

FROM OLD PLANTS AND OLD WAYS, A NEW AFRICAN AGRICULTURE

How the return of Indigenous knowledge could help change how the continent farms

POSTED BY ALANNA MITCHELL ON DECEMBER 10, 2018

Chika Ezeanya-Esiobu is interested in vegetables. Specifically, she is interested in vegetables that don't have English names: *inyabutongo*, *isogo*, *igihaza*, *urudega* and *isosogi*.

All these vitamin-packed leafy greens grow wild and easily in Rwanda, her mountain-packed East African home. In earlier generations, they helped feed rural families, keeping hunger and sickness at bay.

But when Germans and then Belgians colonized Rwanda more than a century ago, they started to teach Rwandans to grow the vegetables that Europeans were more familiar with: cucumbers, tomatoes, cabbages.

By the time the colonizers left a few generations later, Rwandan elites had developed a taste for those same non-African vegetables. They even looked down on people who preferred the wild crops their ancestors had eaten. At the same time, international aid organizations and foreign donors began supporting not just the cultivation of foreign vegetables, but also large-scale commercial farming techniques. That meant paying for synthetic fertilizers and pesticides and irrigation systems from other countries instead of relying on the old, less expensive, organic farming techniques that used plant-based pesticides plus rotting plant material and manure to grow healthy plants.

But when [Ezeanya-Esiobu](#), a senior lecturer of business and economics at the University of Rwanda, began to examine how successful these imported farming techniques were, she discovered that they fell short. Worse still, the old techniques that had once fed families so well were falling out of practice. People were forgetting about the old plants and the old ways. "Indigenous knowledge is dying in this country," she says.

And not just in Rwanda, but across Africa. Ezeanya-Esiobu began to wonder what the loss of that knowledge meant for the continent. So, with the help of a Tanzanian colleague and a \$300,000 grant from IDRC, she started researching.

Their two-year [project](#), which ended in 2017, assessed how to boost the earning power of rural women by encouraging Indigenous knowledge. And it revealed something startling: Indigenous technologies hold great potential for advancing the economy of Africa as a whole, and rural communities in particular, despite the fact that they're being ignored by government policy-makers and research agencies.

Ezeanya-Esiobu points to *tassa*, a traditional irrigation technology now being re-established in Niger. Farmers dig grids of small planting pits in the hard desert soil during the dry season, and then add organic manure. When the rain comes, the pits collect and hold the water, allowing crops to grow. In one study, *tassa* boosted yields from almost nothing to 300 to 400 kilograms of vegetables per hectare in a drought year and as much as 1,500 kilograms in a normal year.

It's simple. It's inexpensive. It helps improve the quality of the soil. And that means it has helped the people of Niger fend off hunger. Plus,



Chika Ezeanya-Esiobu (second from left) and her colleague Vedaste Ndungutse (far right) sample banana wine with locals in Musanze, Rwanda, in 2016. Rural women in Rwanda are now producing such beverages using long-neglected Indigenous knowledge. (Photo: Courtesy of Chika Ezeanya-Esiobu)

tassa's success stands in contrast to several foreign agricultural methods the World Bank and other agencies wanted Niger to adopt. Not only did those practices saddle the government of Niger with debt, but they didn't increase crop yields by enough to offset the costs.

In Rwanda, some of the focus has been on helping rural women recover the old methods of making yogurt, banana wine and beer. One woman, a widow, had been reduced to begging to feed her family. She got a micro-loan of US\$15 and began to make banana beer using Indigenous knowledge. Now she makes good money selling her product, Ezeanya-Esiobu says.

But it's still hard to convince African governments and foreign agencies about the value of Indigenous knowledge. While Rwandans are proud of their heritage, they're also eager to industrialize. And they fear that embracing homegrown technologies will take their country backward, says Ezeanya-Esiobu.

The IDRC research found that part of the solution is to convince decision-makers about the value of these time-honoured practices through published research, one-on-one meetings and workshops. Another key is to begin to teach Indigenous farming practices to students at agricultural colleges, rather than only imported techniques. The team also produced [Abagorè](#), a documentary that demonstrates Indigenous technologies, and which villagers can watch on their mobile phones, making the knowledge accessible to those who can't read or write.

"If Indigenous knowledge and technology is given the attention it needs," Ezeanya-Esiobu says, "it's going to transform the continent speedily — much more than trying to abide by someone else's rules and regulations."

Watch Chika Ezeanya-Esiobu's [TED Talk](#) about how Africa can use its traditional knowledge to drive progress.

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READING AS THINKING

1. Why do some vegetables not have English names?

2. Why do you think European colonizers brought with them new varieties of vegetables instead of just consuming the indigenous vegetables from Rwanda?

3. List some benefits and costs of:
a. Growing crops using commercial farming techniques.

BENEFITS	COSTS

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- b. Growing crops using Indigenous knowledge and farming techniques.

BENEFITS	COSTS

4. Describe the traditional technology that Chika Ezeanya-Esiobu mentions in the article. What is it about this technology and this environment that could result in such a drastic increase in vegetable yields?

5. Describe a traditional farming technology that was used in the past in your region of Canada. Is this technology still being used? If yes, has it changed over time? How? Does this technology compete with other types of technologies in your region?

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6. The article suggests that Rwandans are worried that embracing homegrown technologies will take their country backward and that they are eager to industrialize. Do you see value in preserving technologies from the past? Or do you think significant industrialization is a more appropriate response to food security issues in Rwanda? Or do you think it would be better to include both? Explain your point of view.

7. How does Ezeanya-Esiobu suggest researchers convince decision-makers about the value of Indigenous practices? If you were given the opportunity to speak to decision-makers on this subject, what method would you use to convince them? Explain.

Think-Pair-Share

Think

8. With your class, watch the [TED Talk](#) about how Africa can use its traditional knowledge to drive progress. After the video has finished, answer the following questions:
- What surprised you as you watched the video?

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b. What is Ezeanya-Esiobu's main message? What does she want listeners to realize about Africa?

c. What questions do you have after watching this video?

Pair

9. In the video, Ezeanya-Esiobu presents an alphabet sheet. Pair up with a classmate and create an alphabet sheet that students in your community could use to learn the alphabet. After doing some research on the human and physical geography of Rwanda, create a second alphabet sheet that students in Rwanda could use to learn the English alphabet.

Share

10. Share your alphabet sheets with the class and be sure to point out any similarities and differences you noticed, as well as any challenges you encountered along the way.

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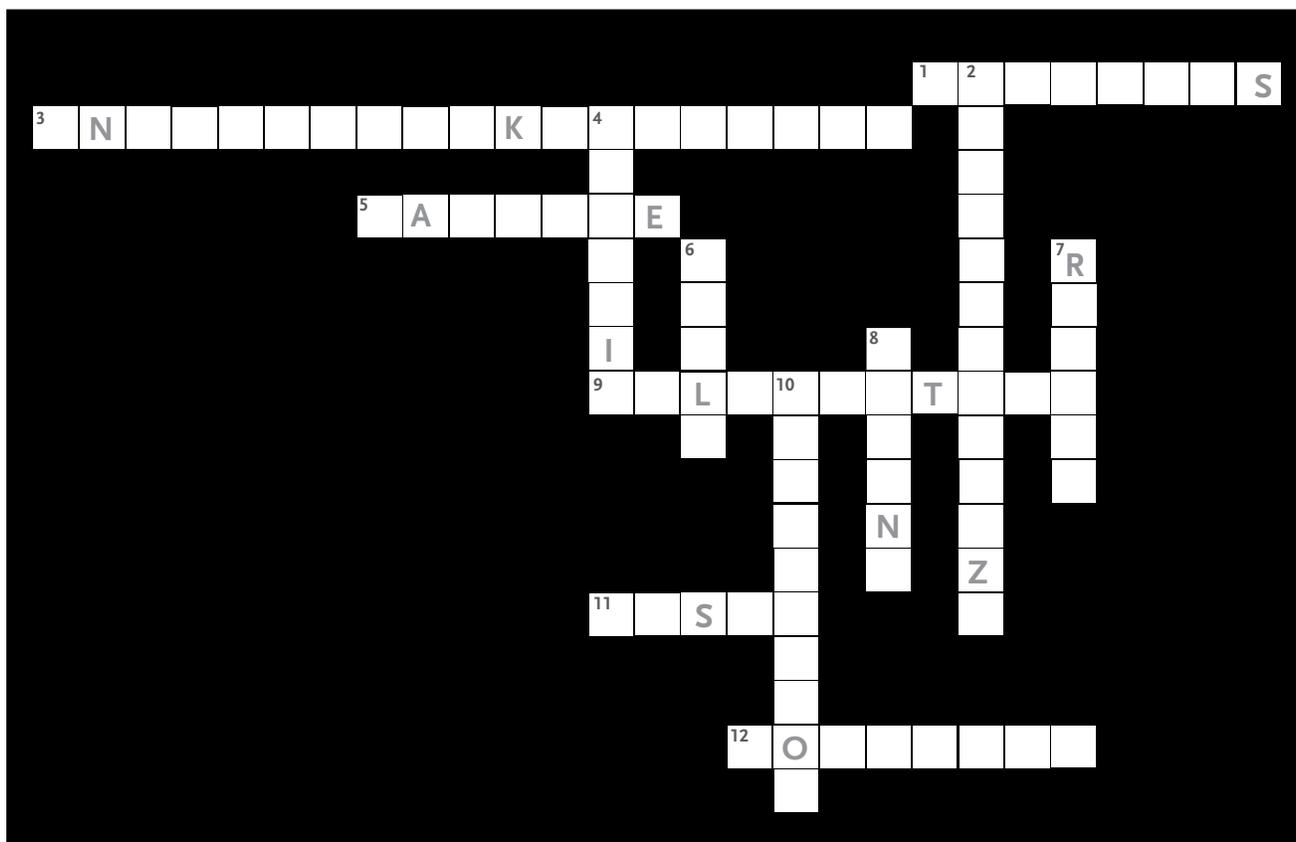
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ONLINE

1. [Chika for Africa](#) is a blog that contains essays, books and various additional resources that describe innovative projects and notable people living and working in Africa (English only).
2. The [Echo Community](#) resource page has information about and photographs of the tassa technique (English only).
3. The Food and Agriculture Organization of the United Nations has produced a [document](#) on food and irrigation techniques for small-scale farmers.
4. The National Agricultural Export Development Board of Rwanda has a [website](#) about local products (English only).
5. A [list](#) of five Indigenous farming practices enhancing food security in African countries (English only).
6. [Information](#) and [statistics](#) on the differences between organic and industrial farming practices

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CROSSWORD:

Across

1. Vegetables contain these essential micronutrients that humans need to survive
3. This valuable information is passed on from generation to generation to maintain local culture (two words)
5. European colonizers brought this leafy green vegetable with them to Rwanda.
9. The action of raising and planting crops
11. The traditional technology now being re-established in Niger
12. Indigenous farming practices can be taught to students in these types of schools

Down

2. While Rwandans are proud of their heritage, they're also eager to do this
4. This type of food is produced using methods that promote natural, ecologically friendly farming practices
6. A term for natural, agricultural or industrial products
7. Chika Ezeanya-Esiobu's East African home
8. In Rwanda, some of the focus has been on helping rural women recover the old methods of making this type of wine
10. A technique that involves applying controlled amounts of water to plants at specific intervals