

Commodity Exchanges in Africa: Transforming African Agriculture and Finance

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February 28, 2016

I. Introduction

The Ghana government has recently decided to establish a commodities exchange and warehouse receipt system to improve the welfare of farmers. Private investors, from among the elite Ghanaian financial institutions have signed on as shareholders. The top national private warehouse operators are also involved in expanding the warehouse capacity in the country. All of this represents a very hopeful and exciting development. The commodities under consideration for the Ghanaian Commodities Exchange (GCX) include maize, paddy rice, palm oil, soy and groundnuts. The governing legislation has been drafted, the Ghana Standards Authority has been charged to handle the grading, the project team is in place to start the exchange, and numerous stake holder meetings have been held.

Could this be a revolutionary policy intervention? Can this radically transform agriculture and with it, big parts of the national financial systems, logistics and transportation and begin the march toward industrialization backed by food crops and commodities?

In our research, we have conducted a pilot study in a community in Ghana to assess the potential benefit of the GCX. We also draw upon our prior research activities on the much celebrated Ethiopian Commodities exchange (ECX), opened about 8 years ago which has been used as a model for study by the GCX project team

As a side benefit of our research, we are able to provide, with our new mobile phone

¹ I am grateful to the International Growth Center at LSE, New York University Abu Dhabi Research Institute and Anonymous donors for funding for the research summarized in this policy brief.

² This paper is a policy brief accompanying the following fuller academic research paper:
Yaw Nyarko (2016): "Evaluating the Impact of Commodities Exchanges in Africa," Manuscript, New York University, New York.

based technology, much needed data on the agricultural sector as well as its ancillary activities. This will fill an information gap much needed by policy makers in both the agricultural and the financial sectors of the economy.

II. How Commodity Exchanges Can Transform the Economy

We will discuss the transformative potential of commodity exchanges by a two way grouping. First there is the output side – farmers and their production of commodities. Then there is the finance and logistics side – credit, trading and transportation services. Our insights into these potential benefits of the commodities exchange all come from our field research activities. Our measurement activities will document and measure progress in these areas, thereby affording the means to evaluate the impact of the commodities exchange.

A. Output Markets and Production Efficiencies.

We begin on the output side. Many African smallholder farmers complain, often loudly, about what in Ghana some farmers call the lack of “marketing” – by which they mean the lack of consistent output markets for their food crops. In Sub-Saharan Africa output markets for food crops remain fragmented, and often involve individual traders going to farms to collect relatively small amounts of the crop and sending this on trucks to the main markets in the cities.

A commodity exchange focusing on food crops could provide the consistent and transparent demand for farmers needed to revolutionize their farming methods, to increase the quality and consistency of their output. It is this consistency of demand that farmers need to invest in and take risks on new technologies. Knowledge of ready demand will also enable farmers to experiment on new activities and also to work on new quality levels of crops.

The commodity exchange will also provide much needed regulation, standards and grading of commodities. In the markets we observed, there was very little regulation and questionable sanitation in some of the markets. The importance of this should not be underestimated. Ghana imports huge quantities of rice, of the order of US \$1billion per year by some estimates. With improved standards this is potentially something that can be replaced with locally produced rice.

As the consistency of the demand increases, there will be even higher demand for the rice mills and maize dryers and other small industrial activities currently in limited supply in rural markets. There is the potential to see increased small scale industrial activities on the farms as a consequence of the regularized output markets created by the commodities exchange.

Our research work on measurement of the quantity and quality of output will enable us to be able to track improvements in the traditional agriculture sector and to document progress in the different ways mentioned above.

We have created a slew of mobile phone applications which facilitate very quick measurement of a number of key variables – production of key crops, indication of quality levels, prices, etc. We believe that these will make possible real time observation and measurement of the output of commodities as the commodities exchange is slowly rolled out.

B. Finance – loans, banking, trading

Our research has also identified a second group of innovations which may be aided by the commodities exchange. This is in the area of finance – loans, banking, trading and trade credit, etc. Most of the food markets in the rural areas meet once a week, and even the major distribution centers for food do not meet daily. Farmers frequently receive loans to buy inputs like fertilizers, or just consumer loans, from traders who thereby obtain a commitment to purchase their goods. This process often limits the ability of farmers to shop around for the best prices for their goods. Also, our research indicated the existence of market queens and other agents who serve as the market floor in many of the markets but also have power to restrict entry into the market.

A successful commodities exchange could very quickly disrupt many of these relationships. Warehouse receipts for commodities stored but not yet sold on the commodities market will be used as collateral for farmers seeking cash before final sale of their goods. The commodities exchange will create a freer market for many commodities, trading daily, eliminating many of the current trading restrictions we observed in many markets.

One group of market participants whose jobs will be affected by the commodities exchange are the small scale buyers (referred to as “traders”). They are the ones who go to the rural markets and engage in bilateral bargaining with farmers for their goods, either at the farms or in the markets. Their role will be absorbed by the exchange.

On the other hand, we have observed in our research a great deal of sophistication and risk taking on the part of these traders. Once the exchange comes online, this would be the group that could be trained to take up the job of being members of the exchange, and who will do the intermediation between the farmers with their warehouse receipts and the big final buyers of commodities on the exchange.

A major part of the commodities exchange activities will involve regular and orderly transport of goods from farms to warehouses. Then upon the sale of goods at the commodities

exchange, there will also be the need for transport of the goods from the warehouses to the final buyers. Given the consistency and the central organization of this process, we are expecting there to be significant impacts on the transportation system and the development of modern logistics firms and processes.

Currently trade takes place in fairly small quantities – often with individual traders visiting farms and hiring the odd truck or lorry to transport the purchases of the day to a regional market for sale. With the larger quantities and more consistent flows of output, there will be the potential for modernization of the transport sector and the rise of modern logistics firms to handle the movement of the agricultural produce being traded on the exchange.

We have piloted case studies to measure the transformation of the market microstructure in our rural markets. This will need to be continued to enable the measuring of the changes brought about by the exchange. Our mobile phone apps are also able to provide some measures of the evolution of the transport sector, to record the changes there too.

III. Conclusion

We have just completed an in depth pilot study of the current methods of farming and marketing of some of the key crops to be introduced into the soon to come Ghana Commodities Exchange. This has enabled us to predict some of the changes and impacts to expect as the commodities exchange is rolled out. We have developed a number of mobile phone based apps, which can be used by large numbers of farmers in our rural communities.

We expect there to be impacts on the output and production side. The commodities exchange, if successful, will provide a powerful incentive for farmers to expand the production, improve quality of output, and adopt new techniques in production. We also expect there to be impacts on the finance side – changes in market structure and ease of entry into markets, changes in sources of credit, and major changes in the market participants. The data from the rural areas will enable one to observe and measure the impact of the commodities exchange.

So far, the project seems to be on the right track and there is every indication it will be one of the successful exchanges with many lessons which will be of extreme interest to other African nations considering or implementing commodity exchanges. The farmers are hoping that this will enable them to have efficient and consistent output markets for their crops, enabling them to expand and move up the value chain, and to contribute even further to national development.