## **SUPPLY CHAINS**

# Guinness Ghana's role in structuring the sorghum sector

This article presents a development model for a food-production sector in Ghana. Players in the private sector, such as Guinness Ghana, appear to be playing a big role in structuring the value chain for sorghum. What questions does this situation raise?

orghum is the second most produced grain in northern Ghana, after corn. Production statistics are not very reliable, but the total land area sown is estimated at roughly 250,000 hectares, for production of 300,000 tonnes. Varieties include red sorghum (mainly for local beer production) and white sorghum (mainly for human consumption). The role of the sorghum sector in Ghana is comparable to its role in other West African countries with similar agroecological conditions. Sorghum is a staple food in many rural communities. It is mainly grown for household consumption (food and beer) and, to a lesser extent, for sale.

### Guinness Ghana and the sorghum sector in Ghana

Guinness Ghana Breweries Limited (GGBL) is one of the biggest beer producers in Ghana, and, for over 15 years, has wanted to be able to produce a portion of its raw materials in Ghana. To that end. GGBL developed a sorghum supply system with small farmers through a contract-farming scheme (see p. 28-29). White-sorghum varieties are used, and are preferred over red sorghum because they lack tannins. GGBL's sorghum needs are estimated to be at least 20,000 tonnes per year, but the company has not yet been able to reach that objective. It is difficult to estimate the proportion of GGBL's needs relative to the quantity of white sorghum sold in Ghana without relevant data.

## Aggregators: the key to the system

GGBL is the ultimate buyer of the sorghum. The company enters into annual supply contracts with sellers, or "aggregators", in the form of purchase orders that stipulate the quantity, variety, price and quality standards. The price includes delivery to the facility in Kumasi, where the goods are received and tested for aflatoxins. GGBL is only marginally involved in production and collection. The company does not pay the aggregators in advance (even though their biggest problem is a lack of working capital), nor is it directly

involved in supplying inputs. Consequently, after 15 years of developing the system, GGBL is still not able to reach its supply objectives.

GGBL has, however, provided its biggest aggregators with the equipment needed to test for aflatoxins. The high costs of the tests themselves are still borne by the aggregators. The purchase order guarantees a stable market for the aggregator, with a reliable buyer and a predetermined price, which is supposed to make it easier to borrow from banks.

In reality, though, the banks see the agricultural sector as being very risky and often consider purchase orders to be insufficient. Aggregators' working capital must therefore be self-funded, and any lack of resources limits and delays their ability to purchase goods from farmers at harvest time. Aggregators are the key to the whole system, but their role is highly variable depending on their technical and financial capacities. Certain aggregators also supply inputs and can provide technical advice to farmers. GGBL's aggregators generally have means of transport (trucks), storage infrastructure and post-harvest cleaning facilities.

#### **Nucleus farmers as intermediaries**

Nucleus farmers are the link between aggregators and farmers. They are in direct contact with farmers, sometimes with the added layer of "lead farmer" at village or community level. Nucleus farmers are generally largescale farmers that have one or more tractors. They often provide mechanisation services to farmers, such as ploughing and threshing. Those services are most often paid in cash. Threshing is paid in kind, with a percentage of the production (roughly 10%) withheld for the service. Nucleus farmers may offer smaller farmers full or partial credit for inputs, depending on the degree of trust between them and depending on the nucleus farmer's ability to pre-finance the credit. It is crucial for a nucleus farmer to possess one or more tractors and to be able to provide ploughing



services (most often disk-ploughing), as most smaller farmers do not have other means of preparing their fields.

Unlike similar agroecological areas in French-speaking countries, the use of draught animals in farming is very limited in northern Ghana. Cotton companies were the first to begin developing the use of animal traction on a large scale in the FCFA zone, and the cotton industry has historically played a relatively minor role in Ghana (see p. 34-35).

## Standard model: weak role for farmer organisations

Farmers in Ghana are often divided into two main categories: subsistence farmers and commercial farmers. This approach differs from the old approach of the cotton industries in French-speaking Africa, where all farmers were considered to be on an equal footing.

The idea behind agricultural advisory schemes is that an initial group of farmers acquire

Total of roughly 10,000 farmers

## THE SYSTEM GUARANTEES A HIGHER PRICE FOR FARMERS

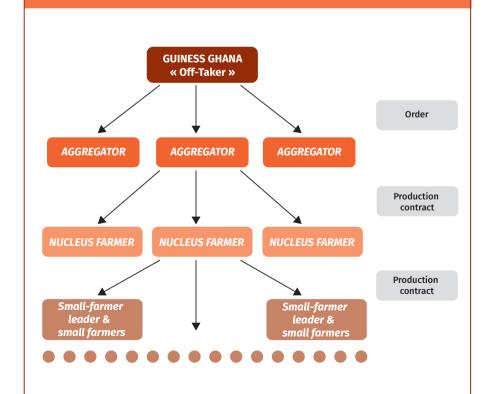
"commercial" status by integrating into the market. In this approach, the biggest commercial farmers (pilot farmers serving as models) can create a network of "outgrowers" to whom they provide a minimum level of technical advice and services (mechanisation, inputs), and for whom they organise the marketing of surplus sold, in conjunction with the nucleus farmers and aggregators.

GGBL's system has few constraints. The main benefit for farmers is the guarantee of a price

that is generally higher than the market price at harvest time. The example of Guinness Ghana's role in the sorghum sector is common for most sectors (especially corn), but often with a simplified system (one or two fewer levels) and a variable degree of intensification.

With few exceptions, farmer organisations have a weak presence and play a weak role. This is characteristic of the agricultural sector in Ghana. For historical reasons (see p. 6-7), the development of farmer organisations has never been a priority of the agricultural sector's development policy.

#### Guinness Ghana's sorghum supply system: the standard model in Ghana



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