

Kwale sugar firm banks on irrigation to shore up yields

TUESDAY AUGUST 13 2019



An employee checks on the irrigation system serving the sugar plantation at Kwale International Sugar Company Limited on August 12, 2019. The firm relies heavily on mechanisation and irrigation to boost yields.

PHOTO | LABAN WALLOGA | NATION MEDIA GROUP

In Summary

- Cane production remains constrained by poor crop husbandry, low access to inputs and delayed harvesting.

It is one of the country's newest sugar factories, having started operations four years ago.

But unlike its contemporaries, Kwale International Sugar Company Limited (Kiscol) is banking on irrigation and mechanisation to

increase production.

In 2017, the firm's yield stood at 74.86 per cent, which was one of the highest.

It crushed more than 290,000 tonnes of cane and produced 28,000 tonnes of sugar, accounting for 14 per cent of the total produced by the 12 factories in the country, latest data from the Sugar Directorate shows.

Sugar production in Kenya has declined by 12 per cent in 2019, compared to 2018. Total closing stock held by all the factories at the end of April 2019 stood at 2,371 tonnes, compared with 18,146 tonnes in March 2018.

This has been occasioned by the delay in privatising State-owned mills (<https://www.nation.co.ke/business/State-eyes-disposal-of-sugar-millers-in-4-months/996-5029258-62w961/index.html>), which was expected to spur the sector's growth.

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BUSINESS MODEL

In contrast, sugar consumption has risen sharply due to increased use in the domestic, industrial, and food service sub sectors.

This growth is supported by the increase in consumer purchasing power and diversification of sugar-based products



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“In a space of three years, we now control 15 per cent of the market. As other millers constantly depend on imports and processing to stay afloat, ours is a fresh-from-the farm operation supported by zero imports.

“We don’t even have a sugar import licence. In the next five years, we want to be among the top three players in this market,” said Mr Moses Owino, the firm’s corporate affairs manager.

Its close to 5,500 acres of nucleus farms in Kwale County are dotted with drip irrigation pipes running into thousands of kilometres as the firm looks to ensure all-year-round supply.

“In our business model, we have planned to develop 4,200 hectares under subsurface drip irrigation.

“Among the other investments in the nucleus estate, securing the irrigation system together with its infrastructure accounted for 80 per cent of the total agriculture capital investment,” Mr Owino said.

IRRIGATION

Kiscol Agriculture Operations Manager Ravi Chandaran said they have borrowed the farming model from Mauritius — one of the world’s largest sugar producers — and invested in sustainable agriculture.

“For instance, the modern technologies implemented in the nucleus estate have seen us harvest about 110 tonnes per hectare annually in irrigated cane fields. These yields enabled us to produce about eight tonnes of sugar per hectare annually. This is almost three times what has been achieved in most of western Kenya sugar factories,” Mr Chandaran said.

Kiscol’s large-scale irrigation has enabled it to produce more than 600,000 tonnes of sugar from its 62,000 hectares, half of which is exported, and which accounts for 25 per cent of the country’s export earnings.

“We have the same climate and soil composition as theirs (Mauritius). Mechanisation and use of technology can achieve success in a complex system of carefully managing the farms to feed the factory,” Mr Chandaran, a Mauritian, explains.

The Kwale sugarcane farm, which counts Omnicare, the largest sugar producer in Mauritius, as one of its major shareholders, has invested in seven dams and 30 boreholes, which enable it to abstract groundwater for irrigation.

The dams can run the entire farm for more than six months without drying up. One can hold 2.7 million cubic litres of water.

OUTGROWERS

Kiscol depends on the subsurface drip irrigation systems installed by Amiran Kenya, in partnership with Netafim, an Israeli irrigation expert firm.

“We use the drip system as opposed to flooding or sprinklers, as it supports the monitoring technology, which ensures that an acre consumes just about 50 cubic metres, which is half the amount other irrigation systems use,” Mr Chandaran said, adding that it also supports fertigation.

He noted that while irrigated areas produce 84 tonnes of cane per hectare, those not under irrigation produce 57 tonnes. And their outgrowers who rely on rainfall produce 51 tonnes per hectare

So far, Kiscol has more than 1,100 registered outgrowers producing sugar cane on 4,200 hectares. The will be included in the irrigation programme in the next few years.

“We now use up to 80 per cent of water from the dams and boreholes, which ensures that we have adequate supply throughout the year for milling. With modern technology, we are saving 40 per cent of the water requirements,” Mr Chandaran said.



EFFICIENCY

The farms are also heavily mechanised, including the cultivation, planting, weeding and harvesting, which allows the firm to control the cane quality, limit wastage and improve efficiency.

“For instance, we have integrated mechanisation, which helps to carry out inter-row cultivation. This helps in weeding and also spacing the crop, using furrows for efficient rain water drainage; which allows the cane to consume just the right amount of water. The mechanisation also allows for trash to be mixed with soil,” Mr Chandaran said.

At its main pumping station are tonnes of fertilisers, which are mixed with water from the treatment plant and then fed to the cane through drip irrigation using a fertiliser injector.

Ms Pamela Ogada, the general manager, said: “With drip irrigation, it is easier to give the plant the exact amount of water it requires, and we can also supply liquid fertiliser through fertigation,”

In its three years of operation, Kiscol’s has seen its acreage under cane grow from 6,300 hectares to 9,477 in 2017, and its nucleus estate from 3,710 hectares in 2015 to 4,791 hectares in 2018.

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