Policy Brief No. 30
August, 2018

EGERTON UNIVERSITY
TEGEMEO INSTITUTE OF AGRICULTURAL POLICY AND DEVELOPMENT

Policy Options for Revitalizing the Ailing Sugar Industry in Kenya

Kevin Onyango, Timothy Njagi, Lilian Kirimi & Samuel Balieiro

Policy Brief

SUMMARY

Kenya's sugar industry is important to the economy as a source of livelihood for actors along the value chain as well as sugar for consumption and as a raw material for industries. Despite this, the industry continues to face many challenges including high input and sugar processing costs. This brief discusses the competitiveness of local sugar industry both at farm and industrial levels, and the cost efficiency of sugar processing in Kenya. The study finds that though there is substantial growth in acreage under sugarcane production over the years, cane yields have been on a downward trend. The study also finds cane production at farm level in Kenya to be profitable and competitive, at an average cost of USD 210 per ton, which compares well to that of leading sugar producers such as Brazil. However, Kenya has low recoverable sugar yields of less than 5 tons/ha compared to 9.3 tons/ha in Brazil, and low sugar extraction rates of 11% compared to 13% in Brazil, due to factory inefficiencies. Factory performance showed high impact on sugar processing costs and must be addressed to improve profitability and competitiveness for the sugar industry. The study recommends strategies to improve farm level productivity such as irrigation and use of modern high yielding varieties with shorter inter-harvest durations; effective extension services for farmers and processors; and, privatization of public factories to improve their efficiency.

Background

The Kenya sugar industry is one of the oldest, with sugarcane farming intoduced more than a century ago. It has 12 installed mills including Mumias, Sony, Nzoia, West Kenya, Butali, Kibos, Muhoroni, Chemelil, Soin, Transmara, Sukari and Kwale, which are distributed across Kenya's sugarcane producing areas. The installed milling capacity in Kenya is estimated at 1 million MT annually. The industry is estimated to contribute approximately 15 percent to agricultural GDP (Monroy et al, 2013) and it supports an estimated 250,000 smallholder farmers who supply over 90 percent of all cane milled in the country.

Despite the long history and its economic significance, the sugar industry is riddled with a myriad of challenges. At the farm level, cane producers face high input costs, declining land sizes, unrealibale weather patterns, disease outbreaks, limited access to credit, ineffective extension systems, cane fires, delayed and uncoodinated harvesting, delayed payment for cane deliveries, theft, and high post-harvest losses. At the processing level, millers operate way below capacity (currently estimated at 60% of installed capacity) and run inefficient operations. This stems from overall mismanagement at factory level especially among state owned millers. Until 2010, 70% of the millers were state owned, but this has reduced to 50% following the opening up of more private mills.

The industry is one of the most protected in the country. Kenya has continued to receive waivers from common market partners, even as the government provides subsidies at both farm and miller levels. Despite these interventions, the industry shows little gains to consumers, growers or millers, but tends to transfer these gains to importers and bureaucrats, suggesting high level of rent-seeking within the industry. Therefore, questions persist as to what reforms are required to take the industry on a path towards sustainability and competitiveness. How long can the country maintain protective measures, what constributes to the industry inefficiencies and what interventions are required?

This brief undertakes a comparative analysis of the Kenya sugar industry with neighbouring countries and industry leaders in the world to identify areas for improvement and recommend policy actions to revitalise the industry.

Objectives

High input and miller operational costs have left the industry in need of protection against imports. However, trade protection is not a sustainable strategy and the industry will have to open up to competition at some point in the future. The main motivation of this study was to assess the current level of competitiveness of the local sugar industry. The study specifically sought to:

a) Undertake a comparative farm-level profitability of sugarcane production in Kenya and the region
b) Evaluate efficiency of sugar processing in Kenya relative to other sugar producing countries
c) Identify areas for policy intervention and strengthening

Data and Methods

The typical farm approach (Deblitz & Zimmer, 2005) was used to establish the farm level costs of production. This approach involves: (i) use of a group of participants comprising of farmers and other experts from a given area who are knowledgeable in production of the crop, to create prototype farms; and, (ii) applying standard operating procedures in data collection and analysis.

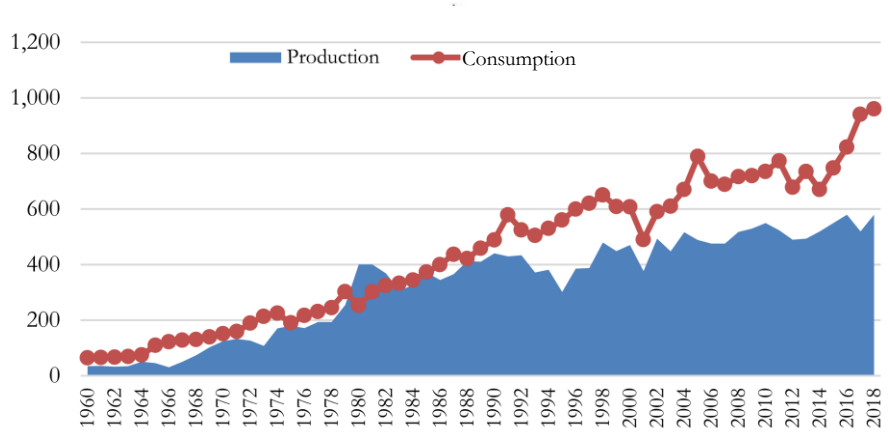
Data from the Agri benchmark sugar network countries including Kenya, Brazil, India, Thailand, South Africa, Tanzania and Mozambique was collected between 2015 and 2017 and formed the evidential basis for the analysis. In Kenya, the typical sugarcane farm was established in Muhoroni area of Kisumu County. This analysis also relies on secondary data from various mills including Muhoroni Sugar Company in Kenya, for assessment of post-farm costs, returns and efficiency.

Sugar production and utilization

Kenya is a net importer of sugar since mid-1980s (Figure 1) and the gap between production and demand has been widening over time. Increases in consumption are due to an increasing population and industries that use sugar and its by-products as raw materials. For instance, in 2016, the national sugar production was 639,741 MT against a consumption of 978,746 MT. Hence, 334,109 MT of sugar had to be imported to bridge the gap, largely from COMESA. This trend is expected to continue unless drastic action is taken to improve farm level productivity and eliminate factory level inefficiencies that make locally produced sugar uncompetitive.

In a bid to protect local producers, importation is largely restricted to imports just sufficient to cover the deficit amounts.

Figure 1: Trends in sugar production and consumption in Kenya



Farm Level Production

The area under sugarcane cultivation has increased, especially since 2008. However, as seen in Figure 2, yields have been volatile but declining. Although droughts have played a role in this decline, the sustained drop over the years could be attributed to massive challenges facing cane producers in the country. Farmers indicated that delayed payments for their produce for up to 2 years affected their ability to prepare land, purchase inputs and fund farm operations.

Cost of production and farm gate prices

The cost of producing a ton of sugarcane in Kenya was USD 210, out of which USD 150 were cash costs (Figure 3). These costs are comparable to those of Brazil, Mozambique and Tanzania, which were the lowest among countries in the study. This implies that at farm level, Kenya's sugarcane is competitive and would outcompete producers in Thailand and South Africa whose cane production costs were USD 350 and 325, respectively.

Farm gate prices per ton of fresh cane were relatively higher in Kenya, Tanzania and Mozambique at USD 300, 330 and 395, respectively. This implies that producers in these countries realized decent margins per ton. This contrasted with Brazilian, Thai and South African farmers who covered their cash costs but could not break even if depreciation and opportunity costs were included.

However, the margin advantage can be eroded by poor management as in the case of Kenya, where delays in payments to farmers increased their opportunity cost of capital and affected their preparedness and incentive to produce in the subsequent

Figure 2: Trends in sugarcane productivity in Kenya

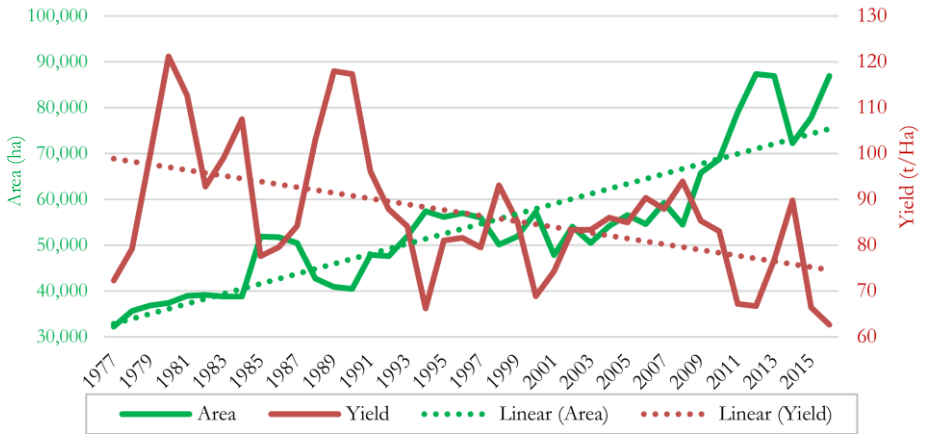


Figure 3: 2017 Sugarcane cost of production in selected countries

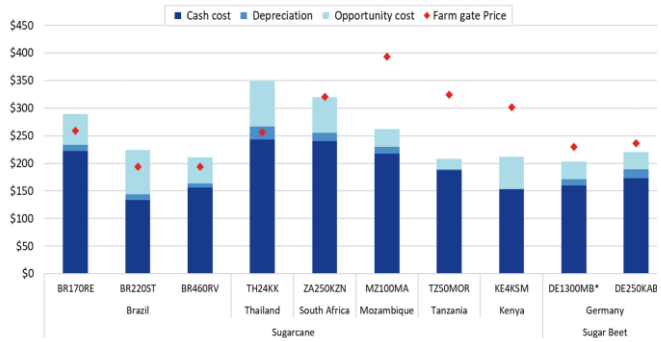
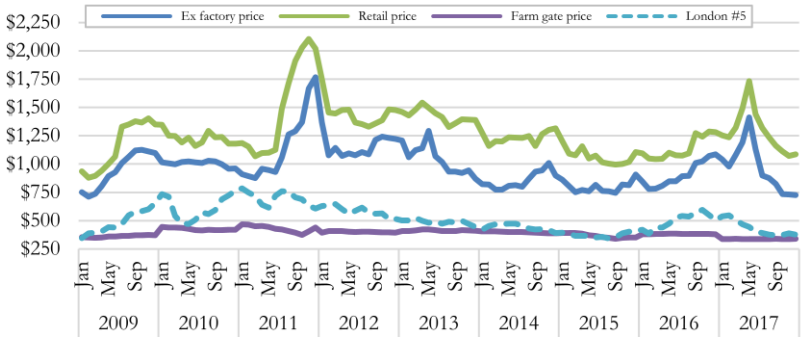


Figure 4: Trends in selected sugar prices



season.

Figure 4 shows farm to retail prices per ton between 2009 and 2017. The world wholesale prices (London #5) were very close to Kenya's farm gate prices. In addition, there were huge differences between local wholesale (ex-factory price) and world wholesale prices and a relatively consistent margin between local wholesale and retail prices. This indicates: (i) a high level of inefficiency in local sugar processing, despite farmers being relatively competitive in production; and (ii) potential huge margins for importers from sale of imported sugar. Overall, Kenya's sugar industry is uncompetitive and consumers bear the burden of high sugar prices due to inefficient local processing.

Milling and Processing

Figure 5 shows the recoverable sugar yields between 2015 and 2017 for the various typical farms, and the average percentage sugar extraction rate over the three-year period.

Kenya had the lowest recoverable sugar yields of less than 5 tons/ha. This was relatively low compared to a minimum of 9.3 tons/ha in Brazil and 6.8 tons/ha in Tanzania. The highest recoverable sugar yields were recorded in Mozambique, which increased from 6.7 tons/ha in 2015 to 11.9 tons/ha in 2017. Hence, Kenya compares poorly with countries with similar per ton costs of cane production.

The high and increasing growth in recoverable sugar yields in Mozambique is attributed to adoption of irrigation in sugarcane production, use of modern early maturing cane varieties and good post-harvest management practices that ensure the cane is crashed within the ideal 12-hour period after harvesting (in Kenya, this takes up to 48 hours).

On the other hand, Kenya and Tanzania have low sugar extraction rates of around 11% relative to 12.6-13% in Brazil and 12.5% in Mozambique. The low rates in Kenya are attributed to processing inefficiencies due to use of old machinery and technology in sugar processing.

Kenya has low sugar extraction rates due to use of old machinery and technology.

Sugarcane producers and local consumers bear the largest burden from inefficiency in the industry.

At a mill recovery rate of 11%, the cost of producing sugar in 2017 was USD 235 per ton. Application of a lower rate of 7.14% (the average for public mills in Kenya) would increase the cost to about USD 305 per ton. On the other hand, improving the recovery rate to that attained by Brazilian millers (13%), would reduce the costs to less than USD 200 per ton. At this price, local sugar would compete effectively without the need for protectionist policies, and consumers, cane producers and millers would all benefit better from the industry.

Implications

The country has no option but to import sugar at the current level of consumption and production. However, efforts to raise productivity have not borne fruit with increases in production mainly coming from growth in area under production. Although cane growers are competitive in production of cane as a raw material, the processors are inefficient.

The industry was liberalized in 1992, to provide for more private sector investments. However, state owned millers still have an edge over private millers since they grow their own cane in addition to buying from farmers. Owing to costs associated with acquisition of large land parcels, the private mills focus more on cane processing instead of production.

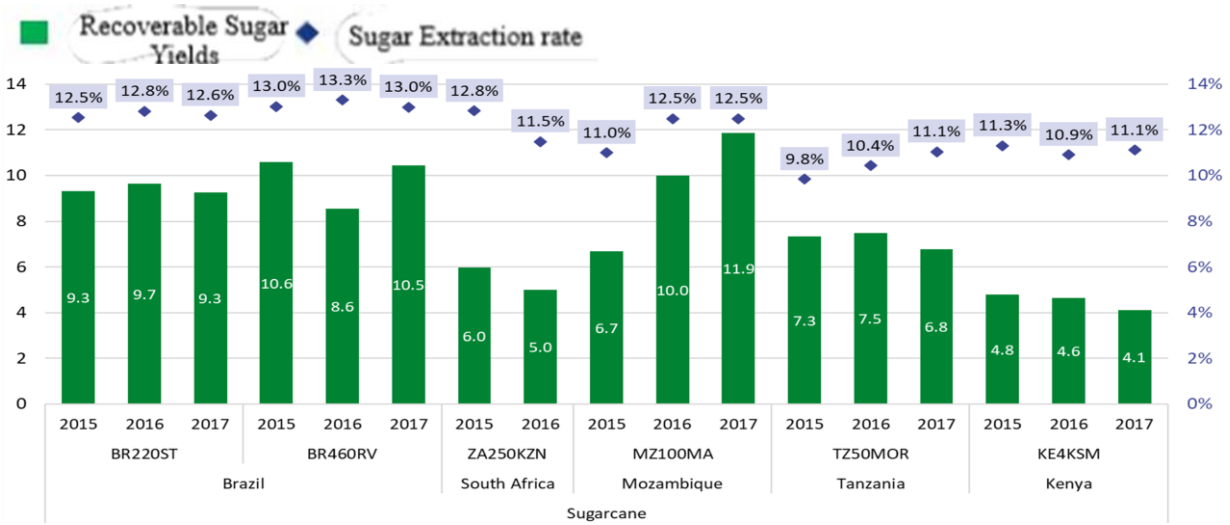
Inefficiencies at the mill level, especially among state owned millers and particularly delayed payments for cane deliveries, cause farmers to sell to private millers, although they have an established contract with state owned millers. To protect public millers, the state has implemented protectionist policies. However, this creates room for rent seeking among sugar importers. The biggest losers in this case are cane producers, who get low prices for cane, and consumers who must pay a high price for sugar.

Policy Options

- There is need to improve sugarcane farm level productivity. Research into, and promotion of higher yielding cane varieties with shorter inter-harvest durations, adoption and optimal utilization of complementary inputs, and cane production under irrigation are some of the measures adopted by leading cane producers, and which can improve recoverable yields.
- There is need to install modern and efficient processing plants and strengthen the management of factory activities. For instance, timely collection and processing of cane will improve sugar extraction rates and make the factories more efficient.
- There in need to enforce the contractual obligations between millers and farmers. This will in turn eliminate cane poaching and improve cane supply to mills.
- Address high costs of inputs by strengthening extension and private sector innovations in cane production.
- The government should have a clear plan to exit sugar processing, where it has been inefficient. It should undertake crop development and regulatory functions, which are now clearly identified roles of County governments and the Agriculture and Food Authority (AFA).

To enhance the competitiveness of the sugar industry, Kenya must improve milling operation efficiency.

Figure 4: Trends in recoverable sugar yields and extraction rates for selected typical farms



Terminologies

Cash costs: Cash cost according to profit and loss account: the sum of fertilizer, plant protection, and seeds costs; including wages, land rents and interest paid. It accounts for all cash outflows.

Opportunity costs: The total of calculated cost of using resources belonging to the grower and his/her family which do not reflect in a regular profit and loss account (equity, land and labor).

Depreciation: Linear depreciation for buildings, machinery and equipment based on current replacement cost rather than on historical purchase prices

Recoverable sugar: Actual sugar content in harvested cane, which determines how much sugar is produced from the cane.

Extraction rate: The proportion of sugar produced by weight of cane processed, usually expressed as a percentage. For example, 10% recovery means that for every 100 kg of cane processed 10 kg of sugar is produced.

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ACKNOWLEDGMENT

Tegemeo Institute acknowledges support for its research programmes from key partners, especially the United States Agency for International Development (USAID). Others include Bill and Melinda Gates Foundation (BMGF), the Rockefeller Foundation, the World Bank, European Union, Ford Foundation and the Food and Agriculture Organization of the United Nations (FAO).=

Tegemeo Institute of Agricultural Policy and Development
George Padmore Road, Off Marcus Garvey KILIMANI P. O. Box 20498-00200, Nairobi KENYA
Tel: + 254 (020) 2347297/3504316 Cell: (+254) 720 895 454/ 714 895 454/ 714 658 222/ 734 658 222
E-mail:egerton@tegemeo.org
http://www.tegemeo.org/