

Immigrant Agriculture: How The Hmong Community In Minnesota Can Provide Insight For
Promoting Sustainable Agriculture Practices

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In cultures across the world, food plays a central role within traditions, economic worth, and impacts the natural environment. Because of its necessary and vital role it plays in our society, the way it is grown is also essential. The advent of industrial farming has transformed the way food is grown, making more products available and prevalent to wider social classes. However, the improved availability of food comes at a cost. With 33 percent of human-caused greenhouse gas emissions accounted for by how we grow our food, looking into a more sustainable way of growing is a vital task. Traditional agriculture systems are a source of inspiration to moving away from unsustainable industrial agriculture. Immigrants to the United States are a source to the knowledge traditional agriculture holds. By examining growing habits of indigenous cultures and ethnic and immigrant Americans one regain a connection with the soil. Furthermore, this helps to better understand the relationship with food and gain a sense of belonging to a place and people. Specific to Minnesota, the Hmong are immigrants that are actively involved in agriculture. By examining the Hmong's agriculture customs in Minnesota, one can use this system as a source of insight as complementary process to industrial agriculture.

In order to understand the problems that industrial agriculture encompasses, a solid definition needs to be established. It is common knowledge that farms in America have become more industrialized over the past decade. Currently, Agricultural Economist John

Ikerd extrapolates, “less than 2 percent of the people in this country are famers and about half of those consider something other than farming as their primary occupation.”¹ In 1940, the number of people in the United States who farmed as an occupation was 40 percent. This decrease in farms has been driven by specialization as a result of industrialization. The farming process is split up into numerous entities. There are some people who own the land that is farmed, some who work it, and others who own stock in the agricultural corporation that oversee the process.² The Union of Concerned Scientists describes industrial agriculture as “views the farm as a factory with “inputs” (such as pesticides, feed, fertilizer, and fuel) and “outputs” (corn, chickens, and so forth). The goal is to increase yield (such as bushels per acre) and decrease costs of production, usually by exploiting economies of scale.”³ Industrial agriculture uses modern technological developments, such as genetically modified crops and machinery in order to achieve the highest yield. If the farming involves animals, it is often known as Confined Animal Feeding

¹ John E. Ikerd, *Crisis & Opportunity: Sustainability in American Agriculture. Our Sustainable Future*. (Lincoln: University of Nebraska Press, 2008), 26-30.

² *Ibid.* 35-37.

³ Union of Concerned Scientists, “Industrial Agriculture: Features and Policy,” <http://www.ucsusa.org/food/ind.ag.html> (accessed December 3, 2009).

Operations (CAFO's), which is a farming practice that holds many animals within a small area, often indoors. The main goal of CAFO's is to provide consumers with animal products using the smallest amount of inputs possible, making the product able to be sold cheaply. With these qualities being the main focus of industrial agriculture, it is an unsustainable form of agriculture.⁴ It should be noted that the profit maximization philosophy has resulted in a significant decrease in the cost of food. However, current cost of food, as set by the corporate food industry in America does not reflect the true cost of food. The true cost of food includes not only the short run costs of production, but also the long run ecological and environmental consequences of industrial farming.

The unsustainable characteristics of our current industrial agriculture model presents a bizarre situation as described by Ikerd: "Agriculture, developed for the purpose of converting solar energy to forms useful to humans, has been transformed into a system of production that uses more nonrenewable fossil energy than it produces in food energy."

⁵ Sustainability entails the aspects of social, environmental, and economic variables. In

⁴ Andrew Kimbell, *The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. (Washington, 2002), 4-12.

⁵ John E Ikerd, (*Crisis & Opportunity: Sustainability in American Agriculture. Our Sustainable Future*. Lincoln: University of Nebraska Press. 2008),26-28.

order for something to be sustainable, it has to fulfill each of these aspects. Industrial agriculture is flawed in all three of these regards.

Government subsidies contribute to the economic unsustainability of industrial agriculture. The government has been involved with the economic well being of farms since the 1930's. Funding provided to farmers by the government is responsible for about half of the farmer's net income throughout the 1990's-2000. Although it can be argued that these subsidies are what are keeping America's agriculture system afloat, the money directed towards farmers is not doing anything to solve the crux of the problem. The use of subsidies is additionally more regressive because of the distribution process of government money. Subsidies are allocated in accordance to levels of production and farm size. With this the way subsidies are allocated, the larger farms, which include those owned by entities, receive much of the funding provided by the government. In a report by the United States Government Accountability Office written in 2008, "that of the 1.8 million individuals receiving farm payments from 2003 through 2006, 2,702 had an average adjusted gross income (AGI) that exceeded \$2.5 million and derived less than 75 percent of their income from farming, ranching, or forestry operations, thereby making them potentially ineligible for farm payments. Nevertheless, USDA paid over \$49 million to these

individuals.”⁶ The USDA report further advocated for restructuring the way government salaries are allocated, working with the Internal Revenue Service so wealthy farm owners and entities do not receive government subsidies. Devastatingly Ikerd states that, “Since the mid 1990’s prices for all major agricultural commodities—including corn, soybeans, wheat, hogs, and cattle—have averaged well below break even levels for most farmers.”⁷ It is obvious that despite government subsidies; the currently farming system is uneconomic.

So, how does this negatively impact farms? It has long been thought that competition drives down prices and keeps manufacturers accountable. However, there are external environmental costs of this process that are overlooked. The specialization that comes with increased efficiency comes at a cost: biophysical degradation. By removing the natural diversity of the land, problems arise with decreased resilience and productivity of the ecosystem. The threat that industrial agriculture presents to the environment includes increasing strain on limited natural resources, soil erosion, decreasing biodiversity, and using harmful pesticides and fertilizers.

⁶ United States Government Accountability Office, “USDA Needs to Strengthen Controls To Prevent Payments To Individuals Who Exceed Income Eligibility Limits, 2008. <http://www.gao.gov/new.items/d0967.pdf> (accessed January 2, 2010).

⁷ John E Ikerd, *Crisis & Opportunity: Sustainability in American Agriculture. Our Sustainable Future*. Lincoln: University of Nebraska Press. 2008,260.

The most obvious concern of large farms is their dependence on limited natural resources: water and fuel. Overall, the process of farming is highly energy dependent. The average farm in the United States uses 3 kcal of energy producing 1 kcal of food.⁸ Furthermore, the journey that food takes before it goes to the dinner table is energy intensive as well. A study conducted by the Department of Defense found that the average food item in the United States travels 1,300 miles before it is eaten.⁹ Water use through irrigation also poses an increasing risk. Agriculture accounts for a large amount of water use overall, accounting for about two thirds of water use worldwide.¹⁰ Much of this demand is being placed on water sources that cannot recharge at the same rate that it is needed. Furthermore, some of the water is being taken from ancient aquifers that do not recharge at all.

⁸ Leo Horrigan, "How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture," <http://www.ncbi.nlm.nih.gov:80/pmc/articles/PMC1240832/pdf/ehp01110-000445.pdf> (accessed December 19, 2009).

⁹ The Cornucopia Project. *Empty Breadbasket? The Coming Challenge to America's Food Supply and What We Can Do About It*. (Emmaus, PA:Rodale Press, 1981).

¹⁰ S. Postel. "Dividing the Waters: Food Security, Ecosystem Health, and the New Politics of Scarcity," *Worldwatch* No. 132. (1996).

Soil erosion is also an environmental issue caused by modern agricultural practices. Soil erosion is a current issue because of the amount of time it takes to regenerate lost soil. On average, it takes 20-1,000 years for a centimeter of soil to form.¹¹ This length of time is disproportionate to the amount of time it takes to lose soil, which is estimated by the United Nations as occurring at a rate of 1% per year.¹² Industrial agriculture also poses a risk to soil because of its dependence on heavy machinery. Because of their heaviness, the machines compact the soil. Soil compaction ruins the structure of the soil, which kills beneficial soil dwelling organisms.¹³ Since World War Two, it has been estimated that 38% of the United State's farmland, or 550 million hectares has been damaged as a result of poor farming practices.¹⁴

¹¹ AJ McMichael. *Planetary Overload: Global Environmental Change and the Health of the Human Species*. (Cambridge, England: Cambridge University Press, 1993).

¹² United Nations, "Global Outlook 2000: An Economic, Social and Environmental Perspective," (1990). <http://www.unep.org/geo2000/ov-e.pdf> (accessed December 1, 2009).

¹³ LandOwner. "Managing Your Soil Microherds for Healthier Plants, Better Profits," Newsletter of Farmland Investment and Stewardship 20(6):7 (1998).

¹³ LR Oldeman, RTA Hakkeling, Sombroek. "World Map of the Status of Human-induced Soil Degradation: An Explanatory Note." 1991.

Another environmental threat industrial agriculture poses to the environment is the amount of chemicals pesticides and fertilizers used on the farms. These chemicals put on farms pose a threat in their original form as well as the toxic runoff that occurs as a result of their use. Pesticides are responsible for numerous losses of bird species, with an approximated 672 million birds impacted by its use. Of this number, 10 percent experience fatal results because of pesticides. Pesticides also pose an increasing threat to the insect community. Pesticides kill wild bee species and other important pollinators indirectly. Managed pollination, which depends on only two species of bee, and is also a 10 billion dollar a year industry, has also contributed to the low level of wild bee populations. Of the 5,000 bee species native to North America, most of them have diminished.¹⁵ Furthermore, runoff attributed to pesticide and fertilizer used impacts aquatic areas. Fertilizers and pesticides seep into the waterways, causing harmfully high levels of nutrients, primarily phosphorus and nitrogen. The United States Environmental Protection Agency has attributed 70 percent of the pollution in rivers and streams to farming practices. This number translates to 173,000 miles of waterways impacted by farm-polluted runoff.¹⁶ The

¹⁵ M. Winston. *Nature Wars: People vs. Pests*. (Cambridge, MA: Harvard University Press, 1997), 22-50.

¹⁶ M. Cook. "Reducing Water Pollution from Animal Feeding Operations," U.S. House of Representatives, May 13, 1998, <http://www.epa.gov/ocirpage/hearings/> (accessed

eutrophication resulting from these increased levels harms macrophyte and fish species in the aquatic areas, lowering species diversity.¹⁷

Quite possibly the most visible results of the advent of large agribusinesses is the social impact that it has had on America. Visit any farming community in rural America and it is obvious that the farm itself is not the only part of agriculture that contributes to the local economy. There are retail stores that provide supplies necessary for farming, grain elevators for processing the products, and equipment retailers. In a statement made by the United States Department of Agriculture, "Seven out of eight rural counties are dominated by varying concentrations of manufacturing, services, and other nonfarming activities." Furthermore, the report stated, "consumer services cannot thrive without agriculture."¹⁸ More evidence of this has been published in a University of Minnesota Study that showed that small farms that gross 100,000 dollars or less typically do 95% of their farm related spending within their local community. This is converse to large farms, which

December 19, 2009).

¹⁷ Andrew Kimbell. *The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. (Washington, 2002), 30.

¹⁸ U.S Department of Agriculture, "Rural America, Entering the 21st Century", <http://www.usda.gov/factbook/chapter4.htm>. (accessed January 5, 2010).

gross 900,000 dollars or more, do less than 20% of their farm expenditures locally¹⁹.

Furthermore, money spent within the community has a multiplier effect for every dollar spent by farmers it remains in the community. Therefore, it improves a community's economic vitality.²⁰

The development of community is important because of it fosters a connection between humans and their surroundings. By participating in these activities, one can gain a sense of place in their community. Research on the impact of industrial farms on communities has dated by to the 1940's. In a study conducted in 1946 by Goldschmidt compared to farming communities in rural California. Each had basically the same level of production from their farms, however the sizes differed between the two communities. The study found that the town that had larger, more industrialized farms there was a decrease in social equality, resulting in a division of social classes. Furthermore, decisions about the community were not made at a local level. The farming community that had smaller, locally owned farms showed a difference in social environment. The town showed stronger community connectedness and support. There was less division between social classes,

¹⁹ Chism, Levins. "Farm spending and local selling: How do they match up?," *Minnesota Agricultural Economist* 676 (1994):1-4.

²⁰ Jan Flora, "Social and Community Impacts," http://www.public-health.uiowa.edu/e/src/CAFOstudy/CAFO_7.pdf (accessed January 8, 2010).

members of all social classes were involved in issues involving the community, and there was more local business activity.²¹

A more recent study conducted by Gomez and Zhang in 2000 showed similar results to Goldschmidt's 1946 findings. Their study, which was conducted over a ten-year period, researched the impact of CAFO's in rural Illinois. They examined sales receipts from local businesses and found a correlation between the presence of CAFO's and a decrease in small business sales. This led them to draw the conclusion that the "Presence of large farms might in fact hinder economic growth at the local level."²² Although large farms may initially be thought of to be advantageous for a small town's economy, evidence indicates otherwise.

Furthermore, a study conducted in Wisconsin regarding dairy farms showed the connection between community identification and purchasing trends. They illustrated that as the size of dairy farm increased, the amount of feed bought locally decreased.

²¹ Walter Goldschmidt. "Agribusiness and the rural community. In *As You Sow: Three Studies in the Social Consequence of Agribusiness*" (1978) Montclair, NJ

²² Miguel Gomez, Zhang, Liying, "Impacts Of Concentration In Hog Production On Economic Growth In Rural Illinois: An Econometric Analysis," (2000), <http://purl.umn.edu/21846> (accessed January 3, 2010).

Additionally, they found that the social attachment to the community and physical proximity to the community to be prime indicators of local purchasing habits as well.²³

To reiterate, the loss of the family farm may be emotionally disconcerting, but the economic, environmental and social impacts are even further troubling. The manufacturing firms that are replacing small farms lack the desire and connection to the community and farm in which they control. By doing this, emphasis is placed upon the economic effectiveness of the farm, which leads to environmental detriment of the community and farm.

With the unsustainable aspects of industrial agriculture defined, sustainable agriculture can be used as a model for an economically viable, environmentally unthreatening way to farm. Sustainable agriculture entails the three main aspects that define sustainability, making it socially, economically, and ecologically viable.

The practices of sustainability and preservation are parallel with traditional indigenous values and often translate over to traditional indigenous practices. For indigenous cultures, the longevity of their culture is emphasized. It is through the their

²³ J Foltz, Jackson-Smith D, Chen L, "Do Purchasing Patterns Differ Between Large and Small Dairy Farms? Econometric Evidence from Three Wisconsin Communities," (2000). <http://ageconsearch.umn.edu/bitstream/31485/1/31010028.pdf> (accessed January 3, 2010).

culture's legacy that their values are kept alive. Indigenous people done this through "a respect, dependence, and spiritual relationship with nature."²⁴ One area in which the indigenous values reflect over to practice is through agriculture.

To fully understand the contributions indigenous cultures have to make towards modern agriculture, it is first vital to define what an indigenous knowledge is. The Canadian international Development Agency defines indigenous knowledge as:

The accumulated experience, wisdom and know-how unique to cultures, societies, and/or communities of people, living in an intimate relationship of balance and harmony with their local environments. They are based within their own philosophic and cognitive system, and serve as the basis for community-level decision making in areas pertaining to governance, food security, human and animal health, childhood development and education, natural resource management, and vital socio-economic activities.²⁵

²⁴ Melissa K Nelson, (*Original Instructions: Indigenous Teachings for a Sustainable Future*. Rochester, Vt: Bear & Company, 2008),44.

²⁵ Melissa K Nelson, (*Original Instructions: Indigenous Teachings for a Sustainable Future*. Rochester, Vt: Bear & Company, 2008),44-46.

Indigenous knowledge provides a resource of sustainable practices that have been established after generations of trial and error. Because of this unique aspect of indigenous knowledge, it can be used as a source to draw insight on how to restructure our current agriculture model. It is through this information that one can currently draw on to develop a modern sustainable agriculture system.

Hmong in Minnesota: A case study of Immigrant Agriculture:

As a local example of immigrant populations actively involved in agriculture, one can look to the Hmong population in Minnesota. Since the mid 1970's, the Hmong have been settling in Minnesota. The Hmong, from southern China and Southeast Asia, are an ethnic group that lives in present day Laos, Thailand, and Vietnam.²⁶ The Hmong population in Laos, who aided Americans during the Vietnam War, was subjected to the onslaught of Communist forces. As a result of this, the Hmong had the opportunity to resettle in the United States because of their connection during the Vietnam War. They became eligible to enter the United States as political refugees under the Indochina Migration and Refugee Assistance Act in May 1975.²⁷

²⁶ Chia Youyee Vang, *Hmong in Minnesota*. (Saint Paul, MN: Minnesota Historical Society Press, 2008),10-15.

²⁷ Sue Murphy Mote, *Hmong and American: Stories of Transition to a Strange Land*. Jefferson, N.C.: McFarland & Co, 2004,2-8.

So, with the possibility to settle throughout all of the United States, why did the Hmong choose Minnesota? During the 70's, refugees were required to have an American sponsor in order to settle outside of refugee camps. With the influence of Minnesota's faith based community, the first Hmong families arrived in Minnesota. Because of the original connection to Minnesota, those who immigrated to the United States subsequent to the original refugees followed suite and settled in Minnesota. As a result, the migration of the Hmong to Minnesota occurred in a series of waves. The Hmong who currently live in Minnesota range from those who came to Minnesota as refugees, sponsored people who immigrated to Minnesota as a result of reunification guidelines, children born in America, and those who have adjusted their visas to live in America.²⁸ Currently, there are about 41,800 Hmong living in the Minnesota, about 25% of the total population of Hmong in the United States.²⁹

²⁸ Chia Youyee Vang, *Hmong in Minnesota*. (Saint Paul, MN: Minnesota Historical Society Press, 2008),20-22.

²⁹ Sue Murphy Mote, *Hmong and American: Stories of Transition to a Strange Land*. Jefferson, N.C.: McFarland & Co, 2004,9-11.

As the Hmong resettled into Minnesota, they brought with them their original values, traditions, and cultural practices. Historically, the Hmong population were predominately agrarian based. A Hmong proverb relates to the significance of agriculture by telling, “ When the others work you don’t have to work with them. When the others eat, you can be the dog begging for the scraps.”³⁰ Farming holds significant respect and requires vast knowledge in the eyes of Hmong culture. It is with this cultural significance that Hmong farm in the United States. Agriculture has a certain fluid characteristic to Hmong in the United States. Although the geographic area is different, the growing process is essentially the same.

The Hmong’s historical background in agriculture is what motivated them to pursue agriculture in Minnesota. As a result of a survey conducted by University of Minnesota economics professor Kent Olson, the most common reason for Hmong to become a gardener or farmer is that it was part of their culture, with 64% stating that as their reason.³¹ Furthermore, in an interview with Hmong farmer Mhonpaj Lee, she explains how

³⁰ *Ibid*, 76.

³¹ Kent Olson, “Results of a Farm and Market Survey for Hmong Specialty Crop Farmers in the Minneapolis, St. Paul Metro area [St. Paul, Minn.].” Dept. of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota. (2003). <http://ageconsearch.umn.edu/bitstream/13843/1/p03-11.pdf> (accessed September 18, 2009).

farming helps her to identify with her heritage by saying “I feel like if I lose farming, that is lost to me. I am no longer Hmong.”³² Lee’s insight is a key example of the inextricable connection between the Hmong and their agrarian roots.

Because the Hmong historically lived with their vitality contingent upon agricultural success, agriculture has played a significant role in establishing traditional customs in Hmong society, including their use of time, establishment of beliefs, and traditional economic system. According to Dr. Gary Yia Lee, an anthropologist concentrating on Hmong culture, “ The Hmong traditional economic system provides not only economic gains for its participants but also cultural and religious benefits derived from social customs and religious rituals that evolved from the people’s agricultural practices and ecology.” ³³ The economic, social, and religious benefits Lee describes includes the strong reliance upon family and clan members in successfully farming, the significance value of agriculture placed on religious practices, and the role of agricultural success in gauging economic

³² Roseanne Pereira, “Young farmer Shares New Vision for Hmong farming.” *MPR News*. July 19, 2007. <http://minnesota.publicradio.org/display/web/2007/07/18/hmongfarming/> (accessed September 18, 2009).

³³ Gary Yia Lee, “The Shaping of Traditions: Agriculture and Hmong Society,” *Hmong Studies Journal* 6, (2005): 28.

success. In historic Hmong communities, economic prestige was contingent upon agricultural success. Agriculture played such a role in past Hmong communities because agriculture determined an individual's ability to acquire goods and increase their workforce, main determinants of wealth.³⁴

Currently, economic prestige does not correlate with success in the agriculture sector. While some Hmong have succeeded in financial independence as a result of agriculture, it is not common. Current generations of Hmong see agriculture as counterproductive to their success at entering modern markets. According to Dr. Lee, "The more forward thinking Hmong sees this (farming) as a regression to pre-modern life."³⁵ While many social and cultural traditions incorporate both traditional and current practices of agriculture, economic success is not one of them.

With the social role of family and community members established in current and historic agriculture, agriculture also plays a role in the establishment of traditional Hmong religious practices. Traditionally, Hmong believe in spirits that comprise of ancestors and spirits living in nature, such as trees, rocks, and bodies of water. In relation to agriculture, the Hmong believed that the success and failure of crops was due do these spiritual powers.

³⁴ *Ibid*, 23-28.

³⁵ *Ibid*, 25.

As a historic tradition, farmers would call to the souls of the crops, asking them to bring a fruitful harvest.³⁶ Modern Hmong farmers also incorporate traditional religious customs into their farming. Emphasis is similarly placed upon spirits for the benefit of their crops. In some cases, coins will be placed on the backs of infants to release their spirits in order to benefit crops.³⁷

Socially, agriculture has played a prominent role in establishing the family, or clan as a source of support. All members of the Hmong family were given specific roles to accomplish according to their age and gender. While the family maintained the position as the most important source of labor for farmers, the Hmong also traditionally practiced cooperative work and labor exchange with other members of their community. A village would participate in cooperative work, which involves pooling their capital and labor in order to accomplish a task. An accomplishment done through cooperative work would include a fence built to benefit the village that built it. Labor exchange includes members of

³⁶ Gary Yia Lee, "The Shaping of Traditions: Agriculture and Hmong Society," *Hmong Studies Journal* 6, (2005): 18-20.

³⁷ Ruth Rasmussen, "Working With Hmong Farm Families," Minnesota AgrAbility Project, Power Point Presentation, <http://www.agrabilityproject.org/events/workshop2003/Omaha%20Pres%20for%20NAP%20web2.ppt> (accessed December 12, 2009).

two different families working on each other's farms when in need. Labor exchange was typically utilized during busy farming times, such as planting and harvesting.³⁸

The historical significance of community and family in accomplishing agricultural tasks has transcended to current Hmong farmers. In Minnesota, the Minnesota AgrAbility Project, whose mission is to educate Hmong farmers on agricultural methods, has observed the prominent role family and community play in agriculture. As observed by an AgrAbility project worker focusing on Hmong farming, "Grandparents and babies are in the fields together."³⁹ Furthermore, decisions are made with the benefit of the group in mind, not individually. Often, relatives are a source of labor and capital for other members of the family. They may rent some of their land to other family members, assist in the physical aspect of farming, or provide loans to other family members.⁴⁰ According to Der Thao, a

³⁸ Gary Yia Lee, "The Shaping of Traditions: Agriculture and Hmong Society," *Hmong Studies Journal* 6, (2005): 24.

³⁹ Ruth Rasmussen, "Working With Hmong Farm Families," Minnesota AgrAbility Project, Power Point Presentation. <http://www.agrabilityproject.org/events/workshop2003/Omaha%20Pres%20for%20NAP%20web2.ppt> (accessed December 12, 2009).

⁴⁰ Jess Speier, "Hmong Farmers: In the Market and on the Move," Farmer's Legal Action Group (October 2006). http://www.flaginc.org/topics/pubs/arts/CLE_JAS.pdf (accessed September 18, 2009).

Hmong farmer in Minnesota, farming “Has brought my family together and has taught my four children what family is. We work together.”⁴¹ The tradition of family as a prominent source of labor in farming has been passed on from historical practices in northern Laos to current farming in Minnesota.

With the support of the community, there are several steps that can be taken in order to apply sustainable methods to the current agriculture model. A sort of learning community has been proposed to foster ideas about sustainable agriculture. Community based programs allow farmers to discuss complex issues without a definitive answer, such as sustainable farming strategies, in an intellectually stimulating environment. Ultimately, community based sustainability strategies make sense. As described in *Facilitating Sustainable Agriculture*, “Solutions to complex social problems must emerge from within the affected society and not be imposed upon it. A community, made up of multiple stakeholders, focused on a common issue and involved in learning relationships can be an

⁴¹Amy Hang, “Hmong Farmers Key To Saint Paul Farmers’ Market Success,” Hmong Times, (accessed December 21, 2009).

effective means to create and enact needed solutions.”⁴² Utilizing knowledge from a variety of sources is an effective means of laying the groundwork of what sustainability signifies.

With the reasons for their motivation to farm established, what makes the Hmong’s farming more sustainable than the typical agricultural operation? There are several contributing factors that make the Hmong gardening a model for sustainable agriculture. First, the size of their farms is an average of five acres. This is substantially smaller than the average farm size in Minnesota, at 332 acres.⁴³ So, what does this say about their farms? In an agricultural report conducted by the U.S census, small farms, that are 27 acres or less, are greater than ten times more productive than industrial sized farms of 6,000 acres or more.^{44,45} More vegetables need to be packed into the smaller area, resulting in an efficient

⁴² Niels G. . A. E. Wagemakers, *Facilitating Sustainable Agriculture: Participatory Learning and Adaptive Management in Times of Environmental Uncertainty* (Cambridge, U.K: Cambridge University Press. 1998),218.

⁴³ U.S Department of Agriculture. *2007 Census of Agriculture United States Summary and State Data*. Geographic Area Series. (February 2009). http://www.nass.usda.gov/Statistics_by_Subject/Demographics/index.asp (accessed September 18, 2009)

⁴⁴ Andrew Kimbell. *The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Published by the Foundation for Deep Ecology in collaboration with Island Press, 2002, 22.

⁴⁵ Norman Wirzba. *The Essential Agrarian Reader: The Future of Culture, Community, and the Land*. Lexington: University Press of Kentucky, 2003, 108.

type of farming. Furthermore, most of the land farmed by Hmong farmers is rented. This allows for Hmong to lease land while still living in the city, without the capital required of typical beginning farming operations.⁴⁶

Most of the Hmong population utilizes traditional tools as a means of farming. These tools are used for a variety of tasks, including weeding, cultivating, harvesting, and breaking up the soil. They are typically obtained at Asian markets in the Twin Cities.⁴⁷ Despite the limited use of machines and the relative high productivity of their farms, some Hmong farmers practice some unsustainable methods of farming, mainly the use of herbicides and pesticides to limit crop destruction. In Olson's survey, 45% of respondents claimed that they used herbicides as a method to control weeds. Furthermore, 79% of respondents said that they utilized insecticides as a method to control insects. The use of

⁴⁶ Jess Speier, "Hmong Farmers: In the Market and on the Move," Farmer's Legal Action Group (October 2006). http://www.flaginc.org/topics/pubs/arts/CLE_JAS.pdf (accessed September 18, 2009).

⁴⁷ Ruth Rasmussen, "Working With Hmong Farm Families," Minnesota AgrAbility Project, Power Point Presentation. <http://www.agrabilityproject.org/events/workshop2003/Omaha%20Pres%20for%20NAP%20web2.ppt> (accessed December 12, 2009).

insecticides and herbicides does not incorporate sustainable principles into their farming methods.⁴⁸

With a large percentage of the Hmong farming population utilizing herbicides and pesticides, it should be noted that there is also a substantial amount who are not partaking in these activities. In fact, a majority of respondents, 53%, stated that hand hoeing was their method for controlling weeds. Furthermore, Cultural practices and crop rotation accounted for a significant amount of responses for practices used to control insects.⁴⁹

While the small size of farm is an aspect of Hmong farming that contributes to their sustainability, it should be noted that these are not done by choice. Results from Olson's survey indicated that 35% of the Hmong farmers surveyed thought that the size of their farm would increase in the future. However, only two percent of farmers indicated that

⁴⁸ Kent Olson, "Results of a Farm and Market Survey for Hmong Specialty Crop Farmers in the Minneapolis, St. Paul Metro area [St. Paul, Minn.]." Dept. of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota. (2003). <http://ageconsearch.umn.edu/bitstream/13843/1/p03-11.pdf> [accessed September 18, 2009].

⁴⁹ *Ibid.*

they could have sold products than they produced.⁵⁰ Therefore, it is questionable whether or not an increase in land is necessary for the Hmong farmers. In order for this to occur, they would first need to expand their market.

The popularity of farmers' markets has grown with the heightening popularity of local foods as a result of increased awareness about food quality. In Minnesota, there are currently 130 farmers markets statewide, which is about triple the number from five years ago.⁵¹ This trend is in accordance with the national trends of farmers' markets. Although farmers' markets are increasing in popularity, it is vital to point out that the popularity of supermarkets still far outweighs the utilization of local markets. Farmers' markets are subject to seasonal availability, while supermarkets provide fresh produce during all seasons. Therefore, farmers' markets can be seen as a compliment to modern agriculture.

⁵⁰ Kent Olson, "Results of a Farm and Market Survey for Hmong Specialty Crop Farmers in the Minneapolis, St. Paul Metro area [St. Paul, Minn.]." Dept. of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota. (2003). <http://ageconsearch.umn.edu/bitstream/13843/1/p03-11.pdf> [accessed September 18, 2009].

⁵¹ Laurie Blake, "Minnesota Among Nation's Farmers' Markets Hotspots, 2009", <http://www.startribune.com/lifestyle/taste/51064172.html> (accessed October 10, 2009).

The Hmong have created a unique market niche for themselves in Minnesota. In accordance with their small farm size, Hmong farmers have successfully established a customer base at Minneapolis/St. Paul Farmer's Markets. According to the manager of the St. Paul Farmers' Market, Jack Gerten, they represent about 70 percent of sellers in suburban markets and about half of all growers in the urban markets in Minneapolis and St. Paul. Fresh vegetables and flowers are amongst the products they provide. In response to the role of Hmong growers in Minnesota farmers' markets, Gerten stated, "If you didn't have the Hmong you couldn't have these markets."⁵²

The farmers' markets allow the Hmong community to sell their produce directly to customers. According to Terry Nennich, a University of Minnesota extension professor, "By selling directly to the consumer, farmers can make 50 percent more on their produce."⁵³ Therefore, as Hmong farmers evaluate their goals, selling at farmers' markets is an easy way to sell produce while eliminating expensive overhead costs.

⁵² *Ibid.*

⁵³ Laurie Blake, "Minnesota Among Nation's Farmers' Markets Hotspots, 2009", <http://www.startribune.com/lifestyle/taste/51064172.html> (accessed October 10, 2009).

In spite of the economic and cultural opportunities presented by farming, Hmong farmers encounter a series of challenges in the agriculture industry. The problems provide insight on why immigrant agriculture cannot completely replace already established agribusinesses, but act as a complimentary source of sustainable agriculture. Amongst these problems include difficulty obtaining resources and information, capital, and cultural differences. Several of these problems ultimately stem from cultural and language differences between people, which serves as a major barrier for many farmers.⁵⁴

In Minnesota, several organizations have dedicated themselves to working with the Hmong population to aid in their agricultural success. These organizations include the Farmers' Legal Action Group, Minnesota Farm Advocates, Farm Service Agency, and the Minnesota Food Association. The Minnesota Food Association aims to teach new immigrants about farming techniques, marketing strategies, and sustainable farming. Their immigrant agriculture program focuses on immigrants with limited resources, who grew up farming in a different country. They have a three-year program that allows immigrant

⁵⁴ Jess Speier, "Hmong Farmers: In the Market and on the Move," Farmer's Legal Action Group (October 2006). http://www.flaginc.org/topics/pubs/arts/CLE_JAS.pdf (accessed September 18, 2009).

farmers to apply for loans to purchase their own land. Overall, the Immigrant agriculture program has taught over 250 immigrants.⁵⁵

The economic problems encountered by Hmong farmers are inextricably linked to their historic ties with the United States. Many Hmong are apprehensive to take out loans from private banks or farm aid programs, such as the Farm Service Agency (FSA) because of the events that occurred with America during the Vietnam War. Consequently, the Hmong community typically finances their operations through loans from their immediate family and relatives. This action contributes to the difficulty of obtaining information from several government run agencies such as the FSA and the Farmers' Legal Action Group. As a result of this trend seeking financial support is a significant barrier to farming for Hmong.

With the programs described, progress has been made to make Hmong farming sustainable. The first Hmong run certified organic Community Supported Agriculture (CSA) program was started in 2007 by farmer Mhonpaj Lee. Community Supported agriculture entails members buying shares in a garden, while receiving a weekly allotment of vegetables in return. Lee aims to educate others on the necessity of organic foods as owner

⁵⁵ Minnesota Food Association, "New Immigrant Agriculture Program," <http://www.mnfoodassociation.org/newimmigrant.aspx> (accessed December 19, 2009).

of the CSA. She further describes the CSA as an opportunity to differentiate herself in a market that is saturated by Hmong farmers.⁵⁶

Because of such outreach programs, there is a unique opportunity for the Hmong to approach agriculture more sustainably. With the establishment of the first CSA garden run by Hmong, the outlook is more promising. Also, the type of customers the Hmong are catering to at farmers' markets would be quite receptive to a more organic approach taken to farming. By taking a more sustainable approach to farming, Hmong farmers' market vendors could open themselves up to a wider range of customers.

It is through the tireless work of farming that immigrants to the United States discover a connection to their origins. Farming has been said to speak its own language, growing food does to all cultures two vital tasks: it maintains and defines communities. Examples provided from Hmong farmers in Minnesota show that by maintaining a connection to the land, although vastly different geographically, the act of farming provides an almost religious link to the Earth, regardless of where the growing is taking place.

⁵⁶ Amy Doeun, "The First Certified Organic Hmong Owned CSA Garden," Hmong Times. 2009.<http://www.hmongtimes.com/main.asp?SectionID=31&SubSectionID=190&ArticleID=1818>. (accessed December 21, 2009).

As established, current agriculture models are not sustainable for the future. It is economically, socially, and environmentally detrimental. By looking to immigrant communities for insight on their agriculture practices, one can gain knowledge on how to adapt our agriculture models to be more sustainable. The Hmong population in Minnesota gives insight to the unique cultural influence on their agricultural practices. The familial and community based support is central to their farming process. Furthermore, they farm on small, productive farms without the use of modern machinery. Typical agricultural practices draw from traditional methods of alleviating typical problems of insect infestation and weeds. These methods can draw inspiration for creating a model of sustainable agriculture in a larger scale. While Hmong farming methods are a representation of sustainable methods in practice, there is a problem with scale. Their farms are small, which is a characteristic that contributes to their sustainability. However, it is not feasible for these small farms to feed our current population. It is the ingenuity that the Hmong have to maintain their farms with limited natural resources and capital and their dependence on community and familial support that can be used as inspiration towards a larger, more sustainable model of agriculture.

From the example of the first Hmong owned CSA garden, there is evidence that immigrants are taking a part in developing a more sustainable agriculture system on a local level. With the aid of agriculture support organizations further strides can be made by the immigrant community in the United States. Immigrants, like the Hmong described in Minnesota, are drawn to the practice of agriculture because of its tie to their cultural background. Because of this tie, agriculture can help immigrants to the United States identify and connect with their culture. However, the Hmong population also provides an example of the difficulties immigrants encounter when farming in the United States. Issues with cultural differences and problems with obtaining capital and earning a profit stand in the way of making immigrant agriculture practices a feasible replacement to industrial agriculture. However, insight can be obtained on how to alter industrial agriculture by looking at Hmong agriculture practices. Ultimately with these unique aspects, Hmong agriculture practices can provide information on how to adapt our current agriculture methods to be more sustainable.

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