funding.
CGIAR Centres (CIAT, CIMMYT, CIP, ICRISAT, IFPRI, IITA, WARDA (AFRICARICE): Research support and capacity development through funding.
CSIRO: Research support and capacity development through funding.
EMBRAPA: Research support through genetic material outsourcing, capacity development and funding.
AVRDC: Research support through genetic material outsourcing, capacity development and funding.
International Network of Edible Aroids (INEA): Research support through genetic material outsourcing and funding.
CORAF/WECARD: Research support and capacity development through funding towards food security in West Africa.
FARA: Collaborates with advocacy on agricultural research for development (AR4D)
Virginia Tech., USA: Research support and capacity development through funding.
Res. & Dev't Admin.- Korea/ Africa Food and Agricultural Cooperative Initiative (RDA-KAFACI) - South Korea: Research support and capacity development through funding.
KOPIA: Research support and capacity development through funding
INDIA: Research infrastructure and capacity development through funding
AUSAID (AUSTRALIA): Research infrastructure and capacity development through funding
JICA: Research support and capacity development through funding
JIRCAS: Research support and capacity development through funding
USAID (USA): Research support and capacity development through funding