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Report on “Tomato Value Chain in Ghana” Workshop, West Africa Centre for Crop Improvement (WACCI), University of Ghana, June 25-26, 2015

Introduction

Past efforts at attaining food and nutritional security in Africa have for a long time focused on increasing productivity of staple food crops to the neglect of the nutrient-rich vegetables. However, vegetables such as tomatoes are not only key for health and nutrition, being an important source of vitamins, minerals, antioxidants and fiber, but they are also important income generators for many smallholder farmer. In Ghana, about 90,000 such smallholders grow tomatoes to supplement household incomes. Tomatoes are indispensable ingredients in the daily diet of Ghanaians, used either fresh or in sauces and soups in most meals and account for some 40% of household outlay on vegetables.

With current average yields of only 6–7 tonnes/ha in Ghana, demand outstrips supply. Consequently, the import market for fresh tomatoes has grown in recent years with Burkina Faso being the major net exporter. Almost 80,000 tonnes of puree and pastes are imported annually from China and the EU. However, Ghana could produce most of its own puree, if the processing plants were operational. Several difficulties hamper local production. They include lack of the right tomato varieties, inadequate and unreliable supply, and competition from the fresh markets.

Against this backdrop, the West Africa Centre for Crop Improvement (WACCI) in collaboration with the Alliance for Agricultural R&D for Food Security comprised of the Syngenta Foundation for Sustainable Agriculture (SFSA), the Australian International Food Security Research Centre (AIFSRC/ACIAR), Crawford Fund and the University of Queensland organized a 2-day workshop from June 25 - 26, 2015 on the Tomato Value Chain in Ghana. The workshop which brought together 35 research scientists, government agencies, policy makers, the private sector and other actors in the tomato industry from across the globe, was for stakeholders to understand the value chain needs in Ghana, and to develop strategies to improve domestic production to serve Ghanaian households and processing markets through R&D.



A group photograph showing participants of the tomato value chain in Ghana workshop held at the West Africa Centre for Crop Improvement (WACCI), University of Ghana, Legon, June 25-26, 2015

Day 1 - Opening session

The workshop commenced with a welcome address by the Deputy Director of WACCI, Prof. Pangirayi Tongoona and an opening remark by the Provost of the College of Basic and Applied Sciences (CBAS), Prof. Ebenezer O. Owusu. This was followed with a presentation by the Director of WACCI, Prof. Eric Y. Danquah, on the topic: “Training the next generation of Plant Breeders and Seed Scientists & Technologists”. Prof. Danquah run participants through the PhD Plant Breeding programme at WACCI and highlighted major successes of the Centre, which included current enrolment of 82 students out of which 28 have graduated.

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Director Prof. Eric Y. Danquah presenting the WACCI PhD Plant Breeding Programme

Dr. Vivienne Anthony, Senior Scientific Advisor of the SFSA, in a statement on behalf of donors of the workshop, intimated the need to develop best practice in the training and implementation of breeding programmes by bringing together best demand-led R&D practices from both the public and private sectors, and asks policy makers and donors to encourage market-led approaches to increase adoption of improved varieties across Africa.

Dr. Peter van der Toorn, Global Head Breeding Vegetables, Syngenta Company, presented an overview of the global tomato industry with specific focus on the Mediterranean and Asian markets. Walking participants through the steps that a breeder should consider in developing new varieties, Dr. Toorn stressed on the need for market research and segmentation at the initial stages of varietal design, to determine preferences of farmers and consumers, and to factor these preferences in trait development. Ms. Esther Agyekum, from the Crops Services Directorate of Ministry of Food and Agriculture (MoFA) followed with a presentation on the overview of the tomato industry in Ghana. Her presentation emphasized significant past and present strategies and interventions by MoFA to boost and sustain tomato production in Ghana.



Dr. Peter van der Toorn, Global Head Breeding Vegetables at Syngenta, giving an overview of the global tomato industry

Day 1 - Working session, Morning

The working session began with a presentation on the needs of the tomato processing industry by Mr. Caleb Blassey, the Quality Assurance Manager at Nurevas Foods Ghana Limited. He mentioned poor quality of tomato produce, the scattered nature of tomato supply, inadequate transportation facilities, price volatility and inadequate storage and warehousing facilities, among others, as some of the main current challenges facing the sector. He outlined a 5-phase innovative project to be undertaken by his company to promote growth in the processing sector and called for support from government, investors and other stakeholders to ensure that an economically viable tomato value chain in Ghana is created and sustained.

Mr. Kwabena Adu-Gyamfi, Manager of Agri Commercial Services Limited, presenting on his experiences as a farmer, said his enterprise abandoned open tomato field cultivation because of the many challenges and pursued tunnels and green house cultivation where yields increased to about 96 ton/ha. He stated that whiteflies and early & late blight are major constraints to tomato production on his farm. He therefore, advised the use of breeding and agronomy in mitigating these challenges to ensure higher farm productivity in Ghana.

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Kwabena Adu-Gyamfi, Manager of Agri-Commercial Services Limited, shares his experiences on the needs of Ghana's tomato processing industry

Mr. Offei Bonsu, Research Scientist and Breeder at the Crops Research Institute (CRI) of the Council for Scientific and Industrial Research (CSIR), presented on the past and present breeding efforts of the Ghana National Breeding Programme. Some of the activities being carried out at the Institute include germplasm collections and characterization, field evaluations and genetic diversity, generation of crosses/cross combinations, development of high yielding tomato fruits using pureline selection and molecular screening for Tomato Yellow Leaf Curl Virus (TYLCV) resistance.

The Public Relations Officer of the Ghana National Tomato Traders and Transporters Association (GNTTTA), Mr. Chris Lartey, lamented on the dwindling levels of tomato production in Ghana since 2006, poor distribution networks in Ghana and called on Government to implement policies to address these problems.

Mr. Kenneth Nii Addy, the Sales Manager of Wience Ghana Limited in a presentation on the needs of the tomato seed industry in Ghana talked about the major bottlenecks for the take-off of Ghana's vegetable production sector which include the non-availability of key resources needed for large scale commercial activities such as well-adapted seeds and seedlings, specialized horticultural fertilizers and pesticides and irrigation & greenhouse equipment. He, however, noted some steady progress in recent years following market entry of companies like Technisem, East-West Seeds, Dizengoff and smaller distribution outlets like Aglow, Agrimat, and Zero Two Enterprise.

Mr. Joep van den Broek, the Project Leader of GhanaVeg, in a presentation to participants indicated that GhanaVeg has set aside a number of funding opportunities to support project initiatives in the vegetable industry. He stated that GhanaVeg aims to promote commercial vegetable sector development in Ghana with support to the private sector to help transform Ghana's ailing vegetable sector.

Day 1 - Working Session, Afternoon

The afternoon session was dedicated to the presentation of the findings of a WACCI-commissioned report on "*Ghana tomato value chain preliminary study report: Gaps and key considerations to revamp the tomato industry*". This study was carried out by Dr. Irene S. Egyir, Technical Advisor at the Agriculture & Agribusiness Unit of the Ministry of Finance and Senior Lecturer at the Department of Agricultural Economics and Agribusiness, University of Ghana. She used a combination of key literature sources and informants who worked on several of her socio-economic studies to generate the report.

Presenting on the findings of the preliminary study she said that "the combination of Ghana's vast resources of agricultural land, plentiful water for irrigation, and available low-cost labour make it ideal for commercial farming and that the country is only utilizing 11 % of its water resources. On the inherent problems in the tomato industry in Ghana, economic factors such as high interest rate, lack of investments in market infrastructure, poor road distribution networks/surface conditions and inconsistent fertilizer subsidy programme ranked as the most important external problem in the value chain. It was followed by technological, social, ecological and political factors. Motivation/orientation (i.e. low business orientation of actors) was ranked the most important internally generated problem in the value chain, followed by competencies of actors, resources of actors/organizations and competitive edge.

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Dr. Egyir also presented an interesting quantitative financial assessment of the value chain with a scenario analysis based on seed variety, farming system, season, region and market segment, but cautioned that the figures in her study has not widely validated.

She made a number of recommendations, which included managing and supporting the human resource/actors with competencies to breed the right attitudes/orientation to ensure success in the industry. She stressed the need for Government to implement and enforce the right policies to stimulate increased production to feed both processing and fresh markets while building upon storage facilities for better post-harvest handling. Citing the instance when the US government gave Ghana USD 531 million for infrastructural development mainly for grain post-harvest handling, she probed whether there is adequate infrastructure to back the development of a vibrant tomato industry while noting that there were no cold chains in the current value chain of tomato.

Day 2 - Working Session, Morning

Dr. Agyemang Danquah, a Lecturer at the Department of Crop Science of the University of Ghana and the Coordinator of the Teaching Programmes and Curriculum Development at WACCI presented on a new vision of WACCI, which was the establishment of a Vegetables Innovation Lab (VIL) to lead efforts at addressing challenges in the vegetable sector. Dr. Danquah stated that the WACCI-VIL through strategic partnerships, education & outreach underpinned by cutting-edge research will develop improved varieties with climate resilience will help work towards attaining food and nutritional security in the region. He explained that the VIL will stand on six pillars namely: Genetic Improvement; Vegetable Production and Quality; Processing; Value Chains & Socio-Economic Research; Policy Research and Knowledge Management Systems. In line with the vision of VIL, WACCI has commissioned a number of projects to begin working towards achieving the set objectives of the VIL. In concluding remarks, he said he was excited that WACCI and SFSA are in partnership to undertake the first-ever comprehensive tomato market research in Ghana.

Day 2 - Panel Discussions

Two panel discussions were held in succession. The first panel discussion was facilitated by Mr. Kwabena Adu-Gyamfi on the opportunities for public-private sector funded partnerships for R&D. Dr. Vivienne Anthony, contributing to the discussion, said that research and commercialization should be part of the initial conceptualization and that Demand-Led varietal design should be the way breeding should be done to enable quick commercialization and acceptance. Prof. Pangirayi Tongoona in his statement identified the weakness in product design as the missing linkage between the value chains to get research outputs to farmers. Dr. Irene Egyir then submitted that the approach to aid farmers in such cultural practices should be operated as a service with experts and consultants in charge of such operations. She explained that there has not been a long history of PPP linkages for R&D and hence the problem.

Dr. Peter van der Toorn facilitated the second panel discussion on decisions to drive R&D - setting priorities in breeding goals. Dr. Agyemang Danquah stressed the need for an initial market research to identify important traits through demand-led varietal development approaches before huge investments into breeding the improved varieties for farmers. Dr. Beatrice Ifie said that farmers are willing to buy seeds if they know and experience the value of improved seeds. Mr. Adu Gyamfi said seed regulation policy has been amended and will be aligned to the ECOWAS and then be passed by the end of the year.

Day 2 - Open Discussions

An open discussion on the market research on the tomato industry in Ghana led to the identification of end-to-end stakeholders to help in the process of market research and all other activities. Following the discussions, participants agreed on the establishment of the institutional consortium that will coordinate and implement the recommendations and lead all the activities identified for the transformation of the tomato industry in Ghana. The steering committee of the Tomato Consortium (which is to be made up of representatives of all stakeholders identified) nominated and approved includes:

1. Mr. Michael Osei (CSIR-CRI)
2. Mr. Kwabena Adu-Gyamfi (Agri Commercial Services Limited)
3. Mr. Caleb Blassey (Nurevas Foods Limited)
4. Dr. Irene Egyir (Agricultural Economist)
5. Prof. George Nkansah (FOHCREC)
6. Miss Esther Agyekum (MOFA, CSD)
7. Miss Edna Baffour Bonnie (MOFEP, RSD)
8. Mr. William Kottey (Representing Seed Companies, Wienco Ghana Limited)
9. Dr. Agyemang Danquah (Crop Science Department/WACCI, UG).