

Daniel Skoczylas

Environmental and Cultural Conservation in Costa Rica

Dr. Niesenbaum and Dr. Lewis

June 13, 2005

Smaller is Better; When Discussing Farming

Abstract

Por todo del mundo hay fincas que tienen diferentes maneras de cosechar sus productos con el propósito dar comida a la población y ganando dinero. Cada finca tiene su diferente manera que lo usa influir el medio ambiente y la comunidad que hace su circundante. Algunas fincas benefician los dos en mejores manera en comparación con otras fincas. El propósito de esta investigación es hacer una comparación entre cosechar en la comunidad de Las Juntas, Costa Rica y Coopersburg, Pennsylvania. Esta investigación usa literatura sobre cosechar en los Estados Unidos, particularmente la diferencia entre fincas pequeñas y fincas grandes y la relación de diversidad de las fincas.

Introduction

Throughout history farming and livestock rearing has influenced the environment as well as social interactions between people. Now that farming has become a means of supplying food on a global level, rather than a local level, new practices and methods have been instituted in different countries. This is especially evident in the United States where small farms have been outnumbered by larger farms. The difference between the size of the farms is not what makes them influence their surrounds but rather the mean by which they operate and their goals when producing their products.

In the book Bringing the Food Economy Home: Local Alternatives to Global Agribusiness, the authors write that “Whenever people’s needs are largely supplied by a local food system, the farms in that region are themselves more diverse” (35). The difference in diversity can be witnessed from region to region and even farm to farm. For example there is a farm in Coopersburg, Pennsylvania that is small and has a large diversity of crops. The owner of the farm, Jeff Frank, sells his crops to local restaurants as well as restaurants in New York City. This can be contrasted to the large farms of the states such as Kansas, Iowa, etc. that sell their crops to large agribusinesses, which then export these crops to other countries. This issue of diversity in turn leads to other issues such as environmental impacts, economical impacts, and sociological impacts.

The diversity of farms has a broad and substantial impact on the ecology on the environment that surrounds the farm. Farms that produce food on a global level tend to be less diverse in the crops they produce, thus impacting the methods that must be used. When a farm becomes less diverse then it has less of an ability to be resilient to infestations of insects (Norberg-Hodge 37). Different plants can act as natural insecticides by defending one another when different species are mixed, however this is lost on farms with low diversity. Farms must respond with increased use of insecticides, but this doesn’t solve all the problems.

Insecticides are not target specific so they target a large spectrum of insects. The result is the death of insects that are beneficial. Another result can be insects that become immune to the insecticide, thus heavier and more concentrated doses must be implemented in a never ending cycle. The more insecticide that is used mean the more insecticide that leeches into the soil and ground water.

Another negative impact that larger monocultures can have on the environment is the need for irrigation. Sometimes large farms require dams to be implemented to form a reserve of water from which the farms can be irrigated. When these dams are formed the results include higher water levels, altered sediment content, and higher temperature of the water (Norberg-Hodge 40). These dams alter the ecosystem above and below the dams.

While the large monoculture farms often boast about the lower prices of their products they disguise the fact that the community ultimately pays for the negative ecological impacts they produce. In Bringing the Food Economy Home: Local Alternatives to Global Agribusiness the authors state that “hidden subsidies and ignored environmental costs, both of which are ultimately paid by the consumers these trends supposedly benefit” (71). The large monocultures are not just detrimental to the environment but also to the local economy.

When discussing the difference between the sizes of different farms one must realize that farms impact not just the environment that physically surrounds the farm but rather the economy and community with which it is involved. For instance “in smaller, local systems, more of the money spent on food goes to the farmer, rather than the giant corporate middlemen” (Norberg-Hodge 65). Small farmers, such as Jeff Frank, often take their products to local farmer’s markets, have farm stands, or sell to local restaurants. These methods of sale keep the money in the community longer than if the product was sold to a large business based thousands of miles away.

The absence of local food markets, provided by small local farms, can lead to an extraordinary loss of money in the local community. Many times large companies, such

as fast-food chain, take the food from large monoculture farms and ship it all over the United States and the world. “The absence of local foods is one reason that roughly 75 percent of the money spent at the corporate franchises like McDonald’s is immediately sucked out of the local economy” (Norberg-Hodge 67). There are many practices that are used by local farmers that indirectly keep the money in the local community.

One reason why local farms can keep the money in the community is because they hire workers that live in the community. When these workers receive their payment they often purchase necessities from the local shops and stores, if present. Local farmers often have tighter budgets that don’t allow for large machines that ultimately replace workers and create damage to the environment by destroying hedge rows and forest so there can be space for these machines to move (Norberg-Hodge 67). The local farms also aid in keeping social interactions between people intact.

Before the advent of the telephone and different forms of electronic communication the purchasers of produce would interact directly with the producers. A relation then formed so that the people knew the origin of their food and methods used to produce it, which is now lost with large monocultures. The local farms keep the money in the community because they sell directly to the people, thus receiving more money for their products while the community can pay lower prices. The local farms also foster relations between people by having interaction at a producer-consumer level rather than people just buying produce from a grocery store and not knowledgeable as to its’ origins and methods used to grow the produce.

Farms have an impact that extends much further then the crops they produce or the soil where the crops are planted. There are also socio-economic impacts that occur

due to different types of farming. Small diverse farms often produce better effects on the environment, economy, and community. This will be tested when observing farms and farming practices in Las Juntas, Costa Rica.

Materials and Methods

To gain a better understanding of farming, as well as methods and impacts, a large amount of research has to be done. Researching provided a good background and foundation to develop questions for farmers and people in Las Juntas, Costa Rica. Much of the information was obtained through interviews because the purpose was not to quantify the results of comparing farms. Rather, the purpose became to obtain the opinions and the facts of the people that interacted with the farm or farmers. This is important because it is what the people think about the ecological, economical, and sociological impacts that influence the methods and procedures of the farms as well as their future.

Besides research and the questioning of people on and off the farm, the past experience gained from working on a farm in Coopersburg, Pennsylvania was applied. Often a person learns the most about a subject they are interested in with if they have direct interactions. Being able to take the knowledge that was obtained while working on a farm such as that in Coopersburg, Pennsylvania and applying that to different farms in Las Juntas, Costa Rica also was important.

When interviewing people there was a select set of questioning that was used to target the specific information that was needed. A lot of information was also gathered through causal conversation and non-direct questioning or a formal interview. Much of

the information collected through the interview process coincided with the literature information gathered through research, which made the project come together full circle.

Results

While in Las Juntas, Costa Rica interviews were conducted with two different farmers as well as informal interviews with a person from the town. The farmers were Miguel Salazar Nunéz and Don Modesto. The informal interview from town was conducted with Carlos Badilla Chan. All of these people provided information from different angles giving depth and coherence to the project.

Both of the farmers interviewed owned farms that were considered small farms by the Department of Agriculture and Livestock Farming for the Abangares region. The Department of Agriculture and Livestock Farming for the Abangares region declares any farm under 40 hectares a small farm. The farm of Miguel Salazar Nunéz was only a 5 hectare farm that was part of a large cattle ranch but was bought and divided by the Department of Agriculture and Livestock Farming and sold to farmers. The reason why this was done was to encourage a larger diversity of crops (Foseca 5/30/2005). The Department of Agriculture and Livestock Farming is helping to promote better interactions with the environment, economy, and community that surround the farms by encouraging smaller diverse farms in the region

The farm of Miguel Salazar Nunéz was a five hectare farm in the town of San Juan, Costa Rica. The farm was very diverse including such things as: cows, chickens for eggs and meat, tilapia, cilantro, corn, different types of bananas, plantains, cameron roja, and papaya. Due to the fact that he kept his farm to five hectares he received help from the government when he took the fish to market. Nunéz also received aid in the form of crops

to plant on his farm (Foseca 5/30/2005). The large diversity that Nunéz has on his farm promotes a healthier ecosystem, economy, and community around his farm.

When Nunéz sells his products he does so by two methods either he sells his products to local fruit stores or grocery stores or he takes his products to open markets himself. The two most important crops for Nunéz are the cilantro and papaya. He can sell three kilos of papaya for 1,000 colones. Cilantro, on the other hand, is sold by the plant and he can sell four plants for one hundred colones (Nunéz 5/30/2005). The cilantro is in high demand because it can be used for cooking or for medicinal purposes. Even though these two crops are the most important to his farm he can produce crops all the time due to the large diversity.

Miguel Salazar Nunéz does not sell to the agribusiness for the reason that he does not make as much money as if he were to sell his products himself. He said that the agribusinesses purchase the products based on appearance. Many times they won't buy the whole harvested crop and often do not pay competitive prices because they are trying to make the most money they can (Nunéz 5/30/2005). The object of the agribusinesses is to buy cheap and sell at high prices, which in the end shorts the farmer and the community.

The farm of Don Modesto was different than the farm of Nunéz in different ways. Don Modesto had twenty hectars with seventy heads of cattle, which is still considered a small farm. Of the twenty hectars he had seventeen hectars was for pasture land for his cattle and three hectars that remained forested along the river to provide a buffer zone to protect the river from the run off of cow manure (Modesto 5/31/2005). The seventeen

hectars that was used for pasture land was set up in a rotation pattern to keep the feed in the fields for the cattle.

Don Modesto took the seventeen hectares of pasture land and developed a system that included breaking the pasture land into small areas. He would then rotate the cattle every three days. This would provide a constant source of feed for the cattle. After twenty seven days he could return the cattle to the first feeding area (Modesto 5/31/2005). Don Modesto also grew cameron roja y caña de azúcar to feed his cattle. Since he maintains a small farm the government aids him in the transport of his cattle to market, thus providing another incentive for the people to keep a small farm.

Many people of the town of Las Juntas showed that they favored the methods by which the small farmers sell their products to the consumer. Carlos Badilla Chan said that the people of the town know when the markets are happening and make a conscience effort to buy from them. He believes that this is the best way to sell his products because the farmers can sell such things as peppers for the equivalent to 1\$ per pound while a store who gets their products from San José sells their pepper for 2\$ per pound (Chan 5/26/2005). Carlos believes that the people will buy products at lower prices as long as there is a consistent supply, which seems to be a reality thanks to the small farmers.

Discussion

When researching the benefits and drawbacks of different methods of farming most literature points in one direction; small more diverse farms are better for the environment, economy, and the community. The information that was gathered in Las Juntas coincides with the literature that was found. Both the farms of Miguel Salazar Núñez and Don Modesto fall into the category of smaller are better.

Miguel Salazar Nunéz keeps a five hector farm with a large diversity, which aids the environment. Nunéz's farm is not as susceptible to an insect plight because he has more than one crop. He uses insecticides once every eight days to keep the insects down to guarantee a large yield (Nunéz 5/30/2005). Since his income is solely off his crops he needs to guarantee a large yield. Since his farms is small there is not much machinery used which keeps the surrounding forest and hedge rows intact. Another benefit is that there no need to damn the river for irrigation thus not disrupting to environment further. The methods that Nunéz institutes can occur because he has a smaller diverse farm that ultimately benefits the environment.

The benefits of Nunéz's farm go beyond just the environment to the socio-economic realm. The small farm and lack of machinery means that he must either do the harvesting himself or hire local people. This keeps the money in the community because the wages that the workers receive are returned to the local shops to purchase necessities. Nunéz sells his products to local grocery stores and fruit shop thus keeping the money in the community longer. The selling to local shops and not exporting products to other regions allows for the community of Las Juntas to benefit to a larger degree. This was agreed with by Carlos Badilla Chan.

Mr. Chan was in the open air market buying fruit and had information that corresponded with the literature research. He said that the local people are aware of the open air markets and when the farmers are coming to town. Most people in the town come to the markets to buy the products because they are cheaper than the grocery stores, which get their products from San José (5/26/2005). This helps foster social interaction because the people can talk to the farmers and inquire about the methods used and quality

of their products. This is often lost in the United States because most people buy their food from grocery stores or food stands where the farmers who grew the products are often absent.

While smaller diverse farms are more beneficial to the environment there are better alternatives. The main alternative is organic farming, which works with natural processes to fertilize and keep insects from taking over. Nunéz said that farmers had been practicing organic farming in Costa Rica but at the time it wasn't realistic. The market for organically produced products and products produced through non-organic methods is the same. Consumers don't pay more for organic products like in the United States. Nunéz said he needs to make as much money as possible by producing crops as quickly as he can, thus organic isn't a sustainable means of farming for many farmers.

The farm of Don Modesto was different then the farm of Miguel Salazar Nunéz's because Modesto raised livestock. The methods he used had as little impact on the environment as possible. Don Modesto kept three hectores of forest along to the river to act as a filter to keep pathogens and bacteria from the cow manure out of the river. Also Modesto did little irrigation from the river and instead made pens that extended into the river so the cattle could drink when then wanted. The pens kept the cattle in smaller portions instead of overrunning the river.

Conclusion

Across the globe there are farms of different sizes that produce different products using different means. As smaller farms transform into larger monocultures to produce food for the global markets their methods for production are under scrutiny. Literature says that smaller farms are better for the environment, economy, and for the community.

The small farms around Las Juntas support the claims. They are better for the environment due to their diversity, are more sustainable and give money to the community, and promote social interactions between the growers and consumers. Costa Rica has been set the example for many conservation programs throughout the world. Perhaps countries will take notice of Costa Rica's farming practices and see the benefits of smaller farming and make more of an effort to diversify the size of farms.

Works Cited

Chan, Badilla Carlos. Personal interview. 26 May 2005.

Modesto, Don. Personal interview. 31 May 2005.

Norberg-Hodge, Helena, and Todd Merrifield and Steven Gorelick. Bringing the Food Economy Home; Local Alternatives to Global Agribusiness. Connecticut: Kumarian Press, 2002.

Nunéz, Salazar Miguel. Personal interview. 30 May 2005.