

FARMING

Boost as Kenyans take on climate, war shocks

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They rotate the kinds of crops grown on the same piece of land and use legumes as soil cover to retain nutrients and moisture, he added.

And, he noted, Africa has seen a rise in climate-smart agriculture, which focuses on adapting to changing weather patterns with methods like capturing and storing rainwater in ponds to use during dry spells.

"It is not one size fits all," Ababio said. "Governments need to look within their geographic area, see which one is fit for them and then adopt the (method) which is best for their economy or smallholder farmers."

In March, Kenya's Agriculture ministry launched a four-year climate-smart agriculture plan, which includes shaping local policies to address climate change impacts and building a database of tried-and-tested farming techniques to bolster the industry's resilience.

Farmers around Kenya have been discovering that the nature-based techniques they are using to adapt to the pressures of climate change could also help them weather the fertiliser shortage caused by the war in Ukraine.

According to UN Comtrade data, last year Kenya imported fertilisers worth more than \$33 million (Sh3.7 billion) from Russia, making up about 10 per cent of the total value of fertiliser imports. But now local suppliers are struggling to get hold of stock and whatever is available has doubled in price, said Mugambi, the farmer in Muiru.

He has had to plant his latest batch of crops without fertiliser and expects lower yields as a result. In a bid to minimise their losses, Mugambi and other members of the Mwimenereri farmers' group have planted corn and

beans in the same field - a practice known as inter-cropping which protects farmers if one crop sustains losses.

"Farmers here have been using inter-cropping for a long time and it has never failed to give them a harvest. I feel reassured having it on my farm," Mugambi said. But it doesn't work for all crops - coffee, for example, is highly dependent on fertilisers, the farmer noted.

"What I am worried about is how to deal with fertiliser shortages if the (Ukraine) war persists," he added.

Jennifer Clapp, vice-chair of the UN High-Level Panel of Experts on Food Security, said in the short term countries like Kenya that rely on Russia for fertiliser will need to look for alternative sources and products - and that could be expensive.

"In the long term, countries should be thinking about diversifying their food systems and bringing food production into their local and regional territories to increase resilience to these kinds of shocks," said Clapp in a video call.

Experts at EFG Hermes, an Egypt-based investment bank, said the Ukraine war was unlikely to cause major food shortages in East Africa because most of its supplies come from within the regional bloc.

"There are alternative food stocks that we can use," Kato Arnold Mukuru, head of frontier market research at the firm, told journalists in Nairobi last month.

That is little comfort to Josphine Ndeke, a coffee grower in Muiru who worries that even with plenty of food available, the fighting in Ukraine - a major buyer of Kenyan coffee - could leave her without enough money for daily necessities.

[Reuters]



...or cement billions



"CEMENT MAKING, LIKE COOKING, IS AN ART AND A SCIENCE"

- You need the right limestone, the right skills, and the right equipment to produce good cement.
- It is limestone that is critical for production of clinker which is used to produce cement.
- The further you move away from Eastern Kenya, the more contaminated limestone gets. Nonetheless, sometimes you can compensate for this deficiency with the right skills and technology.
- Clinker is cement- it like unga in ugali or concentrate for soda.
- To get clinker, you grind the limestone with ingredients such as iron ore. This mixture is then heated through a kiln, between temperatures of 1500 and 1800. What comes is clinker.
- The clinker has to be taken to a second phase known as grinding. With grinding cementitious materials such as pozzolanic and gypsum are added onto clinker to produce a binding material that is cement.
- Gypsum is used to make the cement workable. If you grind clinker alone, and add water, it will quickly solidify. But because cement is a binding material, like glue, it needs time to solidify.
- Generally, the higher the clinker, the stronger the cement like Portland Pozzolanic cement used for special projects such as roads, bridges, highrise buildings etc.

the other players to build capacity. "I am happy with what I have, and I am happy to sell to Uganda and Rwanda," said Guru, when we asked him about the turn of events.

But he is certainly not impressed with the decision.

He told *Financial Standard* in a telephone interview: "In the beginning, I was pushing for local manufacturing because we were exporting foreign exchange and jobs."

He gave the example of Tanzania where importation of clinker had been prohibited, and in two years, he noted, the country had been able to build capacity. We could not verify this statement independently.

In October last year, around the time when the committee gave the verdict of postponing the implementation of the higher tariff, Guru issued a statement noting that National Cement Company will be sending home at least 860 workers with its clinker manufacturing plant at Emali, Kajiado County, remaining underutilised.

"We had hired additional staff in line with our expanded clinker capacity to satisfy local demand, but imports are eating into this market," said the Devki Group Chairman, adding that he would be forced to join other manufacturers in importing clinker, regretting the fact that Kenya had "become a duty-free country."

"Millions of dollar investments are going down because of policy gaps. As a country, how are we going to encourage more investments and industrialisation to create jobs for millions of youth?"

Not only was Mr Guru feared by his competitors for his strong political connections - up against tycoons such as Jaswant Rai of Rai Cement, Benson Ndeti of Savannah Cement or well-established manufacturers like Bamburi Cement.

His critics reckon he might also not have understood fully the art and science (because clinker production is both an art and science) of producing clinker.

According to their critics, the questions that National Cement and Mombasa Cement have been at pains to answer is: why, if they have adequate capacity and their locally produced clinker is cheaper than imported, weren't cement manufacturers flocking to them?

Moreover, the country is currently experiencing an acute rise in the price of cement amidst the global shortage of clinker, why haven't the two companies stepped up?

As it is, the entire cement industry, including National Cement and Mombasa, does not seem to have the capacity. Everyone is importing because not all of National Cement's and Mombasa Cement's capacity has come on board.

"What they are trying to do is to secure their future by ring-fencing the region," said the Bamburi Cement External Affairs and Communications Manager, Ms Mary Mueni.

But it is this capacity that Mr Rawal, who said he will be unveiling another clinker plant in 10 days, was building when he took

over ARM, whose liabilities far exceeded its assets. A shell.

ARM's balance sheet had an item that Guru thought he needed if he was to rule the cement kingdom - a licence for mining close to 11 per cent of the country's reserves of limestone.

"People were not looking at the shell of the company. People were looking at their reserves," said Bamburi's Mueni.

Limestone is the main raw material used in the production of clinker. "Cement making, like cooking, is an art and a science," said Mr Julius Induswe, head of manufacturing at Savannah Cement.

To produce quality cement, he said, you need the right limestone, the right skills, and above all, the right equipment. Earlier in 2019, Guru's other subsidiary, Simba Cement Company, had fully acquired yet another dormant company, Cemtech Company Ltd.

Cemtech, which is based in West Pokot, had been dormant for almost a decade and had been looking for a strategic buyer. However, Cemtech held licences for substantial limestone and clay deposits. The three companies - National Cement, ARM and Cemtech - con-

trolled 78.8 per cent of limestone mining in the country. National Cement and Mombasa Cement have two clinker plants each.

Building a clinker plant of 2.5 million tonnes per year will cost around \$300 million (Sh34.9 billion). It comes with a minimum of 50 years of investment, which is the lifespan of limestone reserves.

Although National Cement and Mombasa Cement claimed to have the capacity, they might not have had the quality needed by such huge contractors as China Road and Bridge Corporation (CRBC), responsible for the construction of the country's largest infrastructure project - the Standard Gauge Railway (SGR).

Bamburi Cement had to innovate to come up with a clinker with less than one per cent lime to be able to meet the specifications of the SGR contractor. Until then, there is a need for the players to perfect the art and science of producing clinker. And this might take time. The shortage of clinker, which is responsible for the current spike in prices of cement, might also have taught the industry some vital lessons.

That the supply of clinker is too critical to be left to a few players, who will then be the price givers as opposed to being price takers.