

Local Food Systems¹ can be resilient anywhere: the case of Searcy County, Arkansas

Introduction

Resilient local food systems have originated in the most unlikely places—even a poor rural county deep in the Ozarks. Examination of social ecological resilience of one such system illustrates the factors which have led to a lasting network of farms, processing systems and marketing systems which are transforming the lives of rural and urban residents stretching across Arkansas.

Introduction to Searcy County. To live surrounded by serene pastoral beauty with no access to fresh, healthy food is the fate of many rural Americans. Searcy County, Arkansas, has been well-known mostly for being poor and scenic since it was first established in 1835. Located in the highest part of the Ozarks (the Boston Mountains), the remote beauty of the region is accompanied by less attractive aspects: poverty accompanied by corruption. The poorest people in the county have often raised cash by selling their votes. Estimates are that as many as a third of the votes in a general election were paid for in Searcy County.² One legal suit did result in a consent decree admitting to the pervasive and ingrained corruption while denying personal culpability. In other words, no one was convicted of anything. As in many places in the world, corruption and poverty are commonly found together. In Searcy County and adjacent regions of Van Buren County this is certainly true historically. Searcy County as a whole had a 2010 poverty rate of 23.7%; in some census tracts all but a few retirees are below the poverty line.

Most youth who find work find it outside the county borders in bigger cities to the South (Conway, Little Rock), West (Fayetteville) and North (Harrison and Springfield, Missouri).

Searcy County youth who choose not to migrate to big cities can apply for one of the few openings as timber cutters, seasonal cashiers in tourist shops or canoe haulers. A few become rock haulers. The main gainful occupations of Searcy County residents are cattle farming, timber-cutting and crude wood products. Since the Buffalo National River was established on the northern border of the county, some seasonal jobs and income have been provided through canoe rentals, cabins and sales of tourist food and supplies.

Viable businesses outside tourism and timber are rare. One of the partners in this project (Falling Sky Farm) has a new processing facility which recently received the ultimate compliment for a Searcy County business: “It’s as nice as a canoe rental place.” This has not always been the case. Searcy County has a long history of production of high quality food due to its unique soils and climate. Searcy County was known as the strawberry capitol of the world shipping thousands of tons of strawberries every year through Flintrock Strawberry Growers Association. Competition from industrial strawberry producers in states with abundant migrant

¹ Systems is used in the sense of holistic systems (Smuts, Savory) and dynamic systems (Bertalanffy, Prigogine) and complex adaptive systems (Gell-Mann, http://tuvalu.santafe.edu/~mgm/Site/Publications_files/MGM%20113.pdf) as opposed to reductionistic systems theory.

² Glaze, T., 2011. *Waiting for the Cemetery Vote*. University of Arkansas Press.

labor caused a slow decline in strawberry production until even the annual Strawberry Festival was discontinued in the mid-1980s. The last glass bottle dairy in Arkansas was also located in Searcy County, but is now closed.

The poverty and isolation of Searcy County has resulted in a severe food desert. Residents of Searcy County must travel a minimum of 75 minutes to the closest grocery selling fresh local food. Many residents live an hour or more from the any sort of grocery store. One store in the county does sell fresh vegetables. However, nearly all the produce is imported from California, Florida or Mexico and tastes pitiful like all produce bred to be shipped thousands of miles. As in most food deserts, other stores selling food offer far fewer choices of fresh vegetables and fruit. Except for the one grocery store, all other retail food outlets in Searcy County are convenience stores attached to gas stations. Our visits to these have found no fresh fruits or vegetables—not a single apple, cucumber, or tomato.

Even healthy foods with longer storage life, such as apples, high-fiber bread, eggs and smoked turkey are only available in one store in Searcy County. It's far easier to find a bag of chips and a bottle of soda than fresh broccoli or blueberries—even though some of the best broccoli and blueberries in the state are grown by Searcy County growers.

The good news in Searcy County is that dedication to agriculture and appreciation of the taste and quality of locally grown produce continue among most of the people. A statewide school garden program chose Searcy County as a demonstration site and Searcy County government is continuing to support the program as the grant-funded program ends. Due to their dedication to farming, a number of families produce food in abundance but most have difficulty finding markets. Some have established successful food businesses but only by marketing outside this rural county with few retail outlets for fresh local food. One of the most successful and a partner in this project is the LC. Ratchford family. Descendants of strawberry growers and one of the few still growing strawberries, the family now also has home-grown buffalo, elk and beef products in over 750 stores in four states—all within 100 miles of Searcy County.

The founders of Falling Sky Farm (Andrea Todt and Cody Hopkins) have established one of the first on-line farmers markets in the nation. This business has helped 35 local growers, including L.C., find markets for their produce without having to spend the long hours needed to sell at traditional farmers markets in urban areas. The on-line market has been coordinated by Sandra Leyva who has since expanded into a storefront to provide even more access to healthy food from local farmers.

In places such as Searcy County, farming is still a valued profession, families have not lost their skills in food production and youth are still motivated to work in farming and food production. When married to flexible, innovative marketing and processing systems and leavened by appropriate technical innovation, such rural communities can catalyze resilient food system change far beyond their borders. Following is the story of one such community told by the participants managing key components of the system.

Pioneer family resurrects food system.

L.C. Ratchfords family has been in Searcy county since the area was first settled. During the civil war his great-grandfather William Thomas Ratchford left the state of Georgia as General Sherman gave instruction that if anyone headed out of the city they were to be shot on

sight. William Ratchford and his step-brother took their herd of cattle and headed out. Searcy County is where they finally settled. The land was cheap, and easy to homestead, so the family began to create a new life. At the time no one was around to survey, so the method was to count steps. However many steps equaled 100 acres, or, from that oak tree to that hilltop because it was practically free land at the time. Their family has been working different parts of the land since they arrived, and at one time were the largest tomato producers in the area. His father was one of the largest strawberry producers in Arkansas from the 1950's through the late 60's. At that time Searcy County was the nation's largest producer of strawberries, shipping them out by rail to all parts of the country.

We met L.C. Ratchford at his cabin in Morning Star in Searcy County, Arkansas. The cabin has a couple of picnic tables out front and looks like a rustic hovel until you get inside. Then you see top end appliances and a spacious kitchen mixed with animal skulls and taxidermy animals. The cabin is occupied during the week by Sandra, an EMT who goes back home on the weekends. She is the one who greets us and makes us feel at home while we wait for LC. LC shows up with a hearty laugh and greetings all round. Laughter punctuates almost every sentence.

While cooking buffalo burgers for us, he starts telling us his story. He tells us he wishes his mother could give the tour, because she was around for the heyday of the family farm. She'd be able to talk about how the Ratchford family cattle have maintained the same bloodline since L.C.'s great grandfather settled. To keep improving the line, they have just bought the best bulls they can find to improve their herd. LC has always worked with cattle and helped with his father's hogs through high school, though his sights were set on buffalo at an early age. As a little kid, he was watching PBS and saw a special on buffalo. He decided "right then and there, I'm gonna have 'em" and from that point on looked for ways to create that future for himself.

At a cousin's graduation he saw some welded steel fence and the idea struck him that welding was a key to making buffalo happen for him. His life plan unfolded then and there. He would earn money welding so that he could afford to buy land, equipment and buffalo. He would weld fence to keep the buffalo in. His immediate thought: "I'm going to be a welder, so I can raise buffalo." He believes that most of the dreams he had when he was younger, he is living today. His first welding classes were in high school shop where during his second year his teacher put him in an extra credit class to help other students learn to weld because he was already so good.

After graduating from high school L.C. became an itinerant welder. His goal was to accumulate and save as much money as he could. And, "that's pretty much how it transpired". As he was raising the money, what propelled him was a love of what he was doing and a "never quit" attitude. Even as he was setting up his buffalo ranch, welding continued to be crucial. All of L.C.'s property is fenced with tall steel fences he welded. Cattle gates of welded steel bars over a pit connect all the pastures so he can drive from field to field, but the animals stay where they are supposed to due to an innate fear of walking over the bars over the pits. L.C. kept welding on the side now and then when the farm was young, but now welds only to fix problems or expand his operation.

He has about 500 acres to work with, and keeps it fertile by bringing in hay from other farms so he doesn't deplete his own fields. He shows conservative flexibility by also using using

some commercial fertilizers and natural lime to help make the manure more available to his grass. L.C. remarks during our interview that his fields are free of rock primarily because it had been plowed by a mule so many times.

With a very financially conservative family, he has never been offered much support, especially since he was the youngest of 6 children, and his father was 50 when he was born. His father, born in the 30's was of the mind that you never knew what tomorrow might bring and so was very stringent with his money. In fact, L.C. says his family laughed at him for leaving his welding business which was bringing in \$2,000-\$3,000 week to turn around and sell jerky.

L.C.'s buffalo career began by selling hamburger meat in Mountain View, Bulls Shoals, Marshall and other cities in Arkansas, but wasn't making the kind of profit he was looking for. As he was driving from city to city though he was seeing all these stores in between, and that's when it occurred to him to sell jerky. At a national Bison Association meeting after trying some samples of jerky, he decided to begin connecting the dots between the cities by offering his products to canoe rental places, and smaller stores. Soon he began talking to chains and landed a larger network of chain stores. Upon investigation though, he had an unforeseen obstacle when visiting the markets. Apparently sometime in the recent past, another buffalo jerky seller had gone through and ended up ripping people off. So, L.C. has worked hard, with a now positive outcome, to change the minds of the storekeepers to sell his jerky. He feels that the best thing he has done is to live by the principle of treating people like he wants to be treated. One way he does this is by giving jerky to the people behind the counter. He works at creating positive relationships with the people who own the stores, and the people who work in them. He calls them "frontliners" who are the cheapest advertisement of his jerky, because not only do they tell people about them in the store, they spread the word outside of the workplace as well. He considers this common sense that when you are nice to people, they are nice to you. He did take one semester of business law, but, overall he just uses his own conscious choice and is led by what he refers to as "divine intervention" which he feels he has been his whole life.

L.C. talks about divine intervention, and "the spirit" fairly regularly. He considers his spirituality "fairly simple": he prays, works hard, puts out positive action, positive thought, and with that feels you can do anything. He feels that "the Lord" doesn't give anything, rather that you work hard to get what you want and that it is provided. In his experience there have also been major setbacks that turned out to be the best thing that could have happened, illustrating the resilience concept of periodic transformation following disturbance. The first was when he was storing things in his deep freezer on his carport and decided to have a carpenter friend build a separate building to house his freezers. As it was being built though he was questioning "why am I building such a large building?" and really struggled with the question, and the cost as it was being built. Two years later though, he attests that it was too small for his needs.

Additionally, when the building was being constructed, his contracted carpenter brought in another hand to work on the project. Long haired and tattooed, L.C. didn't care for the look of him and even considered firing not only the new worker, and the original contractor as well. So L.C. asked the tattooed, long haired employee to do some part time work to judge his character a little closer. It was 12 years ago that the man in question, named Tony, began working for him. Tony has been working at the ranch since then, and has proved to be an outstanding employee, and a great friend.

Another time a consultant suggested he advertise on the radio in Little Rock around Valentine's Day, and that he direct the ad towards online sales. L.C. felt some resistance to that and did it anyway with the end result being Tony selling out of meat during a door to door sales run in the area. A route that normally sold around \$1,000 in sales sold nearly \$4,000. To L.C. it's another instance that appeared to be a setback that turn into a magnificent thing that he never expected "You can't look at it as though it's a bad thing".

In the long run he always goes back to "how much do you want it" to determine his actions. At the end of long days welding, sometimes he would need to deliver meat to Yellville, and he would take it despite how exhausted he was. According to L.C. "When you go into business for yourself, the tenacity that has to be there, or else you'll fall on your face."

When asked about the future, he says "I'll run it till it ends". He does have a son, though he doesn't seem to have a lot of interest. The son's mother apparently "is a bad influence on his life" though the boy is only 14, and may change his mind and perception as time passes. Right now L.C. is looking at agro-tourism as an option as he adds more cabins to the property and more species of animals. Being so close to the Buffalo River, he feels that he has good odds at creating a unique resort spot. This route might lead to more ecological redundancy for his system since there is some potential from his great niece to take over the business. L.C. has had 4-H groups, alternative school classes, and church organizations come out to his property to learn about what he's doing. With "everyone wanting to be more green" L.C. sees a great opportunity to showcase his own version of green, and also to continue spreading this sense of community with multiple generations. He loves it when kids get excited, and tell their parents "that's where I saw the goat!" or anything else indicating that the kids really appreciated what they saw, and were impacted. Often, he says, after a tour the chaperones or teachers will call him over and ask for a card wanting to know more about his meat sales. Next thing he knows, there's an order in the next week for someone from a group that came to see his property. Another instance where word of mouth, and being open enough with people ended that they pursue doing business with him. Often these are not large order, but that's not the point for him. The point is that it's working as a sales model to be genuine, open, and generous with people about what he's doing, and how he's doing it on the farm.

L.C. is at a unique point of expansion where the demand for buffalo is actually too great, and he has had to divert some of the interest in buffalo to his cattle which are all Angus crosses. The buffalo take significantly longer to raise, and are more expensive to house. With cattle, "you can put up some barbed wire fence, and be done with it, but buffalo need a stronger, metal fence or else they will bust loose." The cost for fencing buffalo comes out to "a few dollars a foot".

His co-worker Sandra had just "worked the buffalo" the week before and expressed how much larger, and more intimidating they were compared to the normal cattle. "A full head and shoulders taller" was her remark and she had appreciated being in a metal safe room away from the buffalo. L.C. later talks about how tough the buffalo are in terms of the size of his rifle. When he started he was using a 30-06, a size that most deer hunters never use because its too large, and had to use 7 shots to take down the buffalo. He says "If he (the buffalo) had been charging me, I would have just pissed him off" and he laughs saying that "it's odd to go to work with the buffalo bringing a rifle, and an EMT".

Sandra also recounts accidentally going into the pen with mothers and their young and immediately feeling fear upon finding herself there, and L.C. reports that he “wouldn’t take a new truck to go walking through those woods”. As a rule they aren’t supremely smart, or dumb, but they are very protective of their young. On the other hand, as long as you’re on the other side of the fence Sandra says, they’ll come up to you, and let you pet them or feed them snacks. Interestingly, in the past there was a “buffalo run” on the property that Indians used to get the buffalo to charge them off a cliff. The Indians would grab onto a rope and swing into a cave, but the buffalo would fall to their death. Apparently the guns L.C. has are working well enough they don’t have to resort to that method.

With all the unexpected obstacles he has faced in the past, and in the present, the best model that he has found for dealing with them has been "adapt, adapt, adapt". He is always changing his business model, and strategy to generate the result he's looking for. If it doesn't turn out like he planned, he doesn't consider it a failure, he is just learning how it works. He compares it to Thomas Edison's interviewer who said Edison had failed 900 times in creating the light bulb. Thomas Edison's response was that he never failed, he learned more about how it worked 900 times before he came up with the light bulb. Moreover L.C. says, "it's not how you fall, it's how you get up" and he stresses that if you don't get the result you want, you have to change your method over and over again until you reach your desired goal.

In terms of alternate markets, L.C. seems to have a good grasp on that as well. Right now he has contracted with Mennonite communities in Missouri to grow the elk, and deer that he then processes. He even sells to Hendrix College in Conway. Some of his customers actually come to the farm to pick up their products. Customer pick up is something that over the history of the farm has not always been the case as L.C. was driving everywhere to deliver. L.C. has an incredible amount of diversity including goats, yacks, emus, peacocks, and a number of other exotic animals. He feels that having that kind of diversity is "like a flashing neon light" that interests people and intrigues them. He even offers his diverse products to many markets and is selling through the online website in Conway, AR. A few recent markets have proven to be more profitable than expected. A new store in Conway, The Locals, "shocked" L.C. with the amount that had been sold.

L.C. is enthralled with the nature of local markets, and the idea that a dollar changes hands 7 times on all local sales. For instance, when someone buys local meat from him, he purchases barbed wire from a local partner, this partner then pays an employee, his employee goes to town and buys groceries, the grocery store pays an employee, and the cycle goes on. Bottom line, when money stays in the area it impacts everyone in the city, as well as the tax base, and the whole local market system. Moreover, it creates a community network so that people in a town, or city have an opportunity to get to know one another. This opens doors over time for business relationships that would have never formed if people like L.C. outsourced all of their work. L.C. explains he has had multiple instances where he runs into someone he hasn't seen in a long time and finds out they can do business together. For L.C. it all comes back to being nice to people, and that life is a circle where everything DOES come back to you, especially in small local market systems. He is even considering investing in his local economy. Right now, he is in talks with a local bank about putting some money into another processing plant in AR, since right now he and everyone else has to drive to Romance,

AR or to Missouri. The plant is a ways in the future though while he focuses on the agri-tourism and current markets that keep him busy.

He is also very optimistic about the future of locally raised, grass fed meat in the marketplace. It's definitely a niche market at this point, and he does have to work it, but he sees it being "a major thing" over the next few years. He anticipates that if he, and other farmers like him, could receive grants, and subsidies that the movement would be much faster. He has received a few helpful pieces of legislation from politicians including Missy Erwin Thomas, David Branscomb, Kelly Link, and several others from both major parties. They first helped pass the cottage industry act, second placed a limit on how much a producer can be sued for if an incident does occur, and a third piece that takes a lot of liability off of the farmer by means of placing a kind of warning on the packaging. Once the buyer purchases, there is a clause on the package that states "upon purchase you assume all responsibility for incidents....". This makes it nearly impossible for a buyer to bring a claim against a producer, which makes it a lot easier for ranchers like L.C. to focus on their work instead on protecting their assets against litigation. Many of the laws, L.C. feels, are outdated and create un-needed hassle for many parts of the farming industry, and keep new industries from being created. In general he would like to see some de-regulation, and more common sense practices put into place. He refers back to dollars being traded within a community, and he wonders how many dollars are burned up purely in the transport of food from "certified" processors. L.C.'s thought is that if we could cut out that need to truck food, our whole system would become "greener".

L.C. is pulled away for a few moments to talk with a worker about the barn that's being put in on his property. Upon his return we get onto the subject of another farming couple Cody Hopkins and Andrea Todt who live nearby. When asked what he thinks makes them successful he replies "(they are) Hard workers, highly intelligent" and "They had a plan, but they were flexible".

Before we head out to tour the farm. L.C. asks Sandra, his employee, to grab her rifle in case they come across any of the wild hogs which have become a problem on the property. In fact, her brothers were supposed to come by later that night to build traps in hopes of capturing some. Sandra walks away to grab the rifle, and L.C. comments that he's sure there are other, and better ways to do business. He's also sure there are better ways that he could be doing his business and he's on the lookout with his ear to the ground.

We end our visit with L.C. saying, "What can I do for you?"—reflecting his philosophy, spirit and attitude toward life.

First generation farmer fits in to Searcy County.

Though L.C. comes from one of the oldest families in the area, his philosophy is the same as that of one of the newest farmers. Cody Hopkins and Andrea Todt, the co-owners of Falling Sky Farm, have a list of accomplishments that any beginning farmer would envy:

- In 2006 they began farming by raising 50 chickens and now direct markets meat from more than 10,000 chickens, 400 turkeys, 120 hogs and 15 cows every year.
- In 2008, they received a Wild Gift Fellowship.
- From 2008 to June 2012 Falling Sky Farm has generated \$700,000 in revenue.

- Currently Falling Sky Farm provides full- and part-time employment for 9 individuals in one of Arkansas most economically challenged rural communities.
- Implemented online market place, Conway Locally Grown, that has catalyzed a network of 35 farmers and artisans and resulted in the marketing of over \$500,000 worth of locally grown and made products to 300 families.
- Initiated the Conway Locally Grown Community Fund, a micro-lending fund that has provided \$5000 in micro-loans to the Conway Locally Grown network of farmers and artisans.
- Initiated the Conway Locally Grown Food Pantry Fund that has donated \$10,000 in locally grown food to a local food pantry.
- In 2009 Falling Sky Farm was awarded the Glynwood Institute Wave Of The Future Award.
- In 2012 Falling Sky Farm secured a \$98,500 USDA Planning Grant to do a feasibility study on a cooperatively owned USDA inspected poultry processing facility.
- In 2012 they received the Yoshiyama Young Entrepreneur Award of the Hitachi Foundation in New York. The award goes to young business people whose work helps alleviate domestic poverty. It includes \$40,000, advice and technical assistance and the support of partner investors.
- In 2013 they began organizing a cooperative to serve socially disadvantaged beginning farmers, primarily women, African-Americans and veterans.
- In 2014, the cooperative received a \$200,000 USDA Value-Added Producer Grant to build a processing facility to help all its members succeed as Cody has.

Cody is the public face of Falling Sky Farm, and we've talked to him many times about his systems, but to get beyond his natural salesmanship to understand how his system works, looking at the farm through Andrea's eyes provides the perspective we need. As children growing up in Arkansas, neither Cody nor Andrea thought they'd be living in Arkansas, much less one of the poor, remote Searcy County.

Looking at their farm today, it's hard to understand why anyone wouldn't want to live as they do. They have 250 acres of rolling pasture and forest, open to an enormous blue sky. The property has a huge two story log house, numerous barns, mobile chicken houses, processing facilities and fenced pastures containing chickens, cows, hogs and horses scattered throughout. Andrea greets us. She has high cheekbones and a calm, composed demeanor. We sit down together, and occasionally her two young ones, Sam and Eliza, or the occasional farm helper comes tumbling through, introducing themselves, asking Andrea questions, and then off again in a bustle of energy. Andrea takes this all in stride. She seems at ease, and her responses radiate immense strength and sharp intelligence.

Farm living is not news to Andrea. She grew up on a small subsistence farm herself, the daughter of back-to-the-landers, where she fell in love with horses and began to give riding lessons. Andrea was home-schooled until college where she self-designed a major in outdoor education and became a manager of the student-run equine program. Afterwards, she returned

home to her family and her horses, only planning to stay for a short period of time. That was when she met her future husband, Cody.

Cody got an undergraduate degree in physics, taught physics on the East Coast where he learned teaching in a school was not his cup of tea. He'd worked in restaurants through college and became fascinated with food production. He decided to take a job at Serenity Farm Bakery at Leslie, Arkansas in 2003 near where Andrea grew up. He'd also taken part-time jobs, including one learning to shoe horses and fix fence with Andrea's father. He had been accepted in graduate school when he met and worked with Andrea. After spending the summer together, Cody offered to drive Andrea up to Seattle, where she was planning to visit a friend—skipping out on grad school in the process. It was on that trip that they read *The Omnivore's Dilemma*, by Michael Pollan.

Something about Pollan's account of Polyface Farm in Virginia stuck with Andrea. After the summer ended she went off to an equine internship on the East Coast, which she had landed prior to reading *The Omnivore's Dilemma*. However, this gave her an opportunity to visit Polyface Farm when Cody came to visit. Andrea and Cody loved the area where Andrea had grown up in Arkansas, but didn't see sustainable agriculture happening there.

After returning to Arkansas, Andrea and Cody developed a relationship with their aging neighbor by helping her with the upkeep around her immense property. When Andrea and Cody began to consider buying chickens, the neighbor agreed to let them use her property. Their experimentation with raising chickens grew each year. Not too long after, Andrea was approached by Steve and Holly, some family friends who had raised cattle for many years. They were getting older, and Steve's back trouble had forced them to stop ranching. Their 250 acres of land, once a source of livelihood, had become a burden.

Cody and Andrea agreed to lease the land from them. Though Steve and Holly's property was further away than they would have liked, their chicken enterprise had grown beyond the capacity of their current space. After leasing for a short period, Steve and Holly expressed that they really hoped to sell the land. Andrea and Cody took the gamble and bought it with the help of an outside investor Cody had met in California.

The chicken business expanded rapidly. Their first batch was of 50 chickens, followed by 750 chickens the following year, and a thousand after that. Now, seven years later, they have between 10 and 12 thousand chickens. Along the way, they also collected turkeys, cattle, and hogs.

The rapidity yet stability of their growth is the product of balance. Andrea describes herself to us as the type of person who likes to look before she leaps, consider the possible outcomes and drawbacks, and thinks things through. Cody is a believer in action and impulse. So when it came to a business strategy, Andrea's desire to build up slowly and Cody's instinct to dive right in balanced each other out.

Balance seems to be the running theme in Andrea and Cody's operation. Part of the balance is deciding where to place their energies at any given time. Andrea tells us that, as a farmer, only a third of her everyday work is dedicated to production, because the other two thirds are consumed by marketing and accounting. She wishes she had taken some accounting classes in college, but she works with what she has.

Andrea takes the same approach to the actual ecology of their farm. She takes us on a walking tour of the farm, pointing out the different pieces of the mini-ecosystem they've

created as we go. They transformed Steve and Holly's former dairy barn into a poultry brooder, where chicks stay for two or three weeks until they are relocated onto the chicken tractor, which is essentially a large floorless coop. The chicken tractor is moved every day to evenly disperse chicken waste, which is a rich fertilizer in small doses. Andrea explains that the farm is careful never to move the chickens over the same spot more than twice in a year. "Anything that's left in its spot is a recipe for disaster...if you don't do it right, it can turn into a mess," Andrea says. "It's a fine line between being a fertilizer and being a waste hazard."

Once the broiler chickens fertilize an area, the grass grows better. After the fresh grass comes in, Andrea and Cody bring in the cattle, which devour it. Then they bring in the chickens again. These chickens spread out the cow manure by scratching at it and help break up parasite cycles.

The pigs stay primarily in wooded areas. They can also be out in the pasture, but like all other elements of the farm, they must be moved regularly to maintain the line between beneficial and damaging. Ideally, the pigs and cows are given a savannah-like space. The tree canopy should spread out enough to provide them with protection from the hot glare of the Arkansas sun, but allow space between trees for enough grazing pasture to rise up. They plant rye grass in the woods, since it takes well to shade. At the moment, Falling Sky has about 120 pigs, on four to eight acres at a given time. "It's really exciting to see how it works well when it's going right," Andrea tells us with a smile. "It's all a learning a process, and we're continually learning how to do things, and better ways to do things. We've by no means got it all perfected yet."

Under this philosophy, Falling Sky Farm is constantly evaluating its techniques and experimenting with new ones. Recently they invested in a new hoop coop that can hold up to 400 chickens, whereas the current chicken tractor only holds about 60. They also recently switched from Cornish Cross chickens to "naked neck" chickens, which were developed by a geneticist who works for Peterson hatcheries. The "naked neck" chickens develop their frame before fleshing out, and take about a week longer to grow to their optimal size but have a taste their customers love.

For the time being, Andrea and Cody have decided not to seek any sort of certification for their products. The chickens and hogs get supplemented with GMO-free grain, which according to Andrea is a compromise between the one extreme of organic feed and the other extreme of conventional feed. Organic feed would force them to double their prices. "I'm rather disillusioned with organic anyway," Andrea says. "It doesn't mean what it used to mean."

Again, balance is the resounding word that keeps Falling Sky Farm running. Just as they have found a compromise between organic and conventional feed, Andrea and Cody have also found a medium between allowing the farm to be constantly open to visitors and completely closed off. In lieu of certifications, Falling Sky has a farm day once or twice a year—but only once or twice a year—to let people see exactly how they operate. To hold more farm days than this would hamper productivity, Andrea says. "It's a balance between keeping customers happy and giving them what they want, but also keeping in mind what we can sustain." Andrea's sharp confidence turns into defiance when people tell her that she needs a certain type of certification, such as certified organic or certified animal welfare. "I really don't," she says. "I

know exactly what I'm doing. I feel good about it, I feel like it's the right thing to do, and if people really want to know what we're doing, they can come and see it."

Andrea points out that the benefit of running a poultry and beef operation is that customers are pretty set in the product they expect. Andrea and Cody know what their customers expect their meat to look like. The value Falling Sky adds is in the production process. No products are used on the cows unless it's absolutely necessary to the cow's health. When they do need to give a cow an antibiotic or something of that nature, Andrea and her family would eat the meat themselves or they won't sell meat from that animal. Overall, they've found that a natural solution is available to prevent almost every potential disease, bug, or worm.

Andrea doesn't talk much about Conway Locally Grown, the collaborative online farmer's market that she and Cody launched about five or six years ago. The project was more Cody's initiative than Andrea's, but it is also immediate clear to us that everything each of them does is a joint effort. While Andrea says that she tends to be skeptical of big projects, she thinks that Sandra Leyva's new Conway food cooperative, The Locals, seems very promising. As always, Andrea has an eye for balance—she notes that the strongest quality of The Locals is that it draws both from individuals and farms with stable business history and folks who are just getting started.

Of all the beginning farmers she's seen, Andrea puts the most faith in past interns they've had at Falling Sky. She feels confident that they know what they're doing. Andrea would like more interns and volunteers, but at the moment, anyone who wants to live on or near Falling Sky Farm would live in the house with them. With this comes the difficulty of not only finding good workers, but compatible housemates. Andrea acknowledges that her own children might also make good farmers someday, but she would never push them towards a profession they didn't want.

If her children do decide to have their own farms one day, they will be well-prepared for it. Andrea's faith in balance resonates in her steady but powerful demeanor, her approach to running a business, and her ecological principles. "The closest thing I have to a religion is nature," says Andrea. "I'm continually amazed by the natural world. I take it for what it is, and I think it's awesome."

No system is an island.

The marketing system for any full-time farmer in Searcy County (hovering around 8000 in population since 1970) is dependent on consumers in larger population centers. Both Falling Sky Farm and L.C. depend on personal relationships developed with people in nearby cities. The town connection makes local food work for Searcy County. Cody, Andrea and L.C. all attribute part of their success to Conway Locally Grown. The heart of Conway Locally Grown has been Sandra Leyva. She has done her darndest to help local farmers by developing demand for local food and easing their access to customers interested in local food. She received a USDA grant to help promote local food. In 2014, Sandra made the bold step of opening her own storefront in Conway, Arkansas.

Part coffee shop, part retail space, part local food nook, The Locals is the latest development in Sandra Leyva's mission for community agency over their food systems. Though

the Locals only opened in January 2014, it is quickly gaining a reputation as a meeting place and platform for farmers, artists, craftsmen, and producers of all kinds in the surrounding area.

“We are sure that we want to be a community hub,” Sandra tells us, “but that can mean a lot of things.” One of the things it means is a community taking ownership of their space and identity. At The Locals, this vision comes viscerally to life.

Sandra appears very youthful, but acts with a sureness that speaks of someone much older. She fixes us coffee and begins to tell us about her young venture. Originally from Seattle, Sandra moved to Arkansas for the weather and cost of living, and chose Conway for its personality. Her energy and warmth are infectious.

She met her husband, Sean, while they were both at the University of Washington studying Comparative Studies of Ideas. However, after graduation and some traveling, both Sandra and Sean realized the graduate school would not be their next step. “We saw that there was such a gap between theory and practice,” says Sandra, “because a lot of what we do in our major is be constructive and analyze problems and deconstruct them into little parts, see them from different perspectives, and saying this is what’s happening. But at the end of the day we have a good understanding of what’s the problem with our food system, or what’s the problem with social justice, and different issues, but there wasn’t a way for us to say, this is what we should do. We wanted to try something out, and through our work and experience we saw that communities are really the ones who were making things happen and change happen locally. As long as you had a perspective of what your place was in the whole world or system, then you could address things locally with the global in mind.”

With that vision and some financial help from Sandra’s mother, Sandra and Sean went to Conway, Arkansas to envision a space where the theory of community could become practice. They bought a two-story house. The second floor was their living space, and the first floor became La Lucha Space, a gathering place for Conway communities. They made themselves known by offering meals made with local ingredients to those who stopped by. They also built a small stage in the former family room with a street entrance. This venue draws poets, musicians and various community groups. Sandra developed a relationship with local farmer’s markets to learn more about local food. At first, the going was slow. However, the uniqueness of what La Lucha offered—an open space with food and events rooted in local resources—soon began to take off. “It was just a place that people from different places could come in and find each other, and have a space to interact,” Sandra says.

La Lucha became a place where the community could encounter each other, learn from each other, and support each other. It also became a launching point for other enterprises. In early 2014, La Lucha made a major leap by opening “the Locals” where Sandra meets us today. Sandwiched between a shoe repair and a needlepoint shop in Conway’s downtown, the building itself is concrete and unadorned. However, it is starting to fill up with artwork, merchandise, and cozy tables laden with progressive magazines. The shop area is a maze of organic honey, local jerky, jams, lotions, and quirky homemade coasters and jewelry. Sitting on a couch beside the stage with the hot (locally roasted) coffee Sandra offered us when we came in, it’s easy to see how The Locals is so rapidly becoming an integral piece in Conway’s local food scene.

Sitting across from us at the table, Sandra explains how The Locals acts as a launching platform for Conway’s artists, farmers, and creatives of all sorts. Producers can get a

membership that allows them to sell their goods in the shop, and then are given the profits of whatever they've sold at the end of each month by Sandra. The membership fees help maintain the actual space of The Locals, along with the coffee bar and the homemade lunches and baked goods it serves.

Opening the shop has largely been an exercise in trust, both in the vendors that fill the shelves and in the community members that support it. Sandra admits to us that The Locals opened before it was really "ready" by conventional standards. They couldn't afford an espresso maker yet, and the shelves were relatively bare. However, Christmastime was approaching, and Sandra took a leap of faith on the hunch that December sales would give The Locals the financial boost it needed. Her trust turned out to be well-placed, and six months later, its shelves are full and consistently increasing sales.

Sandra's brave move in opening The Locals early has also shaped the shop's relationship with the community around it. "They feel like a part of this because they saw it come from very little, very empty," Sandra tells us. Now, she says, before the community members' own eyes the shop is taking flight as it becomes "fuller and fuller, more and more things." The community members are not only consumers of the shop, but participants in it. They hold and participate in workshops at The Locals on pottery, yoga, and all manners of activities. Events are also held at The Locals, much like they are at La Lucha. At the far end of the shop and visible is the stage, backlit by enormous windows through which passersby on Van Ronkle Street can regularly participate in poetry readings, jam sessions, and performances. The Locals' patrons aren't merely observers or consumers: they are creators.

It is also through community networks that The Locals was able to take off in the first place. Sandra's connections to the two farmer's markets in Conway gave her the connections she needed to bring vendors in to The Locals at its inception. She forged these networks by contributing her own time and energy to local farmers, starting with Conway Locally Grown.

Conway Locally Grown began as an online market for local food in the Conway area. Andrea and Cody, from Falling Sky Farm, instigated the market and rallied together farmers who were frustrated by the immense amount of time and work it takes to reach a market, in addition to actually producing food.

"That's a problem that is still happening right now," Sandra tells us, "where farmers have to be not just farmers but they're the ones who market, and package, and deliver, and sometimes manage markets, because there's no one else to do it."

So Sandra did it. Prior to starting La Lucha, Sandra became a key facilitator of Conway Locally Grown, which allowed farmers to post their soaps, cheeses, tomatoes, live plants, and anything they created without having to concentrate on marketing or maintaining a website. The first legs of the enterprise were modest. Orders to be picked up were held in a dentist's office, and any produce that was not picked up Sandra brought home to her own fridge to prevent it from spoiling until it could be received the following day. She assisted with the paperwork, ensuring that all transactions went smoothly and that everyone was duly paid.

Conway Locally Grown took off and has already seen many different stages of evolution. For the first five or six years, the market was consistently expanding. When run by Andrea and Cody and then Sandra, the market protected farmers' best interests while insuring quality products were provided to customers. When Sandra left management of CLG to start "The Locals", the focus changed.. The current manager, a retired military man, tends to side with the

maximizing benefit to the customer and is less concerned with the farmers. The farmers are taken for granted as the source of food, Sandra tells us. Hardly anyone who initiated the site is still involved. As Sandra puts it, everyone “all got wrapped up in our own different things.” However, Sandra still embraces the goal of Conway Locally Grown, which is to let each business remain independent while consolidating marketing and distribution efforts, as well as to have a place to operate out of.

With her husband Sean, Sandra has launched a Conway version of Local Orbit, a platform for farmers to easily market their goods online. Its streamlined design makes it easy for farmers to import and export information, as well as keep their merchandise up to date digitally. The difficulty, Sandra finds, is that many farmers are simply used to doing all of the marketing and distribution themselves, and furthermore may be unsure of how to use technological tools to their fullest potential. In Fall 2014, La Lucha Space received two grants to help farmers learn how to use such advanced online tools as well as provide coolers and other infrastructure needed to make The Locals a local food hub for Conway.

Local Orbit distinguishes itself from Conway Locally Grown by including the option of wholesale in larger quantities at lower prices. It markets itself toward restaurants and retailers, connecting farmers with a larger and more consistent clientele. Though restaurants incorporating local food are amassing popularity in many parts of the country, they have not yet hit Conway. Local eateries are interesting in sourcing locally, but have not made the plunge. Sandra expresses that she sees the need for a middle ground for farmers between doing well as a small vendor and selling on a supersize scale, such as to a grocery store. Though Little Rock is currently seen as the closest major demand for local food, Sandra is hoping to change that. Indeed, she has already begun.

Sandra’s determination to bring about community spaces, fueled by local artists and farmers, ignited the demand for local food in Conway. In large part, her strategy was successful because it is reliant on the participation of community members in creating local food. One powerful illustration of this is Sandra’s leadership in the Faulkner County Urban Farm Project, a community garden behind a public library that is open to all who wish to participate. The project especially reaches out to young people, who then learn about the surrounding farmer’s markets and local food venues, volunteer, and get involved.

Conway is also fertile ground for a local food impetus because of its enormous student population. Often nicknamed “The City of Colleges,” Conway is home to the University of Central Arkansas, Hendrix College, and Central Baptist College. College students are a transient population, but Sandra tells us that they also tend to be highly conscious of what’s going on in other parts of the world and how to react to it on a local scale. Conway’s college students are contributing to movements like the call for local food in a major way, and then taking that knowledge with them when they leave.

When we ask if Sandra plans to expand The Locals to other places, Sandra laughs and acknowledges that if she were to expand The Locals outside of Conway, it would no longer really be “local.” She doesn’t want to replicate what Conway has created, but she says she is happy to be a resource for others and help get them started. “You can only be local in one place,” she says.

Ultimately, Sandra’s goal for The Locals is to uncover food production and consumption as a community relationship. “We don’t see prices reflecting the value of what things are,”

Sandra says. "You can buy things really cheap, but because of these externalities along the way...we would always emphasize the relationship with people more than the dollar value of things, because we saw that once you got to know a farmer, then you didn't think twice about paying the extra dollar or two or three... You're not just seeing a product, but a person, and how it came to be."

What is perhaps most remarkable about Sandra is her ability to bring people together, make space for the talents that already exist, and provide fertile ground for them to mix and grow. Her leadership is the kind that seems to work quietly in the background, setting the stage for the voices she hears in the community. The Locals is a collage of community voices, and Sandra has given them a microphone.

Interlocking dynamic systems and ecological resilience. Sandra, Andrea and L.C. each give us a different perspective on one interlocking system. They seem to exhibit, in their individual systems and as a whole, the **factors which lead to ecological resilience.**

Modular connectivity is shown by the ability of each to function independently while maintaining a plethora of connections to other people.

Each has a different type of gregariousness, but each attracts. Andrea's mother is regularly at their farm helping out. Cody's Dad now lives on the farm and works for Cody.

The Locals has dozens of people congregating every day. On our last visit a group of 9 was gathered deep in discussion planning a women's song fest, several others were using the free wi-fi, a few were browsing the stocks of local herbs, teas, breads, art work. The lady behind the counter invites me to use her computer to send an email to Sandra. Then she realizes two patrons don't know each other and introduces them.

All natural ecosystems have local self-organization, local management. Disturbances periodically occur. A roaming mountain lion comes through and snatches up a squirrel. Five inches of rain washes nests out of the trees. A human comes in and mows a meadow or chops down the forest. The organisms which live in the soil and grow out of the soil reorganize after disturbance. The plants and fungi that the local soil produces provide the foundation for animals to grow and live and create another scale of the ecosystem.

An agroecosystem can easily slip away from local management. Managers from a faraway city can become convinced that they can manage a local farm. They may even succeed for a while. But ecological systems show us clearly that local control is required for resilience. In a system which requires external management to function properly, all it takes is one failure to cope with a disturbance and the system may die.

L.C. illustrates resilience arising from traditional systems while Andrea, Cody and The Locals show how resilience can be incorporated in new systems.