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Zimbabwe youths champion organic fertiliser in new social venture

By Pius Sawa

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A team of young Zimbabwean innovators is launching a new social venture that will improve the health and livelihoods of farmers in Domboshava village, one of the country's most food-insecure communities.

Founded by Arizona State University students Clive Matsika, 22, and Lincoln Mtemeri, 21, Agrimatters is betting that Greenfert, an organic fertiliser made from animal and plant residues, could hold the key to improving crop yields and reducing the incidence of nitrate poisoning among the children of smallholder farmers.

"When the right seeds are planted at the right time, and with the correct amount of fertiliser, an average plot of land in rural Zimbabwe is capable of sustaining a family of up to five children," explained Mtemeri.

The high cost of synthetic fertilisers, which sell for approximately \$25 per 20 kg and are mostly imported from other countries, has contributed to low yields among smallholder farmers, who often cannot afford to boost their crops with fertiliser. "A farmer in Domboshava village, which produces one of Zimbabwe's lowest annual maize yields, will need to save almost 50% of his income to purchase the fertiliser, meaning he cannot sustain his family's needs as required," continued Mtemeri.

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Greenfert has already earned a license from the Zimbabwean government through the Ministry of Agriculture after testing the fertiliser samples, which were found to be suitable for agricultural use, and has been registered under the Coley Chemicals partnership.

"Agrimatters will collect garbage from boarding schools and combine it with readily available animal matter, plant residues, and ash to create the golden product, Greenfert. This organic fertiliser is created by raw materials from the community," said Matsika.

Cost of organic and synthetic fertilisers

Matsika said that it is not yet clear how much the fertiliser will cost on the market. Zimbabwe's fluctuating economy, political upheavals and use of both American and Zimbabwean bond note currency complicate matters. However, the Agrimatters team believes that the costs of raw materials will determine price over the longer term.

"Political instability in Zimbabwe has had an impact on the basic price we intended to charge for each bag. We are currently conducting thorough market research to compare costs of organic and synthetic fertilisers," said Matsika. "Prices can vary whether you are using cash or a debit card. Bearing all these factors in mind, it means that I might have to buy the raw materials at a very cheap price or get them for free, then give a discount when selling the final product to these villagers. We aim to benefit at least 100 of the total 300 farmers in Domboshava village by the end of 2018."

The Agrimatters Initiative team won the Resolution Social Venture Challenge at the Mastercard Foundation Baobab Summit in Johannesburg in 2017, a competition that rewards compelling leadership and promising social ventures led by youth. These young leaders earned a fellowship that includes seed funding, mentorship and access to a network of young global change-makers to pursue impactful projects in their communities. A collaboration between the Mastercard Foundation and The Resolution Project, the Resolution Social Venture Challenge provides a pathway to action for socially responsible young leaders who want to create change that matters in their communities.

The Agrimatters team is excited about the possibilities that Greenfert represents for the community, as a product that is not only environmentally friendly but also reduces health problems in human beings. "It was recently discovered that concentrations of nitrates in water bodies have risen by 50% over the past five years. According to Domboshava medical reports, five children per 25 households were diagnosed with diseases related to nitrate poisoning in 2015," said Matsika.

In addition, properties of natural soils, such as drainage conditions, salinity, and subsoil characteristics, continue to weaken by 8% after every year of using synthetic fertilisers, resulting in even poorer agricultural yields over time.

Creating employment for youth in Zimbabwe

Matsika is excited that the Agrimatters Initiative will not only produce Greenfert fertiliser for farmers, but will also create employment for youth in Zimbabwe. "The Agrimatters team is committed to the community. That is why we use the slogan 'grown by nature to feed the world'. We are ensuring better yields for farmers, improving their productivity and soil fertility. We are reducing childhood illness and mortality due to contaminated water. We're creating jobs for youth and building a healthier, more prosperous, and more engaged community."

Matsika and Mtemeri cannot hide their joy at being recipients of the Social Venture Challenge. "I have always been inspired by the Resolution Fellows. Like them, I want to apply my skills, strengths, technical knowledge, and abilities to enhance the success and development of communities," said Mtemeri.

They attribute much of their early success to their wider team, which includes Betty Mafemera, a senior student at Cottey

College in the US, along with eight interns from the University of Zimbabwe. "I am proud to be part of a group of young, socially responsible leaders who plan to take good care of the community and the environment that surrounds them," concluded Matsika.

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