

# Sowing The Seeds For A Future

## Nebraska Ag Educator Talks Of Teaching Farming Techniques In Afghanistan

BY RITA BRHEL  
P&D Correspondent

It's a world away, or at least it seems like it.

Afghanistan conjures images of barren stretches of land where farmers struggle to grow enough food to feed their families, let alone sell for a profit. But it wasn't always this way.

"Grapes were a huge crop in Afghanistan," said Vaughn Hammond, a small fruits and vegetables Extension educator with the University of Nebraska's Kimmel Education and Research Center in Nebraska City, Neb. "At one point, they were famous for their grape production."

Before the Soviet Union's invasion in 1979, Afghanistan was an agricultural heart of the Middle East. But decades of war reduced the nation to poverty and corruption, and much of the knowledge and skills of former generations was lost in the midst.

"So many farmers didn't survive," Hammond said. "Their art of taking care of the land and producing food was not passed down to their children."

While the United States' invasion was meant to exact revenge on the Taliban for the 9/11 attacks, it also serves as an opportunity to free the Afghan people of this legacy through humanitarian efforts, such as the 58-member Nebraska National Guard Agribusiness Development Team (ADT-2), which worked to empower the Afghan people to take back their agricultural roots. Hammond, an University of Nebraska-Lincoln Extension educator, spent nine months between 2011 and 2012 on the ground with the team — as a civilian — collaborating with ADT-2 agricultural development projects 11 hours a day, seven days a week, to do just that.

"This is one more step in helping the world meet food and fiber needs of the future," said Elbert Dickey, director of UNL Extension in Lincoln, Neb. "The dream is that Afghanistan will redevelop its agriculture, eventually returning to a food-exporting country."

Afghanistan is situated between several former Soviet Union nations, Pakistan, Iran, and a bit of China. Most of ADT-2's time was spent in Paktya, one of 34 provinces in Afghanistan, located in the eastern portion of the country and whose capital is Gardez.

"It's all farm ground out here, and it's very, very desolate," Hammond said.

### ABOUT THE REGION

Paktya is the third-poorest of Afghanistan's provinces, he said. Compounding its war-torn history is a culture of secrecy and suspicion, distrusting and broken tribal relationships, stifling and corrupt government, utter lack of technology, and simply the challenges of living in a rural environment. Paktya's wealth is in water, thanks to the annual snowmelt; however, there is no way to channel it to where it needs to go, Hammond said.

"It's back in the Stone Age," he added. "They're using hand tools. The typical farmer's primary tool is his shovel. There is limited electricity — everyone has a cell phone, go figure, but no refrigerators. There are no freezers, so when they butcher an animal, they do it outside in the back and cut off a slab of meat for you."

The average farmer in Paktya tends one-half to one acre of land, to support a family of seven, producing an annual income of just \$700. Because this is not enough for a family to live on, the rest of the family's income must either come from an off-farm job or, more likely, from government assistance. Nothing is stored beyond the first year — any food grown is used first by the family, second for the livestock, third as a seed source for the next year's crop, and finally, anything leftover is sold. There rarely is, Hammond said.

Each plot of land is called a jirib and is surrounded by an 18-inch earth berm that's been in place for sometimes hundreds of years. To irrigate the crop, the farmer digs a channel from a nearby water ditch and waits for the water to flood the jirib, usually two or three days, before blocking the canal again by hand. Some areas have better water flow than others, but there are no water-pumping systems to transport water evenly.

"The way of farming is completely backward here," Hammond said.

To get an idea of how rural Afghanistan changed after 1979, Hammond said the Paktya area used to be covered with trees but the people needed firewood and livestock feed and all that is left is a dusty landscape prone to wind and water erosion.

"There is very little vegetation," he said. "One of the biggest hazards is flooding, which is the direct result of the deforestation of the mountain regions."

Evidence of Afghanistan's agricultural past is everywhere, from jiribs shaped as they were when today's farmers' ancestors first formed them to centuries-old terracing. There is also a nomadic tribe called the Kuchi, who live in tents and move according to available grazing as they have done throughout history. However, because there are no fences in Afghanistan, the Kuchi are often in bitter disputes with local tribes when their sheep and goats graze their crops. Also, the Kuchi severely overgraze the vegetation before moving on, increasing erosion and reducing soil quality. What's left is a high plains desert, Hammond said.

"It's very dry, very rocky," he added. "The nomadic tribes will graze until it's just nubs there. They're very hard on the land."

Yet, at the same time, the Afghan people are attuned to their weather so much that they can predict the forecast, without technology, nearly always without mistake. And they unequivocally prefer organic agricultural techniques, refusing any benefit from pesticides in the name of healthier food.

"Afghans are very untrusting of society and other Afghans," Hammond said. They live communally in family groups.

### THE MISSION

ADT-2's mission was based from the U.S. military's Forward Operating Base in Gardez and any time they left the base to visit local projects, it was ran like a military operation. ADT-2 was required to give a notice of any impending trips off the base well in advance, to give time for the military intelligence to prepare. ADT-2 also worked with local Afghans who served as interpreters.

The military situation presented another obstacle in helping local farmers: the risk of attracting insurgent attention. To counter this, ADT-2 couldn't coordinate a specific day or time to visit a farm site but instead, once obtaining permission from the local farmer or official, could only give a two-week window. Sometime during those two weeks, ADT-2 would drop in for a visit and could only stay at most 45 minutes, so the insurgents wouldn't have time to plan an attack, Hammond said.

ADT-2's main role was to mentor government officials and local educators in agricultural production. Some of the projects that Hammond partook in were the develop-



PHOTO: VAUGHN HAMMOND  
Nebraska Ag Educator Vaughn Hammond took this photo of typical Afghan farmers, one of them armed with a shovel. Decades have war have left the nation's agricultural industry in ruins.

ment of a research farm, acquiring library books and teaching charts, building greenhouses, and creating farmers' associations. Much of ADT-2's effort was in navigating the government's chain of command.

"Twenty-five percent of the gross national income is through corruption, and all levels of the government are corrupt," Hammond said. "It's a very controlling country and government. Every move by anyone had to be okayed and fingerprinted by the government official in charge."

An example was working with the Paktya University, a four-building campus with 3,000 students whose classes were held outside and where cheating is an acceptable way of life, Hammond said.

"What they consider a university and what we consider a university are two completely different things," he said. "It was a large challenge for us. All they wanted was, 'What can you do for us? What can you give us?' They had a long history of a lot of corruption."

Not only that, but while the students seemed to enjoy ADT-2's presence so they could practice their English, many of the students also had allegiances with the Taliban and would make threatening moves toward the team.

"There were some tense moments there," Hammond said.

The research plots at the University were small, sorry-looking plots of crops growing on rocky scrub brush. The research director, who had earned his PhD in India, was from a different tribe than the university administration and therefore could secure little funding for his projects, although he was proud for what he could accomplish, Hammond said.

"It was just a very stifling educational system," he added.

A unique function Hammond helped with throughout the

province, with both farmers and officials, was teaching how to plan. He spent much time teaching the Afghan people about the purpose of goals and how to plan one week out, then one month, one year, and finally five years.

"They would look at me and ask, 'Why do you worry about this? You are almost dead,' and I'm not that old," Hammond said. "That was just the view they had."

Afghan farmers are not the easiest people to work with. For one, their lack of technology makes any training program have to start at the very basics. For another, "they are a very argumentative people. They want to do it their own way but have no knowledge of how to do it," Hammond said, adding that the Afghan people usually had to fail first before accepting help.

### SUCCESSES

Despite these challenges, there were golden moments for ADT-2. On one demonstration farm, there was a greenhouse building but no one had the knowledge of how to use it, and Hammond said it was exciting to see the greenhouse go from an empty building to beds of vegetables and fruits. At this same farm, ADT-2 installed a well and established an orchard.

ADT-2 received monthly funding to split between multiple projects. Every project funded — from bringing in seed corn and soybeans to providing a wheat seeder to planting an apple nursery — was selected from project proposals written by an Afghan local. Another function that Hammond served was to "unlearn" the culturally accepted cheating and plagiarism that was rampant in the proposals.

A most memorable project was helping a local Afghan obtain a crop sprayer.

"This small sprayer is nothing

compared to what we have here, but the Afghan who got it was regarded as a hero," Hammond said. "For us, you get a sprayer down at the local farm store. For them, it's a monumental task."

Another project where the team saw great success was in beekeeping. It is common practice there for the Afghan people to house their hives behind a false ceiling in their homes. However, while Colony Collapse Disorder is less common in Afghanistan as in the United States, there was a major problem with varroa mites, which can cause huge bee deaths. Beekeepers were very receptive to ways of controlling this pest.

"Producing honey and beekeeping are one of the shining stars in Paktya," Hammond said.

The Afghan people also take great pride in their livestock, mostly asses, camels, goats, and sheep and a few cattle.

"A dairy herd is a loose term. Having three cows means you're very, very wealthy," Hammond said.

One of the ADT-2 projects was giving out American hand shears to Afghan shepherds. The non-electric, giant metal scissors were considered high-tech by the Afghan people, Hammond said.

Greenhouses and poultry businesses serve as a haven for Afghan women who are often downtrodden, although ADT-2 training was challenging as they had to arrange for a female trainer. Afghan women are not allowed to gain an education, so it was exceptionally difficult to find women with the experience to train other women. Hammond talked about using a green cover on part of a greenhouse, under which the cucumbers thrived: "It took a lot of time for the women to figure out why some cucumbers were dying and other not, and it was because of the green mesh shading. I'm still not sure if they were convinced," he said.

### THE GOAL

Growing crocus — the spring flower — for saffron, a bitter food seasoning valued close to what opium can be sold for, is another crop with a promising future.

"This is what the Afghan government hopes is going to transform Afghanistan from being an opiate-producing nation to an agricultural nation," Hammond said, adding that 60 percent of Afghan crops are currently considered illicit. While substance abuse is considered a sin in the Muslim faith, on which Afghanistan is founded, opiates are an income so it's difficult to persuade farmers to grow something else. However, during his time there, "Paktya was afforded a \$20 million award for not having any opium," Hammond said. "Paktya has not been an opium-producing province in several years."

### Opinion

## The Drought Hitting Sheep Producers Hard

BY RITA BRHEL  
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It was a needed, though a bit of a depressing, speech of what happened to the lamb prices over the last six months. It was a reality check, and it felt like a ton of bricks falling on our heads. But at least we now know, right?

Last week, I attended the 2012 Nebraska Sheep and Goat Conference at Wahoo. There, Mike Caskey from the Minnesota West Community and Technical College in Pipestone, Minn., an industry leader whose curriculum has educated and influenced producers from around the world, spoke on just what is going on with the sheep industry.

A year ago, we sold our fat lambs for nearly \$2 a pound. The American sheep industry was on a roll. The national industry leaders even launched a campaign encouraging producers to expand their farm flocks. Called the "Two Plus" program, the idea was for producers to add two head per hundred ewes to their flocks every year in order to keep up with the rising demand for lamb domestically among mostly ethnic markets as well as high-end markets, with the hopes of decreasing the need for the U.S. to import as much lamb as it does from industry rivals, especially Australia.

Producers were quite optimistic. Then, the drought began. And pas-



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ture quality plummeted, hay became scarce, and feed costs rose exponentially. Producers began to flood the domestic market with any available animal they had, because they simply didn't have the forage or grain to feed them. What went to the slaughter houses was of much lower quality than consumers were accustomed to and demand went down, so much so that the U.S. federal government ended up buying up almost all of the lamb to keep the lamb market afloat. It kept the industry infrastructure in place, but prices have bottomed-out. This fall, we sold our fat lambs for 70 cents a pound and that was pretty good compared to most of the lambs at the sale barn that day. But, it's only because we do not grain finish — they're pulled off their pasture-only mamas on the day of the sale — that we were able to make a teeny smidge of a profit.

According to Caskey, the only way lamb producers can hope they will make money in 2013 is if they get a 200 percent lamb crop, meaning every ewe has two lambs, and

those lambs have a feed efficiency of one pound gained for every three pounds of feed. In addition, lambs need to be finished out to 120 pounds and the ewe feed cost must be kept very low, up to \$105 at most. That's dicey with corn prices going the way they're going. I don't know how many producers will be able to follow that formula.

I like sheep, I do. I grew up on a sheep ranch. Sheep are in my blood. But I have to admit that while they get astounding prices some years, other years are downright dismal, and the volatility of the market is making me second-guess the use of our pastures. I want some sort of money-making animal out there, because we have the grass so we might as well use it to our advantage. But I just don't know if sheep are the right pick.

Cows are out, because we don't have enough acreage to make that profitable. So, we're back to considering goats. We tried dairy goats for a couple years, but neither of us

have time to milk and the kid goats just don't bring on the prices like meat goats, even when at the same weight. They're good-natured and make great pets, but not great money-makers. But, meat goats — now, these might be worth a second look. From what I can tell, their market value is consistently good year after year.

We still have our sheep, and we don't have immediate plans for buying meat goats, but it's something to consider. Change is something we all have to consider, whether we're raising sheep or cattle or crops. If climate change is behind this drought, we may be in for a long-lasting change in weather and pasture quality and water availability. We might, unbeknownst to us, be at the intersection of history where the agricultural landscape as we know it is about to transform into something completely different in order to keep up with nature's mood, which is apparently dry and humorless.

### '12 Field Crop Results Now Available

BROOKINGS — South Dakota State University crop performance trial results are now available at [www.iGrow.org](http://www.iGrow.org).

"This is valuable information for South Dakota's farmers as they order seed for the 2013 growing season," said Nathan Mueller, SDSU Extension Agronomist.

SDSU crop performance testing results are released annually through the activities of SDSU Extension and the South Dakota Agricultural Experiment Station. Growers can contact an agronomy field specialist at their local SDSU Extension Regional Center with any questions regarding the performance trial results.

Mueller can be reached at [Nathan.Mueller@sdstate.edu](mailto:Nathan.Mueller@sdstate.edu).

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