

21st Century Agriculture in Africa

Two American farmers visit Africa
to encourage high school students
to return to the family farm.

by Paige Nelson, field editor



PHOTO BY JACK HOOPES

► Through a micro loan program, this Kenyan single mother was given three hens and a rooster as a business startup. By expanding her flock, she built and furnished her own home. She was even able to afford windows.

Her first trip to Africa was on a humanitarian mission. Basically, she wanted to provide help where she could. Several trips later, Marilyn Clark, an eastern Idaho potato farmer and cattle rancher's daughter, noticed each time she visited, the same problems existed.

African poverty is known worldwide, and it is a difficult obstacle to overcome; however, Clark observed the Kenyan and Ugandan people's poverty wasn't something outside money would solve.

"There had to be a way of getting the people [to solve] their own problems. You couldn't just keep coming in with money," she explains. "Being a farm girl, I kept thinking, 'Why are these people starving? I've got to dig a little deeper into what is the root cause of their poverty.'"

Starting at the root

There is no step-by-step guide to solving world hunger and eradicating generations-deep poverty, so Clark, from Alpine, Utah, began her trek with what she had learned from her previous humanitarian trips.

Kenya was under British rule for a long time, she says, so their education is based on a rote memorization system. She concluded that even though the Kenyan children are attending school, they are not really learning to think for themselves. They are memorizing facts to pass tests. The problem is underlined by the students' unwillingness to collaborate and study with each other.

In Kenya, there are few available spots for students to qualify for high school and even fewer opportunities to go on to college.

"They won't help each other because that might mean ... they will get the spot and you won't," says Clark.

She decided to address these problems by starting her own foundation, Inside-Out Learning, <http://www.iolinternational.org/>.

"For the last seven years, we've been working with African educators and U.S. educators and developing an education program to really encourage innovation, teamwork," she states.

Still, Clark wanted to dig deeper into the root issue at hand — malnutrition.

"Food is the basis of any society," she asserts. "If you're going to grow and expand a society, you have to be able to feed your people. If you are dependent on another source, they can control you."

Growing up in agriculture had given Clark a different perspective than many of her fellow humanitarians. She says the stimulus for her thinking was based on seeing fruit drop on the ground and rot because there was excess in one season, followed by hunger the next.

"Having grown up in an environment where we have a limited growing season in Idaho, the farmers have learned to adjust," says Clark. "I think that gave me an advantage [telling the African people] you must use your resources when they are available to you, and find a way to store them [for] when they're not."

Aside from malnutrition, she found that the sons and daughters of subsistence farmers weren't coming back to the farm.

"A lot of the youth think they can go to Nairobi and get good-paying jobs, and most of them are going there and finding there is no work for them," says Jack Hoopes, a fellow humanitarian and retired potato farmer from Idaho Falls, Idaho.

"The result is overcrowded slums, crime, drug addiction and hopelessness," states Clark. "They have a worse lifestyle; but, by then, they don't want to come back to their village and be ashamed. It's just a complicated cultural thing."

The Africans' perception of agriculture is part of the problem, Clark says. Under local Kenyan leadership and request, Clark invited her brother Lee Miller, a commercial-Angus rancher and potato farmer from Parker, Idaho, and her friends Jack and Lorna Hoopes to travel with her to Africa.

The group visited Kenya and Uganda in June 2014 for two and half weeks.



PHOTOS BY PAIGE NELSON

▶ Jack and Lorna Hoopes are retired potato farmers from Idaho Falls, Idaho. In 2014 they traveled to Kenya and Uganda to participate in humanitarian work and to promote agriculture as a sustainable way of life for the African people.

▶ A commercial-Angus rancher and crop farmer, Lee Miller was invited by his sister, Marilynn Clark, and local Kenyan leaders to join the Inside-Out Learning foundation in encouraging Kenyan high school students to work toward developing a better life for farmers in their country.

The Kenyan situation

Living conditions in Kenya, explains Clark, are diverse. In the cities the majority of the homes will have electricity. In the rural areas things are still quite primitive. The small villages are not likely to have electricity or running water.

“A typical home would be a cinder-block home. It could have a cement floor and two or three rooms,” she describes. The people must boil water for safe drinking water, as there are few wells.

“We’ve spent quite a bit of time in Bolivia as service missionaries for our church, so we were used to the poverty of the Third World, and so much of Kenya reminded us of South America. Lorna and I were both shocked at how few material possessions the Kenyan people had,” Jack explains.

For Miller, the poverty in Kenya came down to a tin roof. When farmers have a good year and make a profit, they put a tin roof on their home, he explains. When they have a crop failure, they sell the tin to buy food to feed their family.

Kenyan agriculture

Maize, or corn, is the country’s staple crop, says Clark. They also grow beans, potatoes and small amounts of other crops. Livestock is a measure of wealth and social status. They



PHOTO BY JACK HOOPES

▶ Most farming in Kenya is done by hand. There are few tractors or draft animals. In an effort to clear his field of the damaging *Striga* weed, using a hoe, this farmer tilled his ground 1-foot in depth.

have cattle, chickens, pigs and goats. West Kenya borders Lake Victoria, so fishing for tilapia is a large industry on that side of the country.

Kenya has basically two seasons: dry and rainy, Clark shares. If they get too much rain, seed and crops are washed out. During the dry season, there’s not enough water.

Crops. “Farming is on the most basic level in Africa,” Miller describes. “They use no machinery of any sort on most of the small acreages (one to two acres).”

The result is a survivalist mentality.

“They realize they have to grow enough food first for themselves, and then they can sell any of the excess,” he explains. “They know if they don’t raise enough for themselves that they may in fact starve, so every family, every tribe [is] involved in small-level agriculture.”

Miller says they plant their beans right in with the corn. The beans, being a legume, can provide nitrogen for the corn. If they have access to livestock they will spread the manure on their fields, but those are the only sources of fertilizer to which the local farmers have access.

Livestock. The cattle he saw as “really poor-looking,” Miller

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Africa University: College of Agriculture

It was amazing to see to whom Lee Miller and Jack Hoopes were able to speak at the universities they visited, says Marilynn Clark, founder and executive director of Inside-Out Learning, a teaching effort focused on introducing African teachers to collaborative, interactive teaching methods.

“Kenyans are really into credentials,” she explains. “If you don’t have the right credentials, you don’t meet with these college deans and presidents.”

Visiting Kenya and Uganda with Inside-Out Learning, Miller, an Angus rancher and farmer from Parker, Idaho, and Hoopes, a retired potato farmer from Idaho Falls, Idaho, were on assignment to encourage high-school-age students to be proud of their agriculture heritage, and someday return to the family farm, rather than leave for city life.

In the midst of traveling from school to school, Hoopes and Miller often stopped at agriculture universities. They met and visited with agriculture professors, department chairs, college deans and on one occasion even sat for tea and crumpets with a university president.

Each university’s agriculture focus was all over the board, Hoopes asserts. Some were geared toward large commercial-size farming interests and bringing in foreign money, which Hoopes and Miller agree doesn’t help the local people because the revenue doesn’t stay in the country.

Other universities focused more on local, subsistence farmers. A few even had programs similar to the U.S. land-grant university extension system.

“They had one day a week where all the farmers could come in and ask any questions and get any help they wanted on things,” says Hoopes.

“I’m sure all of them are doing some good, but there were some that were doing a lot better than others. I felt they were really reaching the individual farms,” he adds.

Coming from a country where the average American is several generations removed from the family farm, Miller was surprised to learn that in Kenya the family farm connection is strong.

“Even when we were in colleges and talking to deans and professors of agriculture and other highly educated people, they all had a connection to that little farm back home that mom and dad or grandma and grandpa still farm, that one or two acres that they still work so hard to produce something from.

“The survivalist mentality goes all the way to the top,” he explains.

“Food is the basis of any society.”

— Marilynn Clark

► **Right:** According to Jack Hoopes, women in Kenya will form group banks. Together they pool money and lend to a member to make an investment in her business, like purchasing a cow. She then will pay the bank back with interest. “It is just amazing how well that is working,” says Hoopes.



PHOTOS BY JACK HOOPES

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describes. “They look like genetically they’ve been interbred for so long that they are dwarfed. Their milk cows look like they give very little milk.”

Kenyans use two management systems for their cattle: zero grazing and halter grazing, Miller says. There is little open land, but because of the climate, the grass grows quickly. Zero-grazed cows are fed chopped grass in confinement. Each day the farmer hand-cuts enough grass for a day’s worth of feed.

Other farmers will lead their cows along roadsides, letting their cattle graze throughout the day. At night they are brought home and tied.

According to Miller, ag in Africa is based on protein, but protein rarely comes from meat. Eggs are gathered from chickens, and goats and cows are milked. Seldom would they ever eat their cows or other livestock.

Pests. In some areas, says Miller, venomous snakes are a problem for the locals. They kill them when they can, but mostly just have to be careful. Insects can also be a devastating problem. Regionally, the *Striga hermonthica* weed ravages corn crops each year.

“It is a deep-rooted weed, and it comes up and wraps itself around the cornstalk and eventually chokes it to death,” he explains. “Some fields will be taken over by that weed to where they can’t grow corn, and if they can’t grow corn, sometimes that ground will go barren. They won’t even plant it.”

A warm reception

As American farmers, Jack and Miller were invited to schools to visit with the students about agriculture. They also met with several farmers’ groups to discuss farming methods.

“We were almost on a celebrity status with the people,” states Miller. He says when he and Jack would be introduced, they would say, “Here are two American farmers, who came clear from America with their own money and have come to our village to see if they could help us with our farming.”

Jack adds, “They are very kind, kind people. I was shocked in going into their homes and things, for having dirt floors and having come from the situations they come from, how clean they were. We couldn’t have been treated nicer. On Sundays, at church, whatever dress they had, it was always clean and colorful.”



► The American farmers were always greeted with bright smiles from the students they visited. On several occasions, elementary and/or high school students would welcome their visitors by singing to them.

Promoting ag at school

While in Kenya and Uganda, Jack and Miller visited 13 different high schools.

“Jack and Lee spent time meeting with the high school students and telling them there is a future for you. Learn your science, learn your engineering, but apply it to your agriculture. They represented not only farmers, but Americans in an excellent way,” states Clark.

“Our main purpose was to encourage kids that there is value and to be proud of being a farmer,” Jack explains.

Listening to the American farmers was an eye-opener for the students, says Clark. They didn’t realize farmers could be financially successful. They thought farmers were on the lowest economic level.

Conversely, for the Americans it was revelation to see just how close agriculture is to the people’s very existence.

At one school assembly, Jack recounts the man introducing them said, “Agriculture is really important. It’s important that we have enough to eat. I know some of you go to bed hungry at night.”

Notes Jack, “I could see by the looks on some of their faces, and I could tell who he was talking about. That did affect me.”

Miller says, “We found in the schools, all the kids want to leave the farm. It’s all manual labor. It’s all hoeing, weeding and planting. It’s just so physical. No one wants to go back to a small acreage and do that.”

► **Right:** Because many of the Kenyans are subsistence farmers, success in agriculture is truly a matter of life or death. Everyone helps on the family farm.

Together Jack and Miller tried to share ideas about forming a cooperative. They suggested working within the tribe to allocate different crops to different families and then share the harvest, rather than each growing the same staple crops. They encouraged rotating crops and working collectively — Inside-Out Learning style — to pool money to move toward mechanized farming.

“The problem they had was . . . goes back to that survivalist mentality. They don’t trust their neighbor to share the food with them, so they’re really reluctant to want to do anything like that,” says Miller.

The farmers found more success in encouraging the kids to

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Since Africa

Visiting Africa for Jack and Lorna Hoopes, retired farmers, and Lee Miller, Angus rancher and farmer, opened new opportunities for service. During the 2014 Christmas season, their families and friends pooled a \$1,200 gift to send to Kenya.

“A lot of these schools that we went to didn’t even have clean drinking water,” says Jack.

“The students are required to walk to the river for water. Many are bitten by snakes, causing illness or death,” states Marilyn Clark, founder and executive director of Inside-Out Learning.

“For about \$1,200, a water tank to collect rainwater can be purchased. Nobody can change their lives overnight, but they can at least go to school and get clean water to drink and have a decent meal during the day,” Jack explains. “That’s just a tiny little thing that you can do. Those people are just so grateful for any little thing that they’ve got. What a great people!”

For Miller, African agriculture has become a management tool.

He says, “Occasionally I’ll be doing something and ask myself, ‘Am I doing as much as I should? Am I taking care of my farm and ranch as well as a Kenyan farmer would be taking care of his land and his livestock?’ because I know they would take the very best care of it they could.

“Sometimes, because of the affluent occupation agriculture has become for me,” he continues, “it’s easy to neglect some of those basic things, so I remind myself often to be a better steward of what I have.”



► Seeing a tractor was rare for Jack and Miller. However, there are some large commercial farms in Kenya that are operated by either universities or foreign corporations.

“Sometimes we would just talk as farmers and just look at crops and talk about this or that.”

— Lee Miller

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get an education and work to change Kenya from the top down. Government taxation has proven to stifle agricultural growth. Miller reports inputs like fertilizer and seed are taxed at 20%.

“We encouraged the young people to study political science and to go into law and use those degrees to come back and help change the mentality of government to support a farmer,” he states.

African farmers

The Americans traveled the countryside and met with several groups of farmers. Everyone spoke English, so there wasn’t a language issue, but there was a viewpoint roadblock.

The African farmers were thirsty for advice regarding their farming techniques. With highly mechanized farming backgrounds, Miller and Jack found it difficult to give the Africans helpful information.

“We didn’t tell these local farmers anything. They knew what they were doing. With what tools they had, there was nothing that we could share with them that would help them,” reports Miller.

“We tried to show them methods they could use rather than make them feel so totally discouraged because we would do things so differently,” Jack says.

For instance, where the Americans would use chemicals and mechanization, the Africans use manual labor.

Miller remembers one farmer so intent on ridding his land of the *Striga* weed that he used a 6-inch hoe to till his ground down a foot in depth.

“Just the amount of work that would have meant to do is incredible,” Miller remarks.

However, the Americans did their best to share simple ideas about tillage techniques, rotating crops and using water-saving methods. The Africans, says Miller, are afraid of any type of genetically modified organism (GMO), which prevents them from using Roundup-Ready crops, which could make such a difference for them.

The atmosphere was a relaxed one as the Kenyan people introduced the Americans to a not-so-foreign way of life.

“Most of the time I felt like I was the undereducated one, and that I was the one that probably could learn more than them,” Miller notes. “It was a humbling experience for me to meet these good people and listen to their concerns and talk about anything that could help them.”

Clark says, above all, Miller and Jack were able to open a window of opportunity for hope for the African people they visited. Jack and Lee showed the Africans there is a way, a life-changing way, but they need to work together to accomplish the goals before them, she says.

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Editor’s Note: Paige Nelson is a freelance writer and cattlemaster from Rigby, Idaho.



► Miller and Jack visited with several farmers, offering any advice they could.