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**Small Farms and Sustainability : A Case Study in Madison County,
New York**

“The Feds just don’t understand local issues. What we need is a countrywide...a worldwide support of local foods...of organic foods...real organics that is. If the support doesn’t start at the top, we’ll probably never get there.”

-Madison County Farm Owner, 2010

Introduction

The small farm has always been a vital part of the culture of the United States, although it has faced many challenges along the way, including several wars, the Dust Bowl, and economic disasters such as the Great Depression and the “Farm Crisis” of the 1970’s (Strange, 1988). While there are many different technical definitions of a small farm, all generally pertaining to size and sales, the most common one is a privately owned farm that is not associated with a large corporation, and that has few if any employees (other than the owners). The term small farm is somewhat interchangeable with “family farm” but can also mean “hobby farm” or a farm that does not provide the main source of income for the owner.

Owning and operating a small farm is an occupation and lifestyle that has both challenges and rewards. For many Americans, farming provides happiness and enjoyment as well as an agreeable environment in which to live and raise a family. Also, farming promotes the development of communities in rural areas that are wealthy in terms of social capital and psychological health (Woods 2005, Duram 2005, Hanley 1991). Along with the social benefits of small farming multiple studies show that it is more ecologically sustainable than large-scale farming and, in most cases, is more

efficient when environmental costs are considered (Morton and Miller 2007, Rosset 1999, D'Souza and Ikerd, 1996, Hanley 1991).

Despite these rewards today's small farms are struggling to survive. The small farm culture that has been such an essential part of American and, indeed, Western society has largely died out (Woods, 2005, Demissie, 1990). There is a glimmer of hope, however, as recent trends in buying local, green agriculture, and organics are providing avenues for small farmers to find new markets (Kristiansen et al., 2006). Successful small farms today are often those that are capable of diversification and capitalizing upon new niches in the food system.

Small-scale agriculture is widely regarded to be a more sustainable agricultural system (in terms of ecological, social, and economic conditions) than the corporate agriculture that has come to dominate in the United States. Tied up within the issue of sustainability are two trends that are currently receiving a lot of attention from consumers, producers, academics, and politicians: "local" and "organic." What often gets overlooked is how these two terms fit within the context of sustainability and what they mean to the small farm owners who are supposed to be embracing them. A case study of small farms in Madison County, NY, considers the role that sustainability is playing in small-scale agriculture, with particular attention to the organics and local foods trends. Where do these two concepts fit within the broader goal of a more environmentally friendly and efficient agricultural system? How does small-scale farming embrace the ideas of sustainability more completely than large-scale agriculture? Through interviews and a phone survey the project reveals farmers' perceptions. Is U.S.

society on the brink of a sustainable food revolution? Recent trends towards more sustainable production and small-farm owner support suggest we may be.

The study begins with a brief overview of America's small farm history, which attempts to answer the question: "How did the family farm transition from the most dominant lifestyle in America to the precarious and somewhat forgotten role that it occupies today?" This historical perspective is followed by an assessment of the meaning of "sustainability" both as a stand-alone concept and within the context of agriculture. The national trends of organics and buying local are analyzed within the context of sustainability. The Madison County case study investigates how these trends are functioning in rural New York's small-farm system.

It is apparent that in Madison County there are changing attitudes and practices taking place, with a general shift toward more alternative and less conventional farming. "Buying Local" seems to be very much at the forefront of the movement while organic foods are taking a secondary role, particularly in the case of USDA certified organics. The farmers interviewed show general support for sustainable farming practices, yet are perhaps not as concerned about environmental issues as one might expect. While they may not fully understand or support the *concept* of sustainability as it is defined in this paper, they are generally encouraged by trends that are leading small-scale agriculture down a more promising, and more sustainable, path.

A Bumpy Road for Small-Scale Agriculture

Small farms have lost their once prominent role in American society. One of the biggest and most long-lasting threats is that of technological change and industrial agriculture. The “Green Revolution” involved the rapid mechanization of agriculture beginning in the early to mid 1900’s and placed strong stresses on small farmers and their well-being by introducing large-scale irrigation, the use of synthetic fertilizers, and new technologies that were impractical for smaller farms (Harper, 2001). By the 1950’s a “treadmill of technology,” as agricultural economist Willard Cochrane states, had developed. Those who could not “run on the treadmill” (i.e. those who could not afford to adopt the new technologies or did not have the necessary land and resources to accommodate them) were often forced out of agriculture altogether (Cochrane, 1993; Buttel et al., 1990).

Cochrane’s theory about the role of technological change assesses the levels of entrepreneurship among owners of different sized farms as well as their willingness to take risks. He concludes that larger farms had greater resilience to the potential shortcomings of new technologies and thus were bigger risk-takers when it came to adopting new production techniques. This discrepancy between larger and smaller farms reduced the economic viability of small farms and rendered them “useless” in view of many agronomists (Cochrane, 1993).

As small farms were losing their credibility, new technologies were allowing for the expansion of the larger farms. These technological advancements started with machines that today we would call simple. The tractor, for example, revolutionized plowing, harvesting, and a slew of other farm activities in the 1920s and 1930s. Even

creations like the bulk milk tank “led to unanticipated consequences including the exclusion of small farms from a system which has market only for bulk-tank-stored milk” (Harper, 2001, 40). Large farms continued to buy the technologies that small farms could not afford throughout the 20th century. In recent years, the trend has continued as synthetic fertilizers, pesticides, transgenic crops, and other modern innovations are less purchasable for small farms due to their high monetary costs. This has had the effect of pushing many small farms toward more “alternative” forms of agriculture such as organics and all-natural produce.

Farming has gradually become a corporate business predominantly controlled by a small number of players. More than eighty percent of the meat industry in the United States, for example, is controlled by just four companies (Pollan, 2006). But technology alone is not the only factor that has catalyzed the corporatization of farming in the United States. The “farm crisis” that resulted from the land boom in the late 1970’s caused many farmers to acquire huge debt in order to purchase vast tracts of land. Farmers during this time were confident that their debts would be restored with the increasing demand from foreign markets. The expected demand did not occur, however, and America’s entire agricultural system was hurt by record low prices for agricultural goods (Strange, 1988). Scores of farmers were forced off of their land across the nation, which helped pave the way for agricultural restructuring on a broad scale (Rosenblatt, 1990).

Politics have also played an important role in the destruction of small farms. Following the Green Revolution, continued expansion was largely a result of political changes that occurred in the early 1970’s. In 1971 Earl Butz became the Secretary of Agriculture under the Nixon Administration. He held the position until 1976 and during

that time he fervently supported a “180 degree turn in the philosophy of (America’s) farm programs” claiming that American’s had “abandoned the long term philosophy of curtailment and cutback” and moved on to “a new philosophy of expansion” (Woolf, 2006). For the first time, the so-called “agrarian ideal” as supported by Thomas Jefferson, was being blatantly opposed by the federal government.

Butz’s policies were aligned with what is known as *supply-side economics*, a strategy that was subsequently promoted by the Reagan Administration in the 1980s and would bring a wave of neoliberalism to the United States. Neoliberal or supply-side economic policies serve to increase the private sector’s role in the nation’s economy and have thus enabled for the corporatization and commoditization of agriculture to succeed (Harvey, 2005). Foods became commodities, produced in mass quantities with very little diversification. When the government maintains a “get big or get out” philosophy, growth becomes a much simpler process and the obstacles between corporations and their seizing control of individual foods are removed (Pollan, 2006).

In the 1980’s specialization of crops and the development of large “superfarms” designed to satisfy new neo-liberal markets were growing at an unprecedented rate across the country, but particularly in the West and Midwest. In a process that continues today, these farms were driving small farmers out of business by creating *economies of scale* that force small farmers to either expand or sell up (Mosheim et al., 2009). An economy of scale is the term used by economists to describe a situation in which a producer (i.e., a farm) is able to reduce unit cost through means of expansion. In other words, it forms a condition where the simplest way to decrease costs is to increase the scale and capacity of production (Panzar and Willig, 1977).

The combination of the farm crisis of the 1970s and the growth of corporate farming that followed has brought about a period of struggle for small and mid-size farms, depleting their numbers significantly (Sontag, 1996) (Figure 1). By the early 1990s more than half of America's food was being produced on 4% of farms. At the turn of the millennium, 85% of the country's cropland was being used for just four crops: corn, soybeans, wheat, and hay (Manning, 2004). Between 1998 and 2007 the number of dairy farms in the United States decreased by 39% while the average milk produced per cow increased by 47% percent. These statistics reflect the pattern of simplification and homogenization that accompanied the trend in farm size expansion. Larger farms with the capacity to handle increased production rates while focusing on just one or two crops edged out smaller family farms, that didn't have the capital to expand, or the necessary acreage to accommodate technological advancements (Mosheim et al, 2009).

Bucking the larger trend, however, in the past decade there has been an increase in "very small farms." But this 'recovery' may be deceptive; the increase has been in farms with less than 50 acres. In some instances they are not technically farms at all, as the definition of what constitutes a farm changed in the early 1990s in such a way that many small landholdings with limited or no productivity became recognized as farms (Woods, 2005). A small vegetable patch on a property of several acres can now constitute a farm. Meanwhile, the number of large farms has also been increasing and the number of small and mid-size farms which accounts for everything between 50 and 1000 acres has been steadily decreasing (USDA, 2010) (Figures 1 and 2 reflect these trends). It is this decrease in small to mid-size farms that has raised alarm among agricultural economists, environmentalists, and rural sociologists.

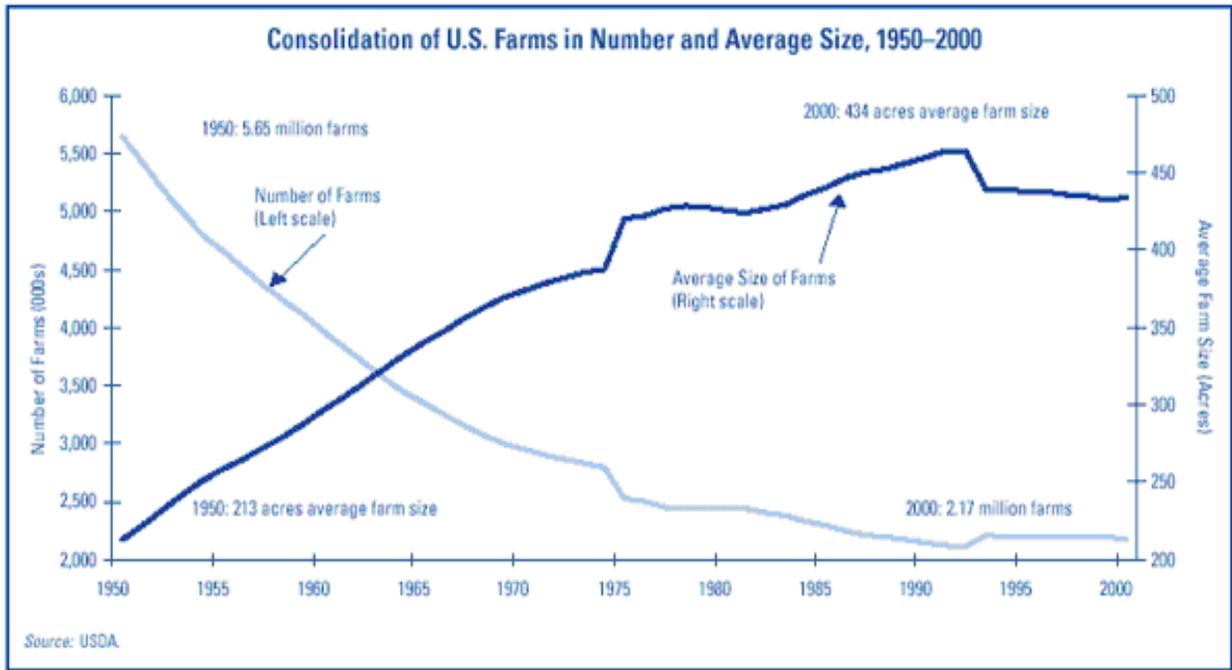


Figure 1: Consolidation of US Farms in Number and Average Size, 1950-2000 (USDA, 2001)

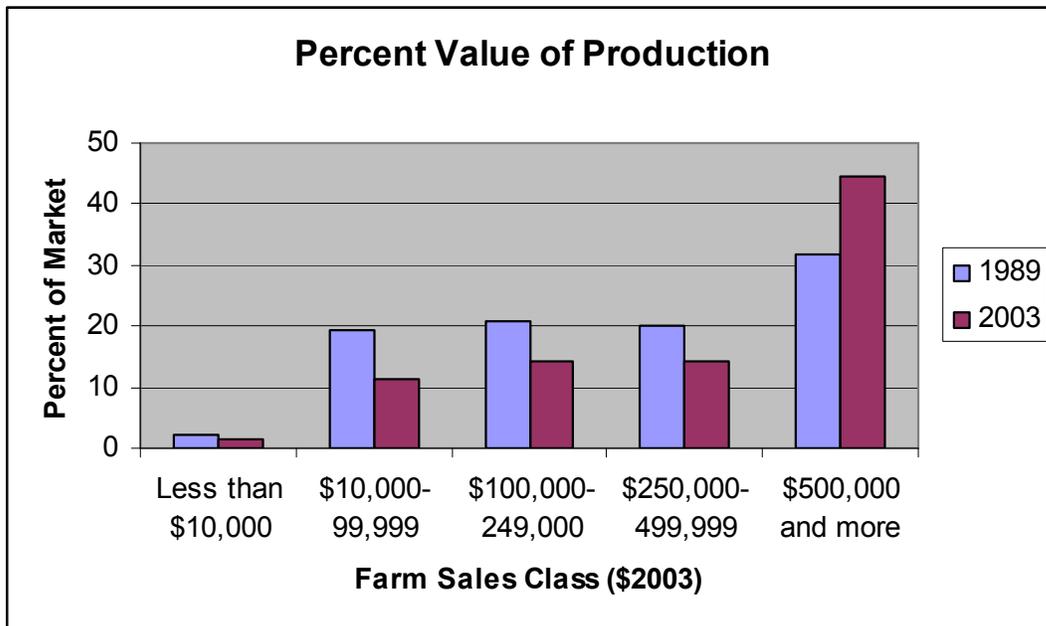


Figure 2: Agricultural Production is Shifting to Larger Farms. Between 1989 all sales groups less than \$500,000 have reduced their percentage of the market while farms with sales greater than \$500,000 have increased by roughly 13 percent. (USDA 1989 Farm Costs and Returns Survey and 2003 Agricultural Resource Management Survey)

Over time the economic pressures placed on small farm communities have had notable negative social and cultural impacts. During the farm crisis of the 1980's suicide rates of farmers swelled significantly. In the Midwest the rate of farmer suicides throughout the 1980s was over double that of non-farmers (New York Times, 1991). As a result of economic hardship for family farmers, rural town economies have suffered as the buying power of farmers has been significantly reduced (Woodward and Gillespie, 2007). Difficult times in rural communities are represented in patterns of decreasing involvement in community group participation, church attendance, and weaker family relationships (Demissie, 1990). All of these warning signs have been observed over the past two decades in rural communities across the country and around the world (Woods, 2005).

In general, the small farm communities are also shrinking. Less small and mid-size farmers are staying on the land and many have sold up and moved out. There are also strong patterns of urban migration in rural-raised youths. Farmer's children are moving to cities for jobs and now over 50% of small farmers are over the age of 55 (Demissie, 1990 and Woods, 2005). Though in some areas an influx of exurban migrants is occurring, the overall trend represents a decrease in productivity and ownership of small to midsize farms (USDA, 2007.) Since the Jeffersonian era small-scale agriculture has been an essential part of American culture, economy, and society. The "rural ideal" that was so important to the founding fathers has been depleted to a mere shadow of what it once was. This loss is, from many points of view, is quite tragic. Small farms and the family farm lifestyle form a vital component of agriculture and society as a whole.

Furthermore, and of particular interest for this paper, they arguably create a more sustainable food system that holds much potential for avoiding the negative impacts of conventional large-scale agriculture.

Defining Sustainability

The term “sustainability” is difficult to define as are the methods by which to achieve the conditions the concept espouses. The general public often seems to link it immediately to the issue of climate change and greenhouse gas emissions. While this is certainly an important part of sustainability, there is a lot more to it than carbon footprints alone. Perhaps, the most commonly accepted definition is one that was formulated at the United Nations Brundtland Conference, formerly known as the World Commission on Environment and Development (WCED) in 1983:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- *the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.*

This definition is to an extent a broadening of Gifford Pinchot’s approach to resource management, which stated the vital importance that the general population:

“recognizes fully the right of the present generation to use what it needs and all it needs of the natural resources now available, but also recognizes equally our obligation so to use what we need that our descendents shall not be deprived of what they need.”
(Pinchot, 1910)

Both of these definitions focus on “needs” which seem to pertain predominantly to natural resources. Indeed, Pinchot’s approach was specifically aimed at forest preservation alone before it was then applied to other natural resources later on (Howarth, 2007). Long standing contentions voiced by environmentalists of various professions have expressed the necessity to broaden the meaning of sustainability beyond just resources, as it is so often characterized (Goodland and Daly, 1996; Howarth, 2007; Solow, 1991; Allen, 2004; D’Souza and Gebremedhin, 1998). While the Brundtland definition implies a more strictly ecological perspective, other speculations bring a wider range of issues to the forefront. These approaches expand the one-dimensional goal of resource maintenance in to other realms; perhaps most notably the social and economic sides of the sustainability equation. The collective message is that sustainability cannot be limited to the mere protection of “needs”, but rather must encompass issues of social justice, gender roles, quality of life, and economic efficiency. A truly sustainable society is a productive one in which each of these issues is balanced with ecological issues, not separated from them.

Howarth (2007) argues that the term “needs” would more appropriately be labeled “life opportunities”, and if we consider sustainability as encompassing more than just ecological goals, then perhaps this choice of words is quite appropriate. Ensuring that future generations have not only the same basic life-sustaining resources as we do today, but rather that they have the same potential for betterment and even happiness that we have, adds new elements to the idea of sustainable development—elements that stretch further than the limitations of natural resources alone.

Another important aspect of sustainability that often gets overlooked when using the Brundtland definition is the importance of the present. While the Brundtland definition does mention “satisfying the needs of the present generation” it tends to lend itself more toward ensuring that future generations’ needs are met. As Solow (1991) points out, sustainability is as much about the present as it is the future; we should not focus solely on preserving the future’s needs but must also ensure that all of our own are provided for. It makes no sense to be fretting about future generations having enough to eat if there are already millions of people starving in third world countries today.

One approach to conceptualizing what it means to be sustainable is to break the idea down into separate parts. Goodland and Daly (1996) divide sustainability into three different subcategories: social sustainability, economic sustainability, and environmental sustainability. When assessing sustainable practices in agriculture, this division works quite well. In more recent literature this way of defining sustainability has gained wide acceptance and has been tagged the “Triple Bottom Line” or TBL sustainability definition (Pope et al., 2004). Others have called for a TBL +1 or QBL—Quadruple Bottom Line—insisting that governance should be added to society, economy, and environment. The TBL is however the most commonly used approach (Glasson and Wood, 2009) and shall now be examined more closely and then with reference to agricultural systems.

TBL Sustainability and Small-scale Agriculture

Social Conditions

Social sustainability, according to the Goodland and Daly (1996) definition, deals predominantly with the levels of social and human capital within a community. Human capital is a measurement of a labor force that relies not solely on numbers but rather the knowledge and skill of the individuals within that labor force (Stayner, 2005). In rural communities human capital is especially valuable as it allows for the distribution of knowledge and wisdom with regard to land stewardship and farming practices. Because of the higher levels of interactions between farmers in small farm areas versus large, the total human capital and distribution of knowledge is generally higher. Knowledge itself becomes sustainable because it is handed on from one person to the next and likewise from one generation to the next. Whereas in a corporate or large-scale system knowledge is often retained within the boundaries of a single farm, in small-farm systems it spreads easily from one farm to another (Turner and Brush, 1987). Also, small farms require greater amounts of land-use knowledge from their owners. Unlike large mono-cropped farms, small farms generally have greater diversity of products and thus necessitate a better understanding of the land and the most efficient ways to utilize it. By having multiple crops, small farmers are drawn towards strategies that require them to keep inputs on-site, such as producing their own natural fertilizers or growing their own animal feed (Ellis and Biggs, 2001).

Linked to human capital is social capital. Social capital refers to “networks, shared norms, values and understanding that facilitate co-operation within and between groups” (Stayner, 2005). Small farm systems encourage stronger social capital than large

farm systems. This is due to the shorter distances between neighbors, the prevalence of community organizations and events, and the sharing of knowledge between groups.

Related to social capital are the concepts of social cohesion and social exclusion. Social cohesion is defined as emphasizing “the need for a shared sense of morality and common purpose; aspects of social control and social order; the threat to social solidarity posed by income inequalities between people, groups, and places; the level of social interaction within communities or places; and a sense of belonging to place” (Forrest and Kearns, 2001, 2130). Social exclusion, on the other hand, is a process by which individuals and groups are deprived of the necessary resources needed to play an active role in society, and results in these people being cut-off from the life opportunities that the majority of the community has access to (Pierson, 2002).

Throughout the last century, rural communities in the developed world have witnessed declines in social cohesion, and increases in social exclusion, resulting primarily from the shrinking of small-scale agriculture and increase in corporate and large-scale farming (Woods, 2005; Shucksmith and Chapman, 2002). These rural communities that were once locations of sustainable social capital are now fragmented, typically becoming home to both the extremely rich (second-home owners, retired hobby-farmers, and corporate farm owners) and the extremely poor (long-term residents and small-scale farmers or ex-farmers). The shared common purpose, the balanced social order, the solidarity and equality of the community—all aspects of the social-cohesion that contributes to social capital and sustainability—are sacrificed when small-scale agricultural systems are fractionalized or destroyed altogether.

In addition to human and social capital there are several other criteria and methods for measuring the level of social sustainability within a community. The Lisbon Declaration (European Council, 2007), for example, identifies education, employment policy, the level of modernizing social protection, and the level of promotion of equality to counter poverty and social exclusion, as the most important aspects of social sustainability. This approach is, perhaps, more narrow than the broader scope of social and human capital.

Bramley et al. (2006) take a two-dimensional approach to social sustainability. Their approach considers “equity of access” and “quality of community” as the two determining measures of social sustainability. The equity of access element is measured by the degree to which members of the community have equal access to opportunities, similar to the “life opportunities” mentioned by Howarth (2007). The quality of the community is linked to the social capital, cohesion, and exclusion. On the whole, it would appear that the social sustainability of a community depends on the equity of access to life opportunities, and the overall balance of social capital, which includes the levels of cohesion and exclusion as well as the amount of interaction, shared knowledge, the balance of wealth, and the overall solidarity. Small farm systems are repeatedly acknowledged as exemplary examples of these qualities.

Economic Conditions

Economic sustainability is a little harder to define, particularly in the agricultural context. The most widely accepted definition of economic sustainability is simply “maintenance of capital” (Goodland and Daly, 1996.) Just as with social sustainability it

is difficult to put a price tag on the worth of human and social capital, economic sustainability is troublesome because linking monetary value to ecological capital is not at all an easy task. Many environmental economists suggest that when irreversible impacts that place the “life opportunities” of future generations are at stake, sustainable economics are those policies that err on the side of caution; the “precautionary principle” therefore is often chosen over more risky options. But even this approach is problematic. No one can determine what the future will hold in terms of technological capabilities or monetary worth of resources. For this reason it is extremely difficult to apply the simple cost-benefit analysis model so commonly used by economists. The monetary worth of oil right now, for example, may be far less than it will be in the future. Even trees may have less value in the future if we develop a technology that sequesters carbon more efficiently. The point is that the maintenance of capital becomes very hard to measure when forms of capital other than monetary capital enter the equation. Applying a monetary value to a future “life opportunity” or “need” will always be a challenge.

Perhaps, a transition towards economic sustainability should move away from trying to calculate the monetary worth of resources in the future and instead, as Solow (1991) suggests, aim to use money in such ways that will give the future the capacity to be as well off as we are now, in all forms of capital. If this is the goal then small farm systems would appear to be far more sustainable than large-scale corporate agriculture. Some economists argue that small farms lack economic efficiency and that their continued existence is impractical (Kumbhakar et al. 1989 and Schmitt 1991). These arguments generally rest upon the principle that per unit production costs for small farms are usually higher than those of larger farms. In terms of immediate monetary benefits

these arguments hold true. But when factors other than immediate monetary profits, such as environmental benefits, productivity per acre, product quality, social capital, and efficiency of labor are considered, the advantages of small farms outweigh those of larger farms (Rossett, 2000; Hazell, 2003).

Small farms promote a more egalitarian distribution of land that has been shown to cause higher levels of economic growth and also more evenly distributed growth (Hazell 2003). They benefit the rural poor by leading to a more balanced distribution of wealth in rural communities (Deininger and Squire, 1998). Also, small farm households aid rural towns by exhibiting favorable off-farm expenditure patterns that endorse a thriving off-farm economy. Relative to large farm owners, small farmers spend higher percentages of their income on rural non-tradables (Hanley, 1991). This expenditure supports a more even wealth distribution in rural areas as businesses such as stores, restaurants, and service industries are also capable of achieving financial security. Furthermore, in rural areas that are dominated by small farms, the source of profit (which is the arable land) is shared between many parties rather than being dominated by just a few.

Ecological Conditions

The third pillar in the TBL model is simpler to define and is more closely tied to the Brundtland and Pinchot definitions. Environmental sustainability involves protecting the ecosystem services, and also ensuring that the sinks for human wastes are managed in such a way that they do not pose a threat of harming humans or other species. It can also be said to require the fulfillment of two rules: the *output rule* and the *input rule*. The

output rule requires that waste emissions “remain within the assimilative capacity of the local environment to absorb without unacceptable degradation of its future waste-absorptive capacity or other important services.” The input rule maintains that “harvest rates of renewable-resource inputs should be within the regenerative capacity of the natural system that generates them,” and that “depletion rates of non-renewable-resource inputs should be equal to the rate at which renewable substitutes are developed by human invention and investment” (Goodland and Daly, 1996, 1008). While the second part of this rule is perhaps more relevant to energy production than agriculture, the first part relates to farming more closely. As discussed by Ellis and Biggs (2001) and previously Berry (1979), small farms are advantageous because they do exactly what the output rule asks: they maximize efficiency by working at the full potential of the natural system without exhausting it.

Actually measuring environmental sustainability is, like social sustainability, quite difficult. It generally involves assessing the extent to which natural capital is maintained. Countless sets of “indicators” have been proposed by various authors and organizations but as of now there are still no clear answers. In general, the amount of herbicides used, the level of soil, air, and water quality and depletion, and the greenhouse gas emissions associated with all elements of production are considered to be the main indicators of environmental sustainability in agriculture.

Many empirical studies have shown that small farms once again prove more capable of fulfilling the demands of environmental sustainability than large farms (Morton et. al, 2007; Sontag, 1996; Rosset, 2000; Turner et al, 1987, D’Souza and Ikerd, 1996). Most of these studies have claimed that small farms are in a sense more in sync

with natural processes and that their owners and operators have a better understanding of them. There are also specific examples relative to biodiversity, soil quality, water quality, and greenhouse gas emissions that show small farms to be less harmful to the planet's ecosystems. Small farms also involve a less concentrated use of resources which has a less damaging impact on the land.

Summary

The bulk of the evidence shows that small farming is more sustainable than large. When successful it involves a complex system of human capital diffusion that increases overall social sustainability within the community. Small farm systems promote a rich and healthy society with a high quality of life for its members (Turner and Brush, 1987.) Successful small farm communities have been shown to be more economically sustainable and more efficient than large specialized commodity farming. When cost-benefit analyses that include factors like social capital and sustainability are conducted, they reveal over and over that a small and mid-size farm system has higher net benefits and lower costs than a large scale system (Morton and Miller, 2007), (Rosset, 1999), (D'Souza and Ikerd, 1996) and (Hanley, 1991.) Small farm communities also exhibit better land stewardship, better ecological environments, and generally healthier characteristics (Rosset, 2000). Figure 3 is an elaborated version of the TBL model that includes the concepts within each pillar that have been discussed.

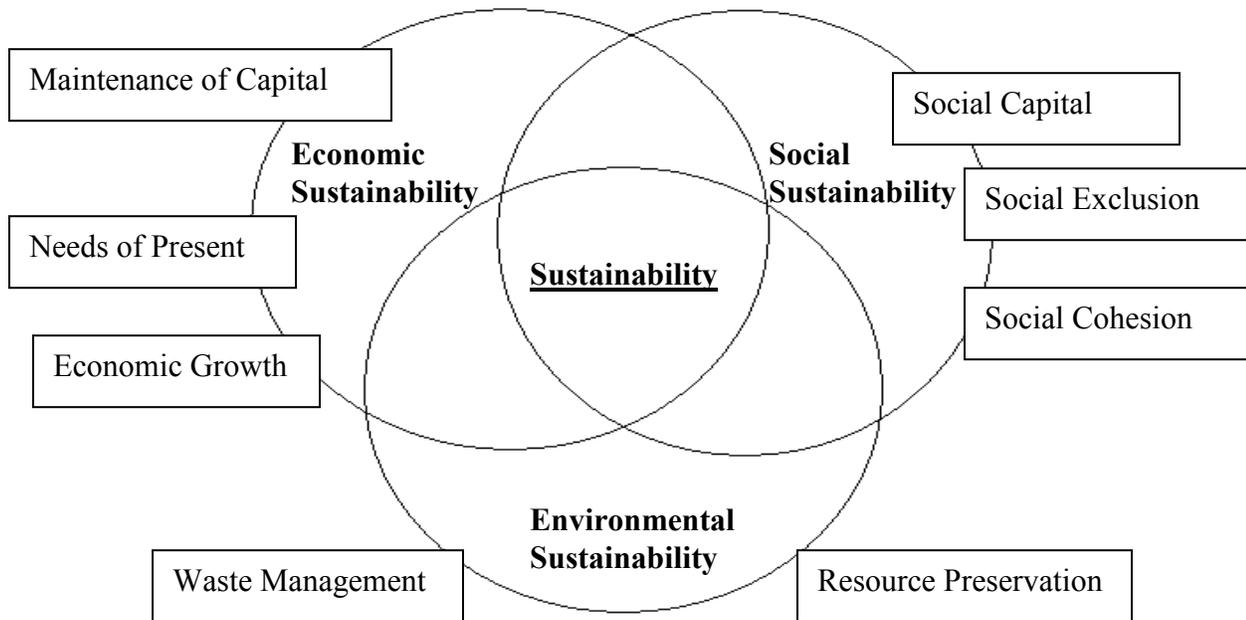


Figure 3: *The elaborated TBL model for sustainability. Sustainability is comprised of the three pillars of “Social Sustainability”, “Economic Sustainability”, and “Environmental Sustainability”. Within each of these are several measurable concepts.*

Organics and Sustainability

Organic food is the fastest growing sector in the food industry. In 2008 organics were accountable for an estimated 23 billion dollars in sales, and this amount is projected to have increased at an average of 18 percent each year between 2007 and 2009 (Organic Trade Association, 2007.) According to the latest report by market research group Packaged Facts, organic foods ought to grow 63 percent by 2010 which will put their total sales at over 46 billion US dollars (Packaged Facts, 2009.) As for farmland, the total amount of acreage employed in certified organic farming increased by an enormous

111 percent between 2002 and 2005 and is scheduled to continue to increase at a similar rate for the foreseeable future (USDA, 2007.)

The substantial growth that is occurring on a global scale is largely due to drastic changes in the structure of organic production and marketing systems. Once sold predominantly in specialty food shops, organics have now found their way on to the shelves of most U.S. grocery stores. This trend is not unique to American markets but is found throughout the western world. In the United Kingdom 82 percent of organics are now purchased in supermarkets (Soil Association, 2002.) In many cases, however, modern organic farms are vastly different from the first organic farms that formed in the middle of the twentieth century.

This expansion of organic production and sales has brought with it many modifications that have arguably been in opposition to the originally proposed logic behind organic food. It has also had more profound implications as it has altered the philosophical grounding for organics. In very recent years an “organic debate” about the true value of organic foods and their place in society has sprouted up and within it the very meaning of the word “organic” is being questioned (Kristiansen et al., 2006). The overlying conclusion is that the word’s meaning is changing and is now less easily defined than it once was (Torjusen et al., 2001; Klintman and Bostrom, 2009; Obach 2007).

In agriculture, the word “organic” has always been closely associated with the word “sustainability” (Hatfield and Karlen, 1994). Early conceptions of organic farming involved ideals perhaps more closely aligned with what would be referred to as “sustainable farming” today. The earliest known mention of “organic farming” dates

back to 1933. In his publication *Look to the Land*, an English lord, Lord Northbourne, described his ideal agricultural system as one consisting of organic farms that operated as “self-sustained and self-containing organisms” that rely not on chemical inputs and fertilizers but rather depend on their own natural processes for fertilization. He advocated for a counter-movement against the trend of mechanization occurring at the time, pushing for a farming system that would be “dynamic, living, organic, and whole” and would sustain healthy social communities (Northbourne 1933; Fitzgerald and James, 2008).

Northbourne’s definition of organic farming seems to satisfy two of the three pillars of the TBL sustainability model: environmental sustainability and social sustainability. Whether or not organic farming can make sense economically, however, is still highly debated. As it currently only makes up a very small (but growing) percentage of the world’s food, it’s very difficult to tell whether organic farming could viably feed the world. Some of the biggest challenges it faces are local variability in consumer demands, climate, and soil conditions (Kristiansen et al., 2006). Conventional farming is perhaps more easily adapted to changes in these three areas. Despite these challenges there is still a growing amount of support for organic foods, but whether or not these organics are sustainable is an entirely different question altogether.

Since Northbourne wrote his definition of the organic farm in 1933, many authors, agronomists, and social scientists of various disciplines have argued that organic farming is a viable agricultural strategy that can balance the demand for food brought on by the ever-increasing population, while at the same time counterbalancing environmental consequences caused by conventional agriculture.

In her book *Good Growing: why organic farming works*, Leslie Duram, an associate professor of geography and environmental resources at Southern Illinois University, supports the notion that organic farming “works” with regard to fulfilling the goal of sustainability. However, she also maintains that the recent corporate adaption of organic production is pushing it more towards conventional distribution methods that have tangible negative consequences (Duram, 2007, pg. 79). Furthermore, Julie Guthman, author of the critically acclaimed book *Agrarian Dreams: the paradox of organic farming in California* (2004), contends that organic food has taken on a new identity that is very detached from its original purpose. The majority of “organic foods” now come from large farms, rather than small, and very often grown alongside conventional crops.

Perhaps the best example of an industry in which “organic” has lost its identity is in dairy. Organic milk is immensely popular among consumers—but 70% of organic milk is now owned by one \$127 million corporation, Horizon. The milk sold by Horizon is produced on farms that abide to the USDA’s requirements for certified organic production. While the USDA requires that organic milk come from cows fed a very specific diet of approved chemical-free feed, there are no requirements for post-production standards, transportation distances, or farm size. This means that most “organic” milk purchased in supermarkets is travelling immense distances, is ultra-pasteurized—a process that removes many of milks natural vitamins and minerals—and is produced on large farms often alongside conventional dairy practices (Pollan, 2001). These production methods are in stark contrast to the older organic model and do not fit the concept of sustainability as outlined by the TBL model.

As organics are gaining popularity they seem to be drifting further and further away from sustainable agricultural practices. It is for these reasons that many small farmers are choosing not to become USDA certified as organic farms while still maintaining what they deem “organic” practices. As the term organic has been copyrighted by the USDA, it can no longer serve to define anything other than production methods. Even the production methods it requires are contentious with regard to environmental sustainability due to the fact that they allow the use of “organic fertilizers” which have been argued by some to be no better than inorganic fertilizers (Guthman, 2004). Elements such as social capital, equal distribution of wealth, and even resource preservation are essential to a concept of sustainability, but do not figure in the USDA’s requirements for organic. The words “organic” and “sustainable” are in fact more disconnected now than ever before. Perhaps a more fitting agricultural system for supporting TBL sustainability is not one based on organics but rather one based on the rapidly growing trend of “buying local.” Since becoming a large-scale production system, it is also apparent that organics have lost some of their sustainable qualities. In the case study that follows, small farmers attitudes toward organics are assessed and seem to suggest that there is indeed increasing disconnect between small farmers and organic foods.

Local Foods and Sustainability

The other buzzword in both food and agriculture today is “local.” With regard to fulfilling the TBL sustainability model, local food systems seem to do quite well, as they generally involve communal, economical, and environmental benefits (Allen, 2004). The

environmental benefits of a locally-based system of food production and consumption are at first glance quite obvious. Generally, the “food-miles” argument which states that foods that are produced locally have less associated greenhouse gas emissions than do foods produced far away (making them more sustainable), is an accepted principle. However, further examination has led some critics to question whether the “food miles” argument holds up to the requirements of sustainability.

Several studies have concluded that food miles alone are not reason enough to declare local food systems more sustainable than conventional ones (Weber & Matthews, 2008; Edwards-Jones et al., 2008; Smith et al. 2006). One argument against the validity of food miles as a sustainability indicator reveals that the greenhouse gas emissions associated with food are in fact dominated by production rather than travel. According to one study, food production accounts for 83% of the average U.S. household’s carbon footprint while food *transportation* accounts for a mere 11%. Furthermore, certain foods like red meat emit around 150% more intensively than do others like fish or poultry (Weber & Matthews, 2008). These arguments suggest that dietary choices and production methods are perhaps more important with regard to environmental sustainability than transportation.

The argument *for* local foods, however, does not pertain merely to transportation and greenhouse gas emissions. Granted, this is a part of it, but safer and more environmentally responsible production methods, better exchange of knowledge between producer and consumer, and stronger rural communities, are all important aspects that make small farming systems and local distribution systems more sustainable with respect to the TBL sustainability model (Allen, 2004: 212-216). While there may be a valid

point that production of food matters more than its transportation, there is still plenty of reason from an environmental standpoint to apply what Kloppenburg et al. (1996) refer to as the “foodshed” (analogous to a watershed) of our farming systems.

Foodsheds, or the areas affected by a point source food production unit have become increasingly larger as agriculture has become increasingly corporate and globalized. The environmental impacts from production in one corner of the U.S. may now affect people in an opposite corner of the U.S. or even in a different country. By switching to more local, or “alternative food systems” with smaller foodsheds, the extent and severity of foodshed pollution can be limited. In other words, centralizing production and bringing it closer to the areas in which consumption occurs can still greatly reduce the spread and severity of environmental consequences (Kloppenburger et al., 1996).

Regardless of the arguments against the legitimacy of food-miles as a sustainability indicator, local food systems are more sustainable than conventional ones. They involve healthier land-use practices, stronger communities, more balanced distributions of wealth, less pollution, higher social and human capital, and greater long-term economic efficiency; all of these benefits contribute to more sustainable agriculture with regard to the TBL sustainability model. “Buying local” then would appear to be a desired trend in modern small-farm systems, perhaps more important in the long term than buying organic.

Small Farming in Madison County, NY

Throughout its history Madison County, New York has experienced and absorbed a lot of significant agricultural change. Changes in recent years are having drastic societal impacts, however, and threaten the very cultural fabric of the county.

Agricultural transformations have affected the livelihood and well-being of Madison County's residents in many profound ways (Madison County Farmland Protection Board, 2005). Many small to mid-size farmers in the area are being forced to make choices about the use of their land. Some are downsizing while others try to expand. Still others are attempting various diversification strategies including finding new amenity uses for their land or delving in to new markets such as organics or targeting the new "buy-local" phenomenon (MCFPB, 2005).

Contrary to the national trend, the number of small farms in Madison County has actually been increasing over the past decade. This could be partly due to the change in the definition of "farm" that has allowed for smaller landholdings to be classified as farms. Regardless, Madison County is experiencing growth in small rural communities that is not aligned with the broader changes taking place nationally. Furthermore, there has been relatively little increase in average farm size in Madison County. Even within the dairy industry, an industry in which massive expansion has and is taking place globally, relatively little growth in farm size has occurred. In fact, the average farm size is currently only 229 acres and has been very gradually decreasing over the past few years (MCFPB, 2005). These statistics would seem to suggest that small farming is finding more prosperity in Madison County than in many other places around the country and so it makes a study of this type perhaps more valuable here than elsewhere. By

interviewing members of a small farming community that is relatively successful, the driving factors behind success can be found.

Madison County is also showing some more troubling symptoms of rural decline, however. The average age of farmers in the county is increasing, now at 55 years old, which suggests that a lot of the farmers in the area may be retired, perhaps having once had other professions and then transitioning in to farming as a post-retirement source of income. Furthermore, young people are migrating out of the county at a faster rate than they are coming in (MCFPB, 2005.) Both of these trends imply that small farms are still struggling despite being relatively successful in comparison to other areas.

As the older farming society is battling to maintain its presence in the County, a new influx of exurban migrants has grown significantly in recent years (Madison County Farmland Protection Board, 2005.) This “tree changer” phenomenon, as it is sometimes referred to, is not unique to central New York but is in fact a globally-observed occurrence that has had major impacts on historically small-agricultural communities (Woods, 2005). Tree changers are typically of a higher economic class than the “locals” that they cohabitate with and are generally in pursuit of such ideals as an often misconstrued concept of rural simplicity and healthier, happier living in a rural setting. They list factors such as “a better quality of life,” “a better place to raise their children” and a “slower pace” as the driving forces behind their decision to relocate to rural areas (Barcus, 2004).

It is important not to group all rural migrants together. Tree changers vary significantly in their goals and aims ranging from those seeking to find a second home to escape the stresses of city life to those who pack-in the urban lifestyle all together and

strive to start some form of productive rural amenity farm or project in the countryside. Their various endeavors also have drastically different impacts on the area that they move to, both socio-economically and environmentally. They are generally more inclined to try new farming techniques such as organics than are longer-established farmers. This gives them an interesting but still-not-fully-understood role in sustainable agriculture.

Research Methods

The case study of small farmers in Madison New York was designed to gain a better understanding of small farm owners' attitudes towards sustainable agriculture, organics, local foods, and the practice of small-scale farming in general. While there is plenty of academic literature about the desirability of organics, local foods systems, and other alternative agriculture structures, hearing the opinions of actual small farm owners on these practices is arguably more important.

The study of small farms in Madison County, New York was conducted in two phases. Phase 1 involved personal interviews with seven small farm owners. The interviews explored not only sustainable agriculture and the related themes, but also small farm practices in general. Questions were asked to try to understand the motivations for small farmers to "stay on the land." Gaining a better understanding for farmers' attitudes with regard to their trade in general set the stage for gauging their attitudes toward aspects of sustainability. For the purposes of this paper however, only the responses to questions dealing with the relevant topics are analyzed.

Phase 2 involved a phone survey in which over 75 local farms were contacted. The phone survey had several questions pertaining to sustainable agriculture and several “filler” questions designed to explore other potential avenues for information and also to keep the farmers engaged and interested. The methods and results from both phases follow.

Phase 1

“Small farms” for the purpose of this study are defined as having annual sales of \$250,000 or less. This is in accordance with the definition set by the National Commission on Small Farms. Other agencies, reports, or documents have included farms of this size in the “mid-size” category but in general \$250,000 is accepted as a good cut-off. Most farms with annual sales higher than \$250,000 have sales higher than \$500,000 and are considered commercial-sized or industrial farms (also called “superfarms.”) Four of the seven small farmers interviewed were vegetable farmers and three were grass fed beef farmers. One of the beef farmers also produced some vegetables and dairy products and one of the vegetable farmers also had a small dairy operation.

Below is a list of questions that were asked of each farmer that are relevant to this study. Several other questions from the interviews were not relevant to this paper, but were used in a previous essay. The questions were designed to be open-ended and to prompt discussion on the related topics. Below each question is an explanation of the importance of the question and how it is linked to the broader themes. The conversations were recorded.

1. *Has your farming practice or strategy changed significantly since you began? If so, how? Have you expanded at all? Diversified? Leased land to other farmers? Increased off-farm profit?*

This question was aimed at addressing more specifically the range of strategies being employed by small farmers in central New York as they compete to stay on the land and be profitable. Switching to organics, employing other sustainable farm practices, becoming members of local distribution organizations, or becoming participants at farm markets were all viewed as responses that would identify a positive response to more sustainable farming.

2. *Do you feel victimized at all by competition with larger corporate farming?*

This question intends to assess the extent to which the neoliberalization of agriculture and the introduction of corporate farms are impacting the attitudes of small farmers. It was hoped that responses to this question may also reveal more about views on alternative farming practices.

3. *In what ways have you struggled to compete in modern markets and what strategies have you found effective to succeed?*

Though similar to question 6, question 8 more specifically addresses the “buy local” phenomenon and the impacts that it is having on central New York small farmers.

4. *What are your attitudes toward sustainable agriculture? Have you implemented any sustainable or “green” practices on your farm?*

Question 9 assesses the level of concern for sustainability held by farmers and the degree to which their farming practices reflect that concern or are influenced by it.

Phase 2

A list of 75 small farmers in Madison County was obtained from the Madison County Agricultural Economic Development (AED). All 75 farmers were first sent an information card about the survey prior to being contacted by phone (Figure 5). A complete list of all the questions asked in the survey is available in the Appendix.



Figure 5: Postcard sent to 75 small farms in Madison County (reverse side in appendix)

Phase 1 Results and Analysis

Questions 1 and 3 Responses:

The responses to these questions showed a general trend but also revealed some differences that may have stemmed from the fact that some of the interviewees had been farmer's their whole lives while others were relatively new to the trade. The aim of asking these questions was to try to assess the issues that farmers may be facing with modern markets and the strategies that they are employing in order to succeed. Many of the farmers emphasized the "buy local" trend and how they had capitalized on the growing local foods market. A selection of the responses that represents a general picture of all of the responses is below.

"In the last four years basically we've dedicated I guess to direct marketing...I think that's because of increased interest in support towards local agriculture and to buy local foods. We saw the trend coming and saw the opportunity...and so that's something we've put a big push on."

"The way things are going with people supporting local agriculture...it was an opportunity that we saw coming...so that's the direction we took."

"The biggest change recently is getting to sell the beef directly to consumers. Previously we mostly did just breeding stock. Now we've got a direct market for beef."

"It's always good too buy local...as far as trends go you know trends are gonna change they always do...as far as...if you don't look at change then you're on the way out...you have to constantly improve whatever you're doing"

"we used to have 2000 acres of grain but we've cut it down to 125 acres of vegetables...The grain business we were handling a lot of money but there is so little profit in it ever since the government decided they wanted to dictate the grain business. We now sell the vegetables at the farmers market and at our farm"

Most of the farmers agreed that the current “buying local” trend is something that they have been able to capitalize on. Some have altered their practice—in some cases even downsizing as in the last quotation above—in order to focus more on the local foods niche. One farmer, who had only been on his farm for 3 years, said that he started business because the “buy local” trend was an opportunity that he “saw coming.” It would appear that on the whole the interviewees are all focusing more attention towards farmers markets and other forms of local distribution. Several of the farmers also mentioned the Madison Bounty which is a local foods distribution program that allows customers to shop for local foods using the internet and to then have their goods delivered to their homes. One farmer who had particular support for the Madison Bounty said:

“Madison bounty is a really good thing...it’s a mobile farmers market...things like that...the more farms we can have in a community like this the more people are aware and it’s going to benefit all of us plus the consumer.”

This farmer also mentions the “community” aspect of the buy local trend. His views seem to hint at the ideas about the value of social capital as expressed by Stayner (2005.)

Question 2 Responses:

Do you feel victimized at all by competition with larger corporate farming?

The responses to this question were quite variable and to some extent vague. There did not seem to be a general attitude that was shared between farmers as there was with the past two questions. Instead they each had their own individual opinions. None of the farmers supported corporate farming however and if there was any kind of overarching trend in the responses it would be that they apparently felt that small farms

provide a better lifestyle. Perhaps the most detailed response was given by this beef farmer who said:

“well I mean I think that’s the very nature of capitalism that capital coalesces to gather as much as possible...so that’s really what’s happened is the concentration of the industry...with help from policy in the United States things are falling the same way towards corporate agriculture...I think that corporate agriculture is bad for the economy and bad for health and bad for rural life...nothing feels good about it but it is what it is...(In Madison County) dairy farming has changed dramatically...the farms that were in existence when I was growing up here are mostly gone or have consolidated...dairy farming as it once was is dying out...there’s still family run farms because of the terrain in this part of the county...there’s kind of a natural limitation because of the geography which I think is a good thing...the land may stay in agriculture but it’s going to be diversified...there’s going to be more organic farms coming in...more vegetables and fruit...”

Several of the farmers viewed corporate farming as something for which nothing can be done to prevent it yet they expressed an inability to understand the motivations behind the corporate farm mindset. As one farmer stated:

“Competition is good I don’t care what size...the big guys I mean as one fella quoted you got one cow you got one problem you got two cows you got two problems...a lot these guys, these corporate farms...I just don’t see it you know, I mean how much money do you need?...they don’t have cows you know they have numbers...and that’s how they’re treated you know they are treated like numbers...at our farm all our cows have names.”

One farmer again referenced the buying local phenomenon saying:

“there’s more and more of that (buying local)...thirty small farms is better than one of these megafarms. The flavor, the vitamins, all the benefits of eating something raised naturally is just a better system...we don’t have to keep them on antibiotics to keep them alive. These megafarms that put 50,000 chickens in one building...it makes no sense. It’s not natural...”

Yet another farmer was slightly less negative toward corporate farming and instead emphasized the difference in quality between a product from a large farm versus that from a small “local” farm:

“Um, to me realistically it’s you know...there’s gonna have to be larger farms just because of the economics of food. Today 10% of people’s income goes to food whereas years ago it was 50%...we’re not gonna revert back to an agrarian farming system and all that. You know to me it’s like comparing buying a Kia and a Mercedes: my object is to produce the Mercedes so it’s going to be a higher price product and theirs is going to be a lower price product.”

This farmer mentions the selling price of the product. He was an all-natural grass-fed beef farmer who was not certified organic. It would appear from his response, however, that his decision to sell grass-fed beef is primarily to increase the selling price of his product. In many cases, diversification for small farms in to all-natural or organic products is a way to increase selling price as much or more than it may be a conscious decision to practice a more sustainable agriculture. This same idea is reflected in the responses to the questions about organics from the two organic farms in Phase 2.

Finally another farmer addressed labor issues with larger versus smaller farms, touching on some ideas associated with social sustainability:

“I don’t personally have anything against them (corporate farming) but then the farmer becomes a person manager as if they work for general motors or something and if you want to deal with those issues then that’s ok. The labor thing is extremely difficult especially in the farming business because it’s not a high paying skilled labor job for most of what you need. I don’t think you can find enough people in this country that want to do it so you’re forced to hire people mostly from Mexico and a few other South American places that want to come up here and work hard and send money so you’re forced into that whole issue of migrant labor and all the rules which is just a nightmare...the corporate farming just seems overwhelming and it’s not practical.”

This quotation certainly speaks to the issues of human and social capital associated with agriculture. Corporate farming generally involves lower-wages and worse working conditions for employees, making it a less socially sustainable form of agriculture.

Most of the farmers did not go in to details about the extent to which they feel “victimized” by larger or corporate farms. In many cases they held somewhat of an impartial attitude towards the *existence* of corporate farms but expressed a stronger attitude about why large-scale farming doesn’t make sense on a personal level for themselves and their families. Perhaps in the relatively successful small farm community of Madison County, small farmers are not feeling the pressures from corporatization as much as they are elsewhere. There is certainly in these interviews a strong sense of disconnect between the interviewees and the corporate farming world. At least for these farmers, there seems to be very little shared between the two agricultural systems, and it would appear that they operate almost completely independent of each other.

Question 4 Responses:

What are your attitudes toward sustainable agriculture? Have you implemented any sustainable or “green” practices on your farm?

The responses to this question showed a general trend of approval of sustainable practices and the philosophy behind organic farming however they showed disapproval towards organic licensing and government regulation.

As one farmer put states:

“organic is alright, the biggest thing they look at is the chemicals, mainly it’s the spray chemicals that they are concerned with but with a true organic you can’t even use fertilizers and that’s where I think they are wrong...because commercial fertilizers don’t affect the food...yes the sprays you spray on them do, so we don’t use sprays...we don’t use the chemicals, even in the greenhouse we use biologicals...as far as wholly organic I think they’re wasting...if you don’t put nutrients in the ground you have to keep expanding your ground...and that’s where I think they’re wrong.”

Another farmer who runs a small grass fed beef operation mentioned that:

“If you go organic you can’t use any antibiotics at all. So even when your cow gets sick, you can’t give it antibiotics so it doesn’t get better. To me that doesn’t make any sense.”

He also said that his farm does do what it can to be as sustainable as possible:

“It depends on what your definition of sustainable is but that’s obviously the most important thing. We’re doing a lot with SCS and some of the farm services to do more of um...work more with our pastures to improve some of them. One of the big things around here is to try to get the manure spread out around the farm...we do a lot of rotational grazing those kind of practices.”

Several farmers were more concerned with consumers knowing where food comes from and how it is produced rather than knowing whether or not it is organic. As one farmer put it:

“What I’d like to stress the most is not necessarily that...we do grow organically but I don’t really stress that. What I stress is that I grow everything that I sell...if I don’t grow it I don’t sell it.”

Another farmer also seemed to think that sustainable practices were good however organics were perhaps “fanatical.” He also discussed economic issues and how small farmers are often forced in to more sustainable practices simply because the cost of pesticides and other chemicals is so high:

“Well I think that’s certainly an admirable goal to be green or sustainable...organics is okay if you want to be fanatical or whatever but I think whether you want to be sustainable or green or whatever but as a small farmer I think you’re going to be forced in some ways to be so by economics...because you know pesticides can be a great thing in some cases but the shear cost is just phenomenal.”

Summary of Phase 1

The farmers interviewed showed generally positive responses toward practices that are deemed sustainable. Their reasons for focusing more on local markets seemed to come from economic and social motivations rather than environmental ones. In particular they seemed to emphasize the importance of community and the value that local food distribution can add to it. It seems then that the recent rise in local food sales in Madison County is stemming more from a change in consumer demand than from a conscious environmental decision made by the farmers themselves. While some of the respondents certainly hinted at a deeper concern for environmental issues, the majority were more suggestive social sustainability motives. Meanwhile, attitudes expressed toward larger corporate farms seemed to suggest more disconnect and disillusionment with the idea of large-scale farming than anything else. None of the respondents felt strongly that they had been “victimized” by corporate agriculture, suggesting that Madison County is perhaps either not feeling the effects of larger farms, or, more likely, has found strategies to diversify and capitalize upon new markets and new trends.

Phase 2 Results and Analysis

Though all 75 farms were contacted 3 or more times, only 15 completed surveys were obtained. While the sample is too small for statistical tests, there are general trends in the responses that could suggest some conclusions to be drawn. Of the 34 questions asked, 20 pertained specifically to issues related to sustainability, local foods, and organics. These questions were all aimed at gauging how the farmers feel with regard to

these topics, ultimately to determine whether they are passing trends, or whether a transformation in the food system is indeed taking place.

Questions Pertaining to Organics

Questions 12, 13, 14, 15, 16, and 22 all refer specifically to organics. The intention of these questions was to find out how many farms were organic, why farms were or were not organic, and what attitudes regarding the organic certification system and organic foods in general exist within the sample. 14 and 15 were only asked to the two farms that were certified organic. A table showing the responses to questions 12, 13, 16, and 22 is shown on the following page.

FARM #	12: Is your farm certified Organic?	13: Do you consider your products to be organic?	16: For what reasons have you decided not to become certified?	22: How profitable is organic certification (scale 1-3, 3 is most profitable)
1	No	No	Res,	2
2	No	Yes	Res, Exp, NB, NBE	2
3	No	Yes	Exp	1
4	No	Yes	Res, Exp	1
5	No	Yes	Res	1
6	No	Yes	Exp, NBE	2
7	No	Yes	Res	1
8	Yes*	Yes		3
9	No	Yes	NBE	3
10	No	Yes	NB	1
11	Yes*	Yes		3
12	No	Yes	Res, Exp	1
13	No	Yes	Exp	1
14	No	Yes	NB	1
15	No	Yes	Res	1

Figure 6: Summary of responses to questions 12,13, 16, 22 pertaining to organics.

Key

Res = Organic certification process is too restrictive

Exp = Organic certification process is too expensive

NB = Farmer does not consider organic foods to be beneficial

NBE = Farmer does not feel that their farm is big enough for organic certification

** Two of the 15 farms were certified organic farms. Both farms expressed that they became certified to increase the selling price of their product. Both farms responded to the question 15 which was “On a scale of 1-5, 1 being not satisfied and 5 being very satisfied, please describe your satisfaction with becoming a certified organic farm.” Both farms answered “3.”*

These results reflect similar themes to the responses to those questions regarding organics from the interviews in phase 1. The farmers interviewed and surveyed generally seem to hold the attitude that certified organic farming isn’t really taking off in the area.

Primarily, the farmers feel that the certification process is too restrictive, too expensive, and not appropriate to their trade. Even the two organic farms that were surveyed expressed only mediocre levels of satisfaction with the certification process, however they did say that it was profitable. It seems that the farms that are becoming certified are those that can use the certification to increase the selling price of their products.

Meanwhile, almost all of the farms that are not certified organic, do still consider their products to be organic. This suggests that the original idea behind organic farming is in fact important to the farmers, yet the certification aspect is not. This is important because it hints that a movement toward traditional organic farming, an alternative agriculture structure that is thought to be more sustainable than conventional methods, is apparently becoming rooted in this small farm system.

Questions Pertaining to Local Foods and Sustainability

Questions 4 and 17 assess where farmers are selling their products. The table below displays how many farmers were selling at each of the possible sales options.

Selling Option	# of Farms
Farmers Market	8
On site at farm	8
Online	2
Grocery store	1
Specialty Store of Co-Op	2

Figure 7: Summary of results for questions 4 and 17

Questions 18-21 are shown below:

For Questions 18-21 please rank on a scale of 1-3 how important each of the following are to you personally.

	<i>Not Important</i>	<i>unsure</i>	<i>Important</i>
18. Sustainable Farming	1	2	3
19. Selling to Local Consumers	1	2	3
20. Making money	1	2	3
21. Global Warming/Climate Change	1	2	3

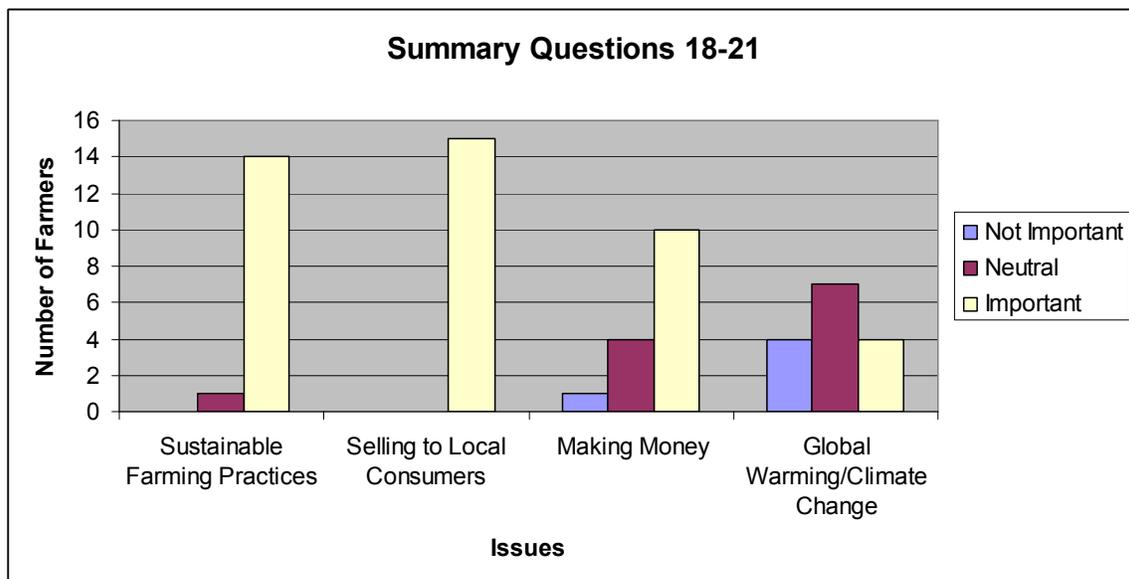


Figure 8: Summary of results for questions 18-21

As can be seen above, certain aspects of sustainability were more important to farmers than others. Most of the farmers seemed generally unsure about how important of an issue is climate change, and some of them outright denied its existence during survey. What was much more important to the farmers, both in the interviews and in the survey results, were sustainable farming practices and selling to local consumers. Making money was important for the farmers that did not have other sources of income, while for the hobby farmers it was far less important.

Questions 23-25 used a similar scale but with profitability as the variable rather than importance. Question 22 pertained to organics and was addressed in the previous section.

	<i>Not Profitable</i>	<i>neutral</i>	<i>Profitable</i>
23. Selling at Farmers Markets	1	2	3
24. Selling Online through local distributor (e.g. Madison Bounty)	1	2	3
25. Selling directly from farm	1	2	3

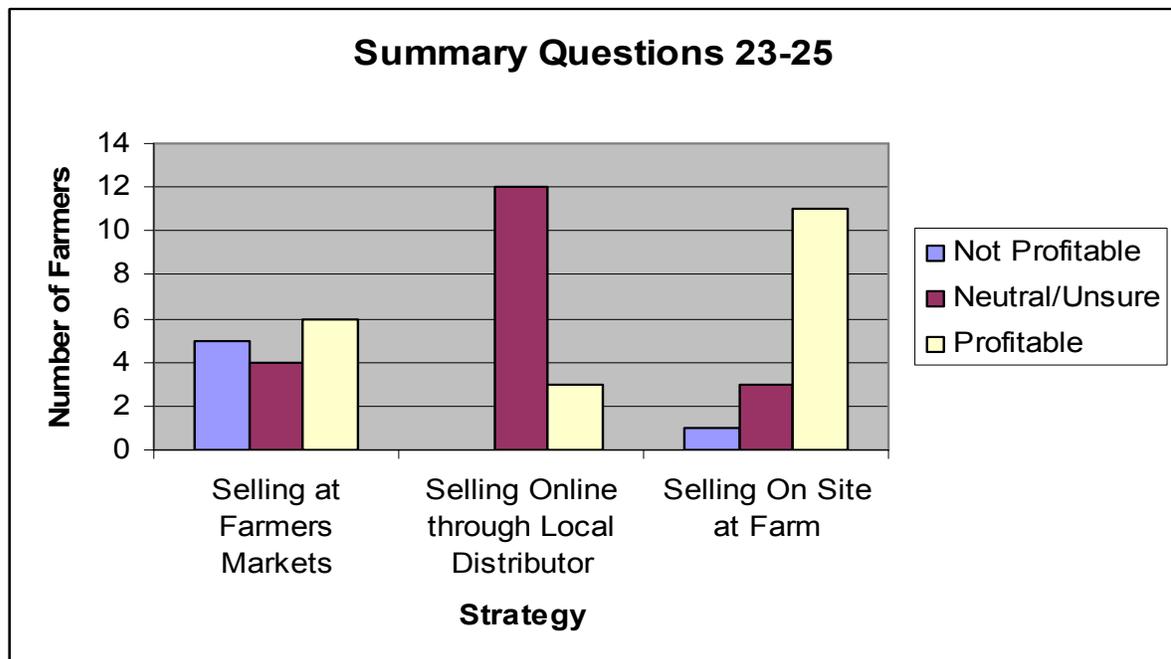


Figure 9: Summary of responses to questions 23-25

Questions 26-29 deal with the farmers views on what effects selling to local markets have. The question was structured as shown below.

The responses to the questions dealing with profitability of selling options were quite varied. With the small sample size it is difficult to draw any overall conclusions. Both in the interviews and the survey the farmers expressed mixed opinions about the value of farmers markets as a selling option. Included in the profitability question was

organic certification (question 22). As can be seen in the results of the previous section, most of the farmers did not view organic certification as a profitable strategy. In fact, responses were generally to the contrary, suggesting that organic certification would be more costly than profitable.

For Questions 26 – 29 please rank on a scale of 1-3 the extent to which you agree that selling to local markets...

	<i>Disagree</i>	<i>neutral</i>	<i>Agree</i>
26. Strengthens community bonds	1	2	3
27. Is better for the environment	1	2	3
28. Is the most profitable selling option for smaller farms	1	2	3
29. Allows consumers to know about and trust their food sources	1	2	3

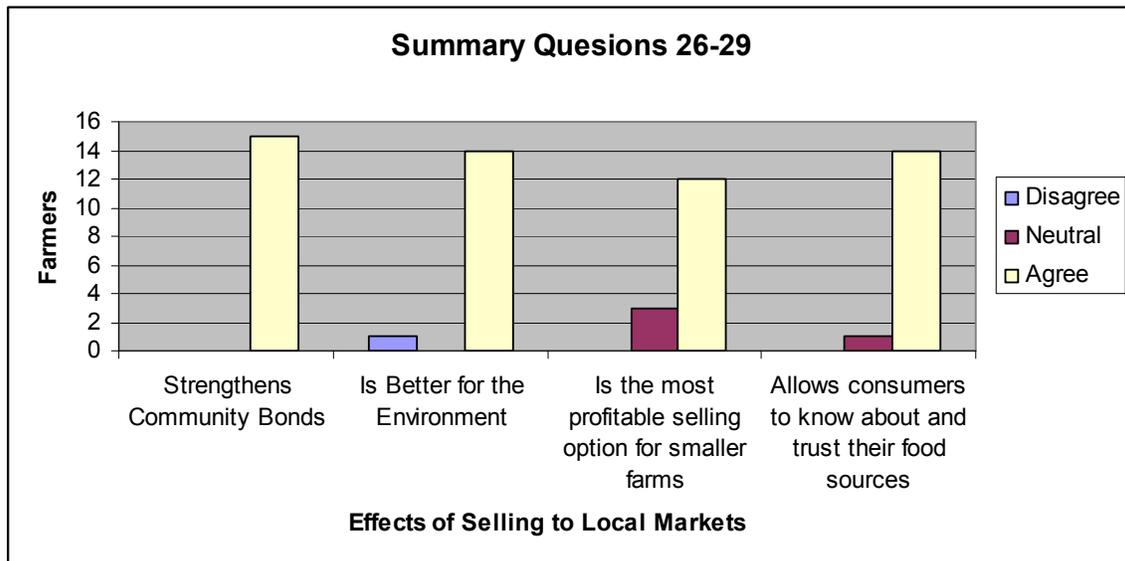


Figure 10: Summary of responses to questions 26-29

Both in the interviews and in the survey results the farmers showed general agreement on the values of selling to local markets. The strongest responses were towards the importance of consumers trusting their food sources and also towards the strengthening of community bonds and relations. The attitudes reflected by the farmers

generally align closely with those discussed by Allen (2004), suggesting that social sustainability is preserved within local markets.

Question 34 asked “*Where do you purchase the majority of your food from?*” Most respondents listed more than one place. Their responses are shown below

grocery store/supermarket	10
mostly eat my own grown food	7
Online distributors of local foods	1
Nearby farms and farmers market	4

Seven of the ten farmers who stated that they purchased food at the grocery store mentioned that they grow as much as they can and only mainly only go to the supermarket in the winter. During the harvest season most of the farmers said that they attained most if not all their food from their own farms and surrounding farms.

Conclusions:

Small scale agriculture is more sustainable than large. Many of the practices, as well as the social and economic aspects of small farms, epitomize the goals of the TBL sustainability model as explained by Goodland and Daly (1996) and others. A healthy small farm system has higher levels of social and human capital, a more even distribution of wealth with more avenues for prosperity, and less damaging impacts on ecological systems than does a large-scale system. Modern alternative agricultural practices are also contributing to the overall sustainability of small farms, particularly with regard to ecological health.

In recent years two trends in farming and food have been identified as central to the sustainability of small scale agriculture: organic foods and local foods. Unfortunately, organic has in many ways lost its meaning and has in a sense been “bought out” by the larger conventional farms. The farmers interviewed and surveyed in this study illustrate an example of a farming community in which “organic” is a contentious and mistrusted word. Once the pinnacle of sustainable farming practices, organics are now very hazy and many farms that practice organic production avoid certification as it is wrought with restrictions, expenses, and short comings. Organics no longer fit the TBL model as they perhaps once did, and this is strongly reflected in the Madison County case study.

Small farms have had a very tough history in the United States. But new alternative agriculture practices and local distribution may be the solution that will allow for their survival. Small farm owners are now turning more to local food systems and the sustainable agricultural practices that often go hand in hand with them. A small farm is by its very nature a sustainable form of agriculture and when it is combined with a mindset that idealizes the value of local distribution, there appears to be a recipe for success. In Madison County this transformation would appear to be occurring. Almost all of the farmers interviewed and surveyed expressed strong feelings for the value of “keeping it local.”

Social sustainability is one of the main goals of the interviewed small farm owners in Madison County. The emphasis placed on community bonds, the sharing of knowledge, and other social values associated with local foods were very strong in the

results. Much less concern was shown for environmental and economic sustainability, however generally the farmers had some appreciation for both.

The benefit of small farm system that values local foods is that even if social sustainability is the priority, environmental and economic benefits often result as social sustainability increases. Higher levels of human and social capital promote better land-use practices and more economic efficiency. Even while farmers showed general lack of concern for climate change, their high concern for local foods and their associated social benefits would appear to be creating a food and agriculture system that has a reduced impact on climate change. Perhaps the best foot forward towards a more sustainable agriculture is to promote equally the social, economic, and environmental benefits that small farms with local distribution networks can have, attempting to complete the TBL model in agriculture. This way, even farmers that are skeptical about current environmental issues such as climate change may still reduce their contribution to it, all while operating within a healthier, wealthier, happier and fairer agricultural system.

Appendix

Reverse side of postcard mail-out

Dear Farmer,

I am writing to ask for your participation in an important phone survey that I will be conducting over the next few weeks. The survey is part of my honors thesis research at Colgate University and aims to assess what the future will look like for Madison County's small farms. If successful, the data from the survey will be shared with local government in order to help agencies understand the farmers' perspectives and goals. Your privacy will be protected and your responses will not be associated with your name or address. In these difficult economic times it is particularly important that a dialogue exists between small farm owners and academic institutions, local governments, and associated agencies. By participating in the survey you will be contributing to a growing body of knowledge on small farm owners' motivations, attitudes, wants, and needs. I ask that you kindly give a few minutes of your time to complete the survey when I call, or provide me with a more convenient time to call back. Thank you in advance for your assistance in my research.

Best Wishes,

Ben Taylor
Class of 2010, Colgate University

Below is the list of questions that were asked during the phone survey:

- 1. How many total acres is your farm and how many of those acres are in use?**
- 2. Could you please list for me everything that you grow or produce on your farm?**
- 3. What is your annual net sales range? I'll give you five choices:**

- Less than \$10,000
- \$10,000 - \$50,000
- \$50,000 - \$100,000
- \$100,000 - \$250,000
- Greater than \$250,000

- 4. Where would you say the majority of your products are sold?**

- Grocery Store/Supermarket
- Farmers Market
- On-site at the farm
- Specialty stores/restaurants

- Online
- Other (Please Describe): _____

5. How many years have you owned your farm?

6. In the past five years, has the number of acres in use on your farm:

- Increased
- Decreased
- Remained the Same

7. Is farming your sole source of income? If not could you please tell me about other sources of income that you currently have?

- Yes
- No

Other:

8. If you have ever had a job for more than 2 years that was not farming, what was it? (Please List all jobs and the length of time you held the position)

9. How many dependents do you currently have?

10. What would you say are the top 3 reasons why you farm.

11. On a scale of 1-3 where 1 is not satisfied, 2 is unsure, and 3 is satisfied, how do you feel with regard to the _____'s level of support for small farms in recent years.

	<u>Not Satisfied</u>	<u>Unsure</u>	<u>Satisfied</u>
Federal Government	1	2	3
New York State Government	1	2	3
Local Government	1	2	3

12. Is your farm Certified Organic (USDA, NOFA, NFC)?

- Yes (skip to 14)
- No

13. Do you consider your products to be organic though you are not certified?

- Yes
- No

14. Of the following, which would you say was the main reason you decided to become certified organic?

- Increase selling price of product_____
- Satisfy consumer demand_____
- Reduce environmental impact of farm_____
- Produce healthier food_____

15. On a scale of 1-5, 1 being not satisfied and 5 being very satisfied, please describe your satisfaction with becoming a certified organic farm.

16. Of the following, which would you say are reasons that you have decided not to become a certified organic farm...

- The certification process is too restrictive or expensive?
- Your farm is not big enough
- You don't think organic food is beneficial

17. Do you regularly sell your products at a local farmers' market?

- Yes
- No

For Questions 18-21 please rank on a scale of 1-3 how important each of the following are to you personally.

	<i>Not Important</i>	<i>unsure</i>	<i>Important</i>
18. Sustainable Farming	1	2	3
19. Selling to Local Consumers	1	2	3
20. Making money	1	2	3
21. Global Warming/Climate Change	1	2	3

For Questions 22 – 25 please rank on a scale of 1-3 how profitable each strategy has been or might be for your farm (1 being not profitable and 3 being profitable)

Not Profitable neutral Profitable

22. Organic Certification	1	2	3
23. Selling at Farmers Markets	1	2	3
24. Selling Online through local distributor (e.g. Madison Bounty)	1	2	3
25. Selling directly from farm	1	2	3

For Questions 26 – 29 please rank on a scale of 1-3 the extent to which you agree that selling to local markets...

	<u>Disagree</u>	<u>neutral</u>	<u>Agree</u>
26. Strengthens community bonds	1	2	3
27. Is better for the environment	1	2	3
28. Is the most profitable selling option for smaller farms	1	2	3
29. Allows consumers to know about and trust their food sources	1	2	3

31. Do you think that small farms are being (MORE / LESS) heavily impacted by the current economic recession than the majority of industries?

32. Which three of the following have posed the biggest challenge to your farm in the past 5 years.

- Weather _____
- The Recession _____
- Local Competition _____
- Political Developments _____
- Increased number of or competition from “Superfarms”/ corporate farms _____

33. Do you think that small farms would benefit from the government playing a (Greater / Lesser) role in regulation of agriculture?

34. Where do you purchase the majority of your food from?

- The Grocery Store
- Local Farms/Farmers Market
- Distributors working with local farms
- Other _____

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