

Using waste to power green jiko

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Alex Odundo displays one of the jiko his enterprise makes. LEFT: Lavington Omondi explains to customers how the jiko works. PD/ NOVEN OWITI

In the quiet villages of Alendu in Nyando sub-county, Kisumu county, a social enterprise has discovered a new way to promote environmental conservation efforts.

Olex-techno Enterprises is leading in the initiative by produces ecosystem friendly jikos, which rely on unused waste materials as biofuel. The technology seeks to promote use of biodegradable solid waste materials as an alternative to wood fuel and charcoal that is hugely used particularly in the rural areas.

In this way, the eco-power jiko will help in saving the environment from encroachment and degradation as a result of excessive cutting down of trees.

During cooking time, the metallic jiko is fixed with a small electric fan that is connected to a solar panel, which powers the fan to regulate oxygen levels.

Alternatively it can be connected to a battery, especially at night to generate energy needed to drive the mortar hosting the fan. Alex Odundo, the enterprise director, says he ventured into making modern jikos to help combat the environmental degradation challenges.

He says his jikos encourage sustainable use of flammable waste materials hence support the efforts aiming to reduce deforestation levels locally. It uses local fabricated briquettes, sawdust, rice husks and other combustible solid waste as alternative fuel products.

“We came up with the idea early last year to bridge the gap in championing the use of alternative sources of fuel in order to mitigate environmental degradation challenges,” he says.

He observes that the level of deforestation, especially in his area is devastating as the majority of households still use either firewood or charcoal to cook every day, while others have resorted to firewood and charcoal as income generation activity.

“You can just imagine the kind of destruction happening in our forests around with the rising consumption of wood fuel and charcoal in the families,” Odundo says.

The initiative borne of his research work is beginning to take off gradually and although the new jikos are yet to explore the market niche a few people locally have begun using them.

Consequently, Odundo is confident his invention will contribute to environmental conservation efforts, especially when the community fully embraces his products.

The proprietor points out that the initiative, which he started with funding from his savings, once fully embraced locally will ultimately turn out to be a game-changer in conservation.

They aim to reach schools, hotels, hospitals and individual households with the jikos made from stainless steel or other metals. These jikos are crafted into different types: domestic, hotel and institutional.

“We target individual households and learning institutions. The institutions use a lot of firewood and this is depleting our forests,” he says.

Currently, Odundo’s enterprise can fabricate about five jikos in a month that go to the market. The production is done on order. Individual household jikos retail between Sh 2,500 and Sh5,000.

This cumulatively cost entails the solar panel and small battery. The price is determined by the size and variety.

He is yet to start receiving orders from learning institutions and hospitals, which may require bigger varieties whose cost will double. For clients who buy the jikos, the enterprise sells them briquettes made of sugarcane bagasse, sawdust and other flammable farm waste.

To realise a breakthrough, it took some time, which was characterised by several unsuccessful trials. Lavington Omondi, a worker at the enterprise, says the process of fabricating the first jiko went through three trials. The first and second attempts failed before the third one yielded better results.

“We didn’t get the result immediately, it took some time to realise a breakthrough in this initiative. We tried several times before success was realised in making the jikos. At first, we could make mistakes, damage and fix the fabrications,” Omondi explains.

The fabrication process also takes quite a long time and dedicated skills. On average, he says it takes a day or two to make each jiko. He says apart from championing environmental conservation, the enterprise is a source of employment to young people.

Other two employees have been engaged as welders. The enterprise also does fabrication of machines for agricultural production such as sisal decorticator, a machine that extracts sisal fibres.

“Our activities revolve around innovations to find solutions to some of the problems people face locally,” Odundo adds.

He hopes to increase production for the jikos, especially when the demand rises and the business breaks-even. He states that with mass production, the cost of the jikos is expected to reduce, making it more affordable to many specifically low income earners.

The jiko is fast and efficient as well as cheaper and cost effective in cooking. It produces little smoke, making it less toxic to the environment and produces stronger fire that lasts long during cook time.

He cites inadequate resources, negative attitude among the populace, lack of proper market and limited sensitisation capacity on the modern technology as major challenges his enterprise faces along the way.

Odundo recommends the need for more sensitisation on local communities across the country to enable them adopt to new technologies meant to promote safe environment away from overreliance on charcoal and wood fuel for cooking.

“People have negative perceptions about innovation from Kenya, the reception is low and this requires rigorous sensitisation processes to rectify,” he says.

The innovator calls for concerted efforts in reducing the effects of climate change. He adds that the realisation of this course will require a paradigm change of attitude towards embracing new technologies focusing on environmental conservations.

He stresses that people should make it a collective responsibility in mitigating climate change effects by embracing ecosystem conservation measures.

“The effects of climate change is extreme and with the increasing rate of cutting down trees, the efforts being put up to ensuring environmental conservation may not bear much fruit,” Odundo says.