

Economics of Sustainable Farming

John Ikerd

University of Missouri

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Farm economics

Over a period of some fifteen to twenty years, I taught the conventional principles of farm economics through various on-campus and extension courses at three different Land Grant Universities. I taught farm management, marketing, finance, farm policy and other such subjects in an effort to help farmers maximize profits from their limited economic resources. During the past ten to fifteen years, however, I have taught a different kind of farm management. I have studied and taught the principles of sustainable farm economics – the economics of sustainability. The time of transition from one to the other is a bit fuzzy, as it didn't happen all at once, but over some time. The transition began for me during the farm financial crisis of the 1980s. During that time, I began to realize that as a teacher of conventional farm economics, I had done more to help create the crisis than I had done to prevent it. So, I didn't have much to suggest to farmers in the way of solutions. The solution to the financial problems of farmers would require a different approach to the economics of farming.

But to understand the need for a new farm economics, I first had to confront, and eventually come to understand, the problems with the old economics of farming. I believe that farmers and those who work with farmers must come to a similar understanding, if the future of farming is to be better than the past. We must understand why farmers have done the things they have done, and why it hasn't worked, before we can understand why we need a new approach to the economics of farming.

Conventional farm economics focuses on profit maximization. The underlying assumption is that more profit results in a higher economic standard of living, which in turn translates into a higher level of satisfaction and a higher quality of life. The discipline of economics can be characterized as a study of the optimum allocation of "scarce" resources among competing ends so as to achieve the highest possible level of satisfaction or quality of life. Scarcity in economics means that economic resources are never sufficient to satisfy completely our insatiable human wants and needs. So resources must be allocated or rationed among competing uses by putting resources to their most profitable use.

In economics, the final arbiter of value is the consumer. Resources are allocated in such a way as to best meet the wants and needs of people as consumers – producing is but a means of earning the privilege of consuming. Economics also assumes that markets are economically competitive – that any excess profits of producers will be quickly competed away and passed on to consumers. Thus, as farmers maximize their profits, so they can consume more, they are simultaneously allocating resources in such a way

as to maximize the efficiency of resource use so consumers can consume more. It all fits together very nicely – under the assumptions of an economically competitive, capitalistic economy.

Maximum economic efficiency means maximum economic value relative to economic costs. For something to have an economic value, it must be scarce so market prices can allocate its use among competing ends. Air and water, for example, have great “intrinsic” value, they are essential for life, but they have no economic value, under most circumstances, because they are not sufficiently scarce to command a market price. The typical “water bill” reflects the cost of delivering water, not an actual cost of the water. Only when clean air and clean water are made “scarce” through pollution or misuse do they take on an “economic” value.

Things that have no “economic” value are not counted in calculating the economic efficiency of farming. Thus, conventional farm economics provides no incentive to protect the quality of air, water, or even soil beyond maintaining its immediate productivity. Farm economics is about maximizing the “economic” value of the things produced and sold relative to the “economic” costs of the things used to produce them.

Although I didn’t realize it in my earlier years, pursuit of economic efficiency by maximizing profits leads to a quite narrow premise concerning the best “approach” to maximizing profits, and thereby to maximizing quality of life. The pursuit of profits from farming has pushed farmers toward an industrial model of farming. The industrialization of agriculture has increased the efficiency of agriculture, but it has diminished the quality of life for many farmers – both those who have been forced out of business and many who yet continue to farm. Industrialization also has begun to raise many questions concerning the impact of agriculture on the natural environment, on food safety and quality, and on the quality of life in general.

Farmers abandoned diverse farming systems, which generally included both crops and livestock enterprises, in favor of more specialized farming systems. By specializing, farmers could become more efficient by doing fewer things better. A specialized cattle feeder, for example, could put on more pounds of beef per pound of feed than could a diversified farmer who fed out a few cattle in addition to doing a lot of other things. Farmers also discovered that gains from specialization could be enhanced if they agreed to standardize the various functions involved in various production processes. Standardization allowed each of the specialized functions to fit together effectively, in order to achieve maximum efficiency. For example, if more ranchers produced the kind of fall calf that would do well in winter stocker operations and would finish out efficiently in the commercial feed lots, the whole process of beef production could be greatly improved.

As farming systems became more specialized and standardized, each function became more simplistic and routine. Many functions could then be mechanized – allowing predictable, reliable machines to replace often unpredictable and unreliable draft animals and human laborers. Commercial fertilizers, pesticides, hormones, and

antibiotics made production processes more predictable, reliable, and repetitive. The mechanization and simplification of farming allowed each farmer to farm more land, use more capital, and supervise more workers. Consolidation of decision making has allowed farmers to achieve many of the economic efficiencies of large-scale industrial production. Farms have become factories without roofs and farmers' fields and feedlots have become biological assembly lines.

As a consequence of industrialization, America agriculture has become one of the most productive and efficient agricultural economies in the world – at least in terms of the economic value of food and fiber relative to the economic costs of production.

Farm Management

The industrial approach to farming has led to some rather narrowly focused farm management strategies. Enterprise analysis has been one of the fundamental building blocks of conventional farm management. Farmers are told that they must be able to separate and calculate the costs associated with each economic enterprise carried out on the farm, if they are to be able to manage for maximum profits. Also, they are told that they must separate the farm business from the business of family living. The sole function of the farm is to provide income for the family – family and farm resources, costs, and returns must be kept separate. Analysis, by definition, means to take something apart, to separate it into its component pieces, in order to understand the whole through careful examination of the parts. So enterprise analysis is designed to help farmers to understand the farm, and to achieve higher farm profits, by taking the farm apart, piece-by-piece.

Farmers are asked to allocate the costs of all resources used among enterprises – to the maximum extent possible. The easiest cost to allocate are the variable costs, which are costs that won't be incurred unless a particular enterprise is carried out during a particular time – costs that vary with the level of production of that enterprise. Feed, feeder animals, seed, fertilizer, chemicals, etc. are in the variable category. Fixed costs, on the other hand, are cost that will be incurred regardless of level of production, or whether anything at all is produced, and thus, are more difficult to allocate among enterprises. For any given year, fixed costs include such things as buildings, equipment, and land. Farmers are even encouraged to allocate a charge for labor provided by themselves and their families and to charge the farm for their management, although they may not pay themselves or their family actual wages or salaries.

The total costs associated with each enterprise are then compared with the projected market value of expected production to determine an expected net revenue or profit from each enterprise on the farm. The expected profit for the total farm is simply the sum of the profit estimates for the individual enterprises. Any costs that cannot be allocated to specific enterprises may be called "overhead costs" and deducted from the sum of enterprise profits.

The unspoken assumption of enterprise analysis is that the farmer will be able to identify specific enterprises that are contributing the greatest returns per unit of the

farm's most limiting resource – be it land, capital, labor or management. Farmers can increase profit only by increasing the efficiency with which they use the most limiting of the fixed resources. If the farmer has more than enough capital and labor to produce more of a crop, but lacks additional land, then land is the limiting resource. By increasing profits per acre, the farmer can increase profits for the whole farm.

By shifting land, labor, capital, or management from enterprises in which the farm is least efficient to those in which the farm is most efficient, farm profits can be increased. In addition, increased specialization may allow the farmer to achieve added efficiencies through utilization of larger or more specialized buildings and equipment, standardizing production processes and allowing an increase in scale of operation. The result is increased profits through increased industrialization – i.e. through specialization, standardization, and larger-scale operation.

However, increased specialization often results in increased risks. By specializing in one crop, or a few crops, a farmer becomes more vulnerable to a crop failure, due to weather or pest problems, or to depressed market prices for any of the crops produced. By specializing in one species of livestock, or one phase of production, a producer likewise is more vulnerable to disease or causes of poor performance or a cyclical downturn in prices. Thus, as a farm abandons diversity and becomes more specialized it becomes more vulnerable to both production and market risks.

In addition, specialization tends to increase financial risks. Financial risks are related to the ability of the farm to meet its debt repayment commitments. Financial risks are linked to production and market risks in that low yields and prices may cause the farm to suffer losses. Financial risks reflect the probability that the farm will lose more than it can afford to lose in any given year. Farms that rely more on purchased inputs, such as seed, feed, fertilizer, chemicals, etc., rather than inputs produced on the farm, increase the amount of out-of-pocket costs that must be paid up front, or at least at harvest time. As they increase investments in larger or more specialized buildings and equipment, they often borrow money that must be repaid on a regular basis. Thus, specialized, large-scale production increases financial risks. Consequently, specialized, high-input, high-investment farmers tend to rely on government commodity programs and crop insurance to protect them from production risks. Early in my career, I spent a good bit of my time with conventional farmers talking about government programs and government subsidized crop insurance.

Industrial farmers are price-takers in the marketplace. They produce standardized commodities, and thus, have no influence over the prices they receive. One farmer's US No. 1, hard red winter wheat is the same as another's, as far as buyers are concerned, which means that no farmer can get a price higher than any other. Prices vary over time with changing supply and demand, but farmers are price takers, not price makers. The only marketing decisions conventional farmers make is when to establish a price for the things they produce. They may use forward contracts or options and hedging in the futures markets to manage price risks. By using such tools, farmers can price something before delivery, price at delivery, and in some cases, defer pricing until after

delivery. They may set a specific price, a price range, or a minimum price. But, the price is always one that is offered by the market – the farmer can only take it or leave it. In the face of such risks, some farmers resort to comprehensive production contracts that promise the farmer a fixed amount of return per unit of production. The farmer, in essence, becomes a landlord and contract laborer.

Much of my early career as an extension marketing and farm economist was spent helping farmers maximize profits by managing the various types of risks associated with specialized, large-scale production of standardized commodities. Management of this type of farming is no different in concept from any other industrial corporation.

Sustainable farm economics

During the farm financial crisis of the 1980s, I began to realize that the industrial approach to farm management was driving farmers out of business. Every time we helped one farmer improve his or her profits by specializing, mechanizing, and increasing their scale of operation, we were helping to force some other farmer out of business. Our new technologies and management techniques were expanding the ability of farmers' to produce far faster than consumer demand was expanding for the things that farmers produced. Thus, farm profit margins grew narrower with each new round of technology and each farmer had to increase their size of operation just to survive – to spread their management across more land, using more capital, more hired labor. As the farms grew larger, they were forced to grow fewer in number. Some had to fail so that others might “succeed.” And, with each new round of technology, fewer farmers survived. There was no logical end to this process. This type of farming was not sustainable – at least not for farmers.

The industrialization of agriculture also made farmers more vulnerable to the periodic surplus and economic depressions, brought about by good weather or good prices, but made possible only by the American farmer's increasing ability to produce. An industrial agriculture meant a high-capital agriculture, and much of the capital used by farmers during the 1980s was borrowed capital – loans taken out during the export boom years of the 1970s. A high-input agriculture meant a high-variable-cost agriculture – direct cash cost made up a larger portion of total costs. Thus, when farm commodity prices plummeted during the 1980s, farmers were caught with high cash commitments for loan repayment and input costs and no income from which to pay those costs. Their own labor and management, and whatever land and capital that they owned outright, contributed very little to their farming operation, and thus, they didn't have the option of simply taking less money out for themselves. The banker and the input suppliers demanded that their accounts be settled in full – regardless of the farm financial situation. Farmers who had done the things that they were encouraged by the “farm experts” to do in the 1970s were losing their farms in the 1980s. Something was fundamentally wrong with this kind of agriculture.

As I began to rethink the economics of agriculture, I became aware that the economics of industrialization not only encouraged farmers to exploit each other, but had also encouraged them to exploit the land. Soil erosion rates had risen dramatically during the

1970s, as farmers farmed “fence-row-to-fence-row” and then tore out and farmed the fence rows. By the late 1980s, soil erosion had become a major national agricultural policy priority, as reflected in the 1990 Farm Bill. Commercial fertilizers and agri-chemicals, necessary to support industrialization, also had raised serious questions concerning the quality of water in underground aquifers and streams. Organic farmers went to Washington DC in the mid 1980s with demands that USDA support their more ecologically sound approach to farming. By the early 1990s, many people were beginning to demand a more ecologically sustainable approach to farming.

The impact of agricultural industrialization on the social fabric of rural areas rose to the public consciousness as rural communities began to feel the brunt of the farm financial crisis of the 1980s. Once prosperous farming towns withered and decayed as large numbers of farm families were forced off the land. The land was still farmed, but there were fewer people to buy groceries, school clothes, hardware, and hair cuts in the local business community. In addition, the larger industrial farms often bypassed the rural community in order to save a few dollars on input costs or to get a few more dollars out of their products. Fewer farm families and farm-related jobs in rural communities meant fewer people to support schools, churches, and local civic activities. Ultimately, the corporate takeover of hog farming with their giant “hog-factories” raised the consciousness of the public in general to the destruction of the social fabric of rural America by the industrialization of agriculture.

Today, farmers, rural residents, and society in general are demanding a more socially responsible, ecologically sound, and economically viable system of farming. This is the challenge of farm economics as we enter the 21st century – to help farmers build a more sustainable agriculture. Farms of the future must be economically sustainable – for the farmer as well as consumers and society in general. The profitability of farming cannot be sustained through exploitation of the land or exploitation of other people. To be economically sustainable, it must conserve and protect the natural resources upon which its long run productivity must depend. To be economically sustainable, it must contribute to the social and cultural quality of life for farm families and rural residents as it provides an adequate supply of safe and healthy food and fiber for society in general. Economic sustainability demands a new approach to farm economics.

Sustainable Farm Economics

Farming for economic sustainability begins with rethinking the basic purpose of farming. The only justification for maximizing profits in the old farm economics was maximum profits were assumed to result in the highest attainable quality of life – for farmers and for society as a whole. However, such an assumption is no longer defensible in light of the reoccurring farm financial crises of the past fifty years and in light of growing evidence of the negative ecological and social impacts of agricultural industrialization. Economic well being is a necessary dimension of quality of life, for farmers and for society, but it is not sufficient to ensure a life of quality. We must pursue our economic quality of life by means that do not diminish our social and ethical quality of life in the process.

Profit maximization is a reflection of the natural pursuit of our individual self-interests. This is perhaps the single most appealing premise of conventional economic thinking. Pursuit of self-interests is a fundamental characteristic of being human. However, concern for others is also a fundamental characteristic of being human. We are social animals – we need positive relationships with other people, not only to be successful but also to survive. Thus, positive relationships with other people contribute to our quality of life, regardless of whether we consequently receive anything that contributes to our “individual” self-interests. Ethics and morality also are fundamental characteristics of being human. Almost all of us believe in some higher power, or some higher order of things, from which we derive purpose and meaning for our lives. Thus, moral and ethical behavior, including stewardship of the natural environment, contributes to our quality of life, regardless of whether such acts contribute to our “individual” self-interests.

Conventional economic thinking has led us to believe that we best serve the interest of society by pursuing our individual self-interests. However, the assumptions upon which this proposition is based are no longer valid. The assumptions of competitive capitalism – sufficient buyers and sellers that no single one can affect the market, perfect information concerning price and performance of products, freedom of entry into profitable enterprises and exit out of unprofitable ones, and the sovereignty of consumer tastes and preferences – are no longer true in today’s economy. Large corporate entities dominate virtually every sector of the economy. It is neither easy to get into or out of most businesses today because of large capital requirements and all sorts of patents and copyrights. Billions of dollars spent on advertising designed to bend and shape consumer preferences make a mockery of assumptions of perfect information and consumer sovereignty. We no longer have a competitive, capitalistic economy – in agriculture or anywhere else.

If we are to be socially responsible, we must make conscious, purposeful decisions to build positive relationships with other people. Thankfully, most people realize that the quality of their own lives is enhanced when they share with other people. The Golden Rule, “do unto others as you would have them do unto you,” is a fundamental principle that underlies nearly every enduring religion and most of the major human philosophies of the world. Humans have learned that their lives are made better by their acts of sharing with others. A socially responsible life is a quality life.

Conventional economic thinking treats the natural environment as something outside or external to the pursuit of self-interest. The environment represents a constraint to profit maximization. In reality, stewardship of the environment is an ethical or moral issue. Pursuit of individual self-interests may cause us to avoid doing anything to the environment that threatens our own health or the health of our loved ones. We will not conserve and protect resources for the benefit of future generations unless we believe stewardship to be a moral or ethical responsibility – something that gives purpose and meaning to our lives.

People of future generations can’t participate in markets. Economics provides no incentive for being concerned about anything that happens more than two or three

generations in the future – and in most cases no more than a few years into the future. People of future generations can't vote, so they can't shape economic outcomes through public policy. But, the practices of stewardship contribute to a desirable quality of life, and thus, we choose to take care of the natural environment for the benefit of future generations. A life of ecological integrity is a life of quality. We are just beginning to learn that the Golden Rule not only applies to others around us, but also spans generations.

The first principle of sustainable farm economics is the pursuit of “enlightened” self-interests – self-interests that recognize the individual, interpersonal, and spiritual dimensions of self. This principle is reflected in nearly all of the most popular “post-industrial” approaches to farm management, including Holistic Resource Management, Biodynamic Farming, Perm culture, and Organic Farming. The three cornerstones of sustainable agriculture – economic viability, social responsibility, and ecological integrity – are but reflections of the individual, interpersonal, and spiritual dimension of our quality of life. The three part goal of Holistic Management – forms of production, quality of life, and future landscapes – are but a different means of stating the economic, social, and ecological dimensions of sustainability. True organic farming is as much a philosophy of life as a method of farming – as much an expression of social and moral principles as a means for making a living. In all of these approaches to farm management, economic objectives are balanced with social and ecological objectives. The overall goal is to achieve a higher quality of life through harmony and balance among things economic, ecological and social, rather than through maximization or minimization of anything.

The second principle of sustainable farm economics is taking “a holistic approach to farm management.” Rather than analysis, taking the farm apart piece-by-piece, the farm is considered as an indivisible, interdependent whole. In a sustainable farming operation, the relationships among the various components of the farm are as important as the components themselves. Traditional enterprise analysis tends to ignore, or at least distort, the contribution of positive relationships to the whole-farm economics. For example, when individual crops in rotations are evaluated separately and when livestock enterprises are evaluated separate from crops, the positive interrelationships among various crop and livestock enterprises in managing pests, maintaining soil health and fertility, efficient utilization of available labor, diversification of risks, etc. tend to be undervalued or ignored.

Holistic management requires that the potential impact of changes in one or more enterprises be evaluated in terms of their impacts on the economics of the whole farm system. The various “post-industrial” approaches to farm management each advocate somewhat different methods of whole-farm management, but they all achieve the same basic end – they consider the farm as a whole rather than as a collection of enterprises. The fundamental question is how best to synthesize a whole farm, how best to put together an effectively integrated whole-farm system rather than how to choose the best collection of individual enterprises. With holistic management, productivity is achieved through synergy – through building wholes that are greater than the sum of their parts.

One basic approach to whole-farm evaluation is closely related to “partial budgeting” in conventional farm management. In partial budgeting, a change in a specific enterprise or activity is evaluated by estimating its potential impacts on the overall farm operation. It is called “partial budgeting” because only those aspects of the farm that will be affected by the change are budgeted. First, expected additions to income from the new enterprise are added to any expected reductions in costs in other enterprises that can be expected as a consequence of the new enterprise. Next expected additions to expenses associated with the new enterprise are added to any expected reductions in income in other enterprises associated with new enterprise. Finally, the sum of the additions in costs and reductions in income are subtracted from the expected increases in income and reductions in costs to derive a net change in whole-farm income as a consequence of the proposed change.

If such a process is carried out carefully, the result should provide a reasonable estimate to the economic consequences of changing any part of a farming operation with respect to the farming system as a whole. The same process could be followed to assess the social and ecological implications of changing any aspect of a farming operation. Budgeting would have to include such intangibles as amount and quality of time available to spend with family and community activities. Partial budgeting would also be used to assess potential impacts of changes in the overall farming operation on environmental stewardship – soil erosion, water quality, biological diversity, etc. such an approach invariably must consider the family, or the person farming, as a part of the overall farming system. Family labor and management and alternative uses of time, ethical and moral values and the expression of those values through farming, ultimately must be balanced with economics in farming for an overall higher quality of life.

Another principle of sustainable farm economics is “to achieve strength through diversity.” Biological diversity and economic diversity are essential in building ecological systems that are durable as well as productive. The focus of industrial systems, however, is on productivity rather than durability.

Increasing specialization has led to loss of biodiversity, and thus, to increasing vulnerability of livestock and crops to insects, parasites, diseases and other pests, and to adverse growing conditions – requiring ever increasing reliance on costly off-farm inputs. Increasing specialization has led to loss of economic diversity, and thus, to increasing vulnerability to depressed market prices or rising input costs of the specific commodities being produced – requiring ever increasing reliance on commercial risk management strategies or contract farming. Farmers almost invariably find they lack the expertise or market discipline needed to use commodity markets risk management tools. Farmers invariably find themselves at a competitive disadvantage to large corporate firms when “negotiating” comprehensive production contracts. Farmers simply have not been able to manage the risks of large-specialized farming operations effectively.

However, production, marketing, and financial risks can be managed by applying the fundamental principles of diversity. In managing biological diversity, some important considerations include selecting a combination of crops and livestock enterprise – spatially, sequentially, and temporally – in order to break pest cycles or manage pest populations, maintain soil health and fertility, and efficiently utilize available resources. By relying on diversity rather than off-farm inputs to maintain productivity, farmers reduce their out-of-pocket, variable costs. However, diverse systems typically require more labor and management – which typically are committed and thus fixed in nature. So farmers may increase their fixed costs relative to variable costs as they substitute labor and management for off-farm inputs.

Even if total costs remain essentially unchanged, however, farmers can significantly reduce their financial risks by relying less on off-farm, purchased inputs and more on on-farm, owned resources. On such farms, most short-term losses due to adverse weather or markets can be absorbed by accepting a smaller return for labor and management during years of adversity. Costs of purchased inputs, on the other hand, must be paid, regardless of whether the farm generates sufficient profits to do so. Thus, high-input, high-variable cost farms are more vulnerable to the risks of economic failure than are low-input, high-fixed cost farms.

In managing economic diversity, the most important considerations are to select combinations of enterprises that will tend to have offsetting patterns of market prices. Commodities with offsetting price patterns will tend to stabilize farm revenues, because profits from one will tend to offset losses from the other. Even commodities that have price patterns that are unrelated, or not correlated, add economic diversity. For example, a farm with four equal-sized enterprises with unrelated price patterns of equal variability will have only one-half as much income variability as a farm of the same size that specializes in only one of the four enterprises. However, diversity is not the same thing as variety. If different enterprises have the same basic production and market patterns, such as corn and soybeans, variety will do relatively little to reduce risks. Sustainable farm economics requires effectively integrated economically diverse farming systems.

Another important fundamental principle of sustainable farm economics is to “give customers full economic value.” Farm profitability cannot be sustained by selling undifferentiated farm commodities, such as corn, hogs, cattle, or wheat, in global markets dominated by large agribusiness corporations. Profits can be sustained only by providing customers with food and fiber products that are different from, and of more value than, the products they find in the supermarkets and department stores. This is perhaps the most difficult aspect of sustainable farm economics, because it is the biggest stretch from traditional farm management. However, corporatization of agriculture has resulted in an agricultural sector in which the individual farmer will not be able to compete, even if they are competitive in terms of price and quality. The corporations have sufficient power in the marketplace to deny market access to farmers who are not willing to sign comprehensive production contracts and settle for the role of

land lord or contract laborer. It's no longer a matter of efficiency, but rather of market power.

Consumers today only spend about a dime of each dollar they earn for food and the farmer gets to keep less than a penny out of that dime. Eight cents goes for processing, transportation, packaging, advertising, and other marketing services. The other penny goes for purchased inputs. But, food products today must be mass-produced and mass-marketed in order to put them in the supermarket in order to achieve the economies of scale of industrial food production. As a consequence, most foods in the supermarket today are selected far more for their adaptability to machine harvesting, efficient processing, transportability, and shelf-life than for taste, tenderness, or nutrition. In addition, mass-produced foods must be targeted to the "most common" consumer tastes. The economic savings derived from mass-production come from standardization, not from variety. But, we don't all have the same tastes and preferences, and thus, we value things differently. Sustainable farmers must give more consumers more of the things they value most.

The weaknesses of industrial agriculture provide opportunities for farmers to develop sustainable markets, which may be essential in sustaining the profitability of their farming operations. Farmers who sell direct to customers in local markets have an opportunity to select crop varieties or livestock breeds for superiority in taste, tenderness, healthfulness, and nutrition rather than handling, transportation, and shelf-life attributes. They can sell their products while harvesting products at their peak of quality and market fresh to local customers. Such advantages cannot be duplicated by industrial production systems, thus giving local farmers a sustainable market advantage.

Equally important, sustainable farmers can market their products based on their commitment to social responsibility and ecological integrity. Many consumers really do care where their food comes from, how farmers treat the land and the animals that provide the food products, and whether or not farmers are committed to making the world a better place. Study after study has shown that many people will pay a premium for food produced in ways that they consider more sustainable. Industrial organizations may put forth claims of sustainability, but the industrial paradigm simply cannot meet the social and ecological standards of sustainability. Sustainable farming will require a different kind of marketing – one that gives their customers more value at a reasonable cost.

Perhaps the greatest challenge for economic sustainability for farmers is also its greatest potential reward. In order to sustain the profitability of farming, farmers must develop meaningful relationships with their customers. In order to sustain relationships between farmers and their customers, they must know and trust each other. They must be committed to working together for their mutual good because they care about each other. They need not limit these relationships to local residents, but they must view their customers as real people, rather than as impersonal markets. A person can have a relationship with another person halfway around the world. But an agribusiness corporation can't have a relationship with anyone, because a corporation is not a

person. Meaningful relationships cannot be mass-produced, so they can't be industrialized.

But perhaps more important, relationships between farmers and their customers can be one of the most important aspects of finding a more desirable interpersonal quality of life through farming. And by sharing their commitment to stewardship of the natural environment, farmers and their customers can help each other to lead more purposeful and meaningful lives.

This kind of farm economics is different from the economics I taught to farmers in the 70s and 80s. But, this kind of economics makes a lot more sense. This kind of economics may require more work, and certainly a lot more thinking on the part of farmers, but it is a better way to farm and to live. There is no guarantee that this kind of farm economics will work for any given farmer, or even for farmers in general. But, this kind of economics does provide a lot more hope for the future of farming than does the economics of industrialization.

To quote Vaclav Havel; writer, reformer, and President of the Czech Republic:

“Hope is not the same as joy when things are going well, or willingness to invest in enterprises that are obviously headed for early success, but rather an ability to work for something to succeed.

Hope is definitely not the same thing as optimism. It's not the conviction that something will turn out well, but the certainty that something makes sense, regardless of how it turns out.

It is this hope, above all, that gives us strength to live and to continually try new things, even in conditions that seem hopeless.

Life is too precious to permit its devaluation by living pointlessly, emptyly, without meaning, without love and, finally, without hope.”

The farm economics of sustainability is an economics of hope.