How a 'Miracle' Biofuel Plant Ruined Kenyan Farmers

By NICK WADHAMS / KIBWEZI – Sun Oct 4, 5:50 pm ET

Everyone in Kibwezi, a village in southeastern Kenya parched by four years of drought, remembers the promises. It all started in 2000, when the government started preaching the word about a plant called jatropha curcas. That surprised people in Kibwezi because everyone already knew about Jatropha - it's a weed. Sometimes people planted it to fence off their farms, but usually they just ignored it.

The government told the farmers, however, that jatropha seeds can be pressed to make biofuel and that scientists believed the plant's seeds contained more oil than other biofuel crops. Even better, the government said, jatropha needed little tending. All you had to do was stick it in the ground and watch it grow. Best of all for Kibwezi, a place that's frequently stricken by drought, scientists believed that the plant thrived on arid land. Convinced they could reap large profits from the plant in the global craze for alternative energy sources, hundreds of farmers turned over acres of their small farms to jatropha. But it didn't take them long to realize what scientists have come to realize in recent months: what was once touted as a miracle plant that needed almost no water has turned out to be anything but that. (See pictures of a global food crisis.)

Peter Munyao, a village elder, is one of the farmers who experimented with the new crop. He planted jatropha in 2006 and encouraged other farmers to follow his lead. But today, the plants on his farm have all dried up and lost their seeds and leaves. "The people who did the promotion for jatropha had not done [their] research ... because we have realized that the crop is getting moisture stress just like any other crop," he says. A study published in June in the Proceedings of the National Academy of Sciences, a Washington-based scientific journal, found that jatropha actually requires more water per liter of biofuel produced than most other biofuel plants. That's bad news in Kenya, a country in the middle of a full-blown food crisis due to the lengthy drought. The World Food Program said in August that 3.8 million Kenyans had been affected by the drought and that malnutrition was on the rise.

Kenya isn't the only country that's gotten caught up in the excitement over jatropha. Last December, an Air New Zealand jet powered by a jatropha/kerosene blend made a successful test flight. China, Brazil and even New Zealand have promoted it heavily, sometimes forcing farmers to plant it. In India, jatropha has been planted on hundreds of thousands of acres of land. But, like the farmers in Kibwezi, farmers in these other countries have also experienced problems growing the plant. In India, for example, a test project at several agricultural colleges produced seed yields of only 200 grams per plant - a fifth the expected output of one kilogram of seeds per plant. (Read: "Biofuel Gone Bad: Burma's Atrophying Jatropha.")

David Newman, who runs the Nairobi-based biofuels consultancy Endelevu Energy, says there have been isolated examples of success growing jatropha. "Occasionally a tree has survived in a marginal area and produces quite a bit of seed with no [agricultural] inputs whatsoever. But there's a difference between that one tree and replicating it thousands of times in the field," he says. The problem with jatropha, scientists say, is that there is no proven, widely disseminated method for growing it properly.

In the absence of reliable information, the farmers in Kenya were fed mistruths about the plant and its biofuel potential by nongovernmental organizations and the government, which got much of their information from the Internet. The farmers said they were persuaded to buy so-called "certified" jatropha seeds, which were said to grow in tough conditions. They were also told they would be given advice on how to plant their fields and that once the plants began to produce seeds, agricultural officials would buy them at prices upwards of 1,000 shillings ($13) per kilogram. Farmers were also told that demand would increase steadily for the oil produced by the seeds. (See pictures of oil.)
The problem is, none of those promises came to be. "It was a combination of international hype and local organizations who were ... selling seeds at very high prices claiming that they were special certified seeds when really they were just seeds collected from old trees in the wild," Newman says. The plants also did not do well in arid conditions. "[The plant] was more fragile, especially in its initial establishment phase, than we thought," says Jan Van den Abeele, executive director for Better Globe Forestry, a Nairobi-based group that studies optimal conditions for planting trees in dry areas. And many farmers had no buyers for their seeds. Some began giving them away to neighbors.

Farmers in Kibwezi quickly realized that they would have to throw out the rulebook to make their crops grow. Boniface Muoki's jatropha plants look like they're doing well - they're covered with thick green leaves and fruit. But Muoki says he did almost nothing the government experts told him to Do - instead, he planted the seedlings in meter-deep holes so that they would collect more rainwater and he tends the plants fastidiously. "It's the farmer who knows best," Muoki says. "At this point, I know more about jatropha than most anyone because it's me who experienced jatropha every day, who has seen how the plant behaves in varied conditions." (Read: "Can Airplanes Fly on Biofuel?")

The problems haven't discouraged other jatropha proponents, either. For several years, Titus Kisavi traveled the region encouraging farmers to grow the plant, earning a commission from development groups for the seeds he sold. These days, however, he doesn't have a job and he spends his afternoons at a bar near Kibwezi. Still, he hasn't given up on the plant. "I have a very big passion for jatropha," Kisavi said. "I visit farmers and tell them to plant it in the hope that one day ... somebody will come to the farms and sign contracts for the seed. We know one day that jatropha will be in very high demand."

See TIME's Pictures of the Week.

See the Cartoons of the Week.

View this article on Time.com

Related Searches: seed yields planting trees and land moisture stress alternative energy sources
How a 'Miracle' Biofuel Plant Ruined Kenyan Farmers - Yahoo! News

A man walks by a giant photograph on a wall of the bank of the River Seine.
AFP/Martin Bureau

10/8/2009

http://news.yahoo.com/s/time/20091004/wl_time/08599192753800