# *Agricultural Industrialization in the American Countryside*

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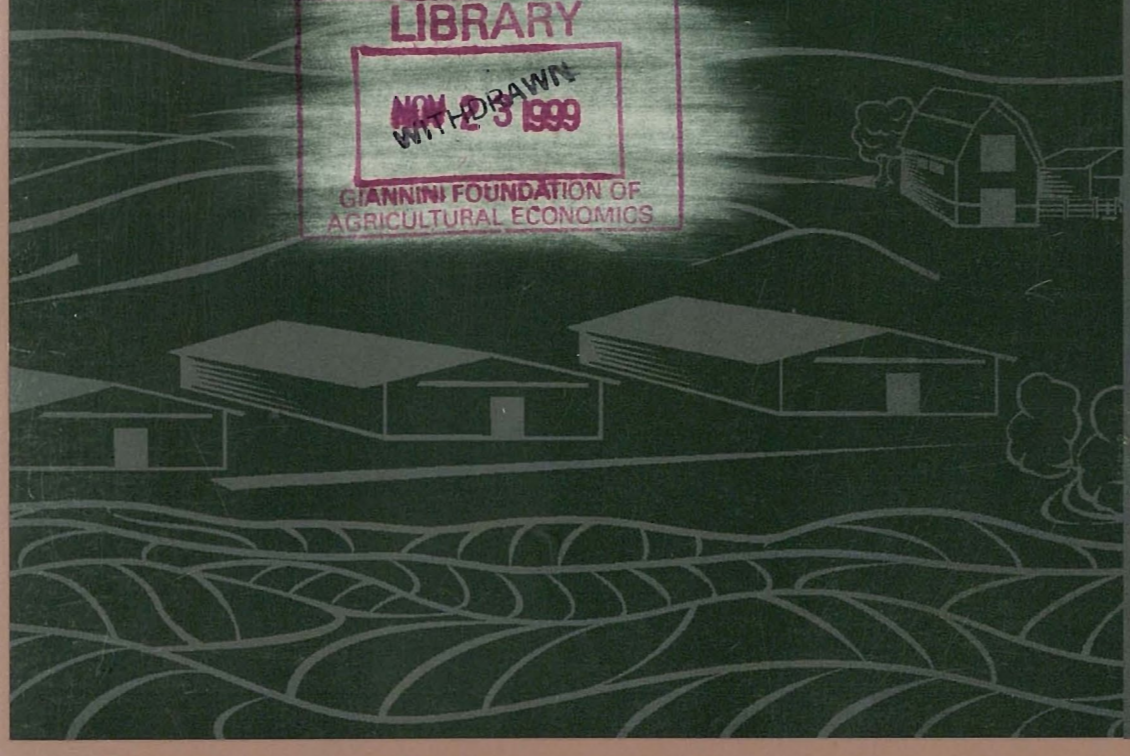
*University Graduate Faculty of Economics*
*Oregon State University*





Henry A. Wallace
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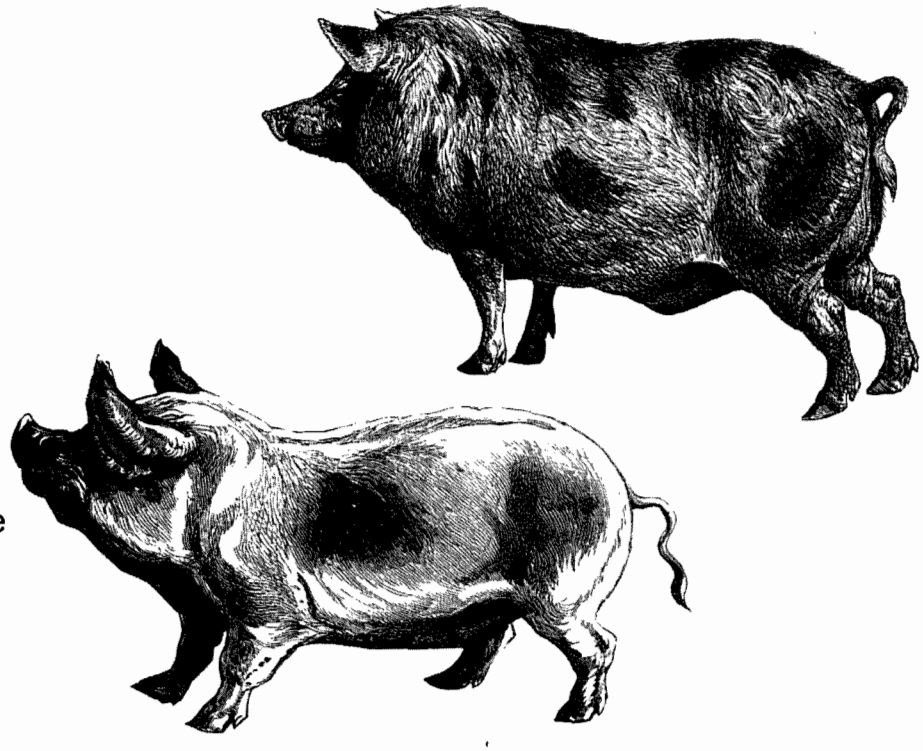

Henry A. Wallace Institute
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GREENBELT, MARYLAND

**ACKNOWLEDGEMENTS**

Agricultural industrialization is both a controversial and complex subject. It became apparent early in the preparation of this manuscript that it would be necessary for me to draw both on the published literature and informed people if I were to do the subject justice. It is a straightforward matter to cite appropriate literature, and an effort has been made to do that. It is more difficult to identify everyone who may have contributed to my thinking through conversation and I have made no attempt to record here the names of everyone I have talked to about the subject. Nevertheless, I take this opportunity to express appreciation to everyone who assisted in any way, whether they are recognized or not.

My greatest debt is to David Ervin. He commissioned the study, outlined its major dimensions, and provided the necessary support to bring it to completion. In addition to those cited in the references, significant contributions were made by Sandra Batie, William G. Boggess, Representative Effie Boggess, Neil Hamilton, David Kraybill, James Rhodes, Neill Schaller, and Rick Welsh. Valuable editorial assistance was provided by Vivian Keller, Suzanne DeMuth, and Joanna Hildebrand.

No doubt I have overlooked some who should be recognized here. If so, I regret the omission. Nevertheless I know full well that anyone who undertakes to write about such a subject must stand on the shoulders of many others. —Emery N. Castle



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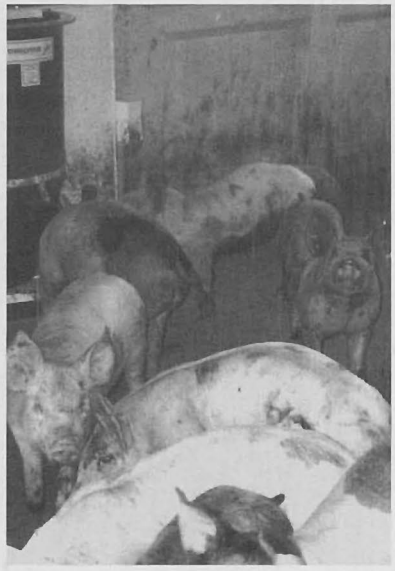

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# *Foreword*



THERE IS LITTLE THAT STIRS MORE DEBATE today in the countryside than the spread of large confined animal facilities. At a recent Congressional hearing, Dan Glickman, Secretary of Agriculture, said that the U.S. Department of Agriculture gleans several stories on such debates from the nation's press every day. The stories tell how divisive issues, such as air and water pollution that often accompany "industrialized" animal operations, have pitted farmer against farmer, rural neighbor against farmer, rural townspeople against immigrant farm laborers, environmental advocates against agribusiness, all of which have stressed rural communities.

The industrialization of agriculture has been underway for most of this century, as farms have specialized and grown larger. This relentless process has been pushed by a multitude of technological developments from the introduction of mechanical cultivation and harvesting, hybrid seed, synthetic fertilizers and pesticides, and pulled by the growth in food and fiber needs of an expanding domestic and world population. The benefits of increased production, principally lower cost food, and costs of adjustment to farm families and rural communities have been well documented. The Wallace Institute has published two studies on this topic, *The Industrial Reorganization of Agriculture* and *Reorganizing U.S. Agriculture: The Rise of Industrial Agriculture and Direct Marketing,* by Rick Welsh.

As agriculture enters an era of less government intervention in production, opening global markets, and dizzying advances from the electronic and biotechnology revolutions, the industrialization process promises to accelerate faster and extend farther. Yet, it's clear that the public expects

more from farming than low cost food. These industrial farms not only share the countryside with other farms, but must coexist with an increasingly diverse array of rural residents, businesses, and recreationists. That diversity has spawned conflict. For example, a robust public demand for environmental quality affected by farm practices has prompted many state legislatures to pass restrictive laws pertaining to the perceived risks posed by large scale animal production. Meanwhile, rural communities are searching for ways to weigh and balance these competing interests.

With such contentious problems confounding the search for constructive approaches, the Henry A. Wallace Institute's Policy Studies Program commissioned Professor Emery Castle to review and analyze the process of agricultural industrialization in relation to rural development. Professor Castle chaired the National Rural Studies Committee from 1986-96 (Castle, 1997). He has been a student and teacher of agricultural development and natural resource management for nearly forty years, and has earned distinguished recognition in scientific and policy circles.

The primary purpose of Professor Castle's report, *Agricultural Industrialization in the American Countryside,* is to offer a conceptual framework that all participants in rural policy can use to assess and shape the process of agricultural industrialization for the greatest benefit to their communities. Those participants often are urged by special interests to take the extreme position of either accepting industrial agriculture without modification for fear of losing economic benefits, or of banning all forms of industrial farming. Professor Castle rejects these policy extremes as unwise or unrealistic. Instead, he urges communities to adopt a "monitor, manage, and modify where necessary" approach to assure that new agricultural enterprises support the full set of rural development objectives. He advances the concept of "rural capital stock," with manmade, natural, human, and social capital elements for use in measuring and evaluating the effects of industrialized farms. His presumption is that rural communities will wish to maintain or enhance their total capital stock to assure economic, environmental, and social vibrancy well into the future. Diligently considering the full range of effects of new forms of agricultural development is integral to that process. A few communities have practiced this approach, but it is by far the exception rather than the rule. The Wallace Institute views Professor Castle's report as a vehicle for stimulating a constructive policy dialogue and process on agricultural industrialization that recognizes the interests of all participants.

David Ervin
Director, Policy Studies Program

# 1 *Summary*



AGRICULTURAL INDUSTRIALIZATION is creating enormous changes in the American countryside. Americans have legitimate cause for concern about the effects of this form of industrialization on traditional farms, environmental quality, local communities, and economic development.

This paper presents a historical view of agricultural industrialization, followed by a review of concerns that have been expressed about it. It uses the various components of the rural capital stock—manmade, natural, human, and social—as measuring rods for evaluating the effects of agricultural industrialization on rural communities. A number of policy instruments are available that may be used at the local, state, and national levels to influence agricultural industrialization and its effects. A comprehensive approach to agricultural industrialization involves economic development, federal, state, and local environmental policies, and will have an impact on human capital and social institutions. A framework for such a comprehensive approach is set forth in the final section of this report.

# 2 *Introduction*



INDUSTRIALIZED AGRICULTURAL production is one of the most hotly debated issues in rural America today. Industrialized agricultural production and marketing firms are highly visible in the countryside, usually surrounded by farms of smaller size. Exactly what kind of changes are they causing in rural America? Are these changes desirable or undesirable? Do controls or incentives exist to guide their operations in socially desirable directions?

Agricultural production and processing have changed profoundly during the 20th Century from many small units linked by decentralized markets to a system of large units increasingly linked by contracts or ownership. These changes are driven by familiar forces that encourage increases in a firm's size to attain cost and marketing advantages, and enabled by modern chemical, biological, and electronic technologies. Although there is still a great deal of diversity in the food system, the dominant trend is unmistakably toward fewer larger firms that rely less on traditional markets and more on negotiated relationships among input suppliers, farmers, processors, distributors, and retailers. The nature of competition in agriculture changes under this process of industrialization. Where once the dominant form of competition was among producers at one level of the industry, we now observe vertically integrated systems of production, processing, distribution, and retailing that compete with other linked systems. For example, a grain merchandising company may contract with farmers to raise cattle with the firm's feed, and the company controls the processing and distribution to a single retailer who is precluded from selling competing beef supplies. Consumers must visit other stores to choose among different

brands of beef. Such relationships may afford advantages to all contracting parties in reducing market uncertainties and better control of quality. However, they also bring new uncertainties. The larger production operations tend to concentrate wastes in small geographic areas that can "leak" into surrounding air and water resources. They often reduce operator discretion in managing his farm resources. And they raise fundamental questions about what constitutes "sufficient" competition to assure access for new entries and innovation along the processing, distribution, and retailing chain.

The purpose of this report is to help readers evaluate such issues.

## The Nature of Agricultural Industrialization

To understand the basic structure of industrial agriculture, it is important to look at the roots of industrialization itself. Adam Smith, who is generally credited as the founder of economics as it exists today, provided fundamental insight into the principles that underlie industrialization in his monumental work, *An Inquiry into the Nature and Causes of the Wealth of Nations,* published in 1776. According to Smith, two conditions are necessary if industrialization is to occur. One is that there must be division of labor through specialization—as on an assembly line, each worker involved in producing a given product must specialize in performing just one or two of the tasks necessary to create that product. The second condition is that the division of labor is limited by the extent of the market. In other words, at a given time the market for most goods and services is finite, which necessarily limits both the number and the size of firms that produce those goods or services.

In 1890 Alfred Marshall, in his *Principles of Economics,* advanced the idea of external economies, which is also helpful in understanding the nature of industrialization. External economies exist when efficiencies occur as an industry grows, but are not associated with an increase in the size of any one firm operating independently. For example, suppose that the manufacture of shoes requires the tanning of leather. Also suppose that the cost of tanning drops on a per unit basis as output is increased. A single firm may not be sufficient to bring forth these economies in tanning, but if an entire industry develops a need for tanned leather, its price declines and the entire shoe manufacturing industry benefits from external economies in leather tanning.

External economies are the reason firms within an industry tend to cluster in particular locations; they often can be operated more economically by drawing upon a common source of supply, such as a common labor force, and by exchanging information. "Agglomeration economies" is the label economists have placed on this phenomenon.

These three concepts—the division of labor, the extent of the market, and external economies—help us understand the process of industrialization generally. Although the concepts were developed in earlier eras, they remain relevant today if they are interpreted with knowledge of contemporary conditions. Knowledge of modern conditions is especially important for understanding agricultural industrialization because the current technology of agricultural production is very different than it was in 1776 and 1890, when Smith and Marshall provided their illuminating insights.

Agricultural industrialization has been a gradual but relentless process. It began when the first farmer stopped farming full time and provided goods or services to other farmers. As people withdraw from an industry, they release resources, such as acres of land in the case of farming, for use by others. What we now call agricultural industrialization is the logical outcome of a process that has been under way for centuries.

If the size of a market limits the degree to which specialization and the division of labor can occur, what has happened to the extent of the market for foodstuffs in the United States? There has been substantial growth in the market for agricultural products throughout our history. In 1890, the U.S. population stood at approximately 63 million people. One hundred years later, in 1990, this number had increased almost four times, to 248 million people. Not only has population grown, but per capita purchasing power has increased as well. Over a recent forty-year period, from 1950 to 1990, per capita disposable income, measured in constant dollars, increased 2.25 times (U.S. Bureau of the Census, 1967, 1994).

Aggregate data can, however, be misleading. Consumers do not spend all of their disposable income for food, and the percentage of their income spent for food decreases as their income increases. In addition, allowance must be made for the net change in exports over time. That is, the total amount exported must be reduced by the amount imported if a measurement is to be made of the change in the market for foodstuffs. When adjustments are made for these factors, U.S. consumers' annual demand for food is less than would be anticipated on the basis of population and income growth alone: it has grown from 1.75 to 2 times during the 1950–1990 period, not 2.25 times. Nevertheless, the size of the market has increased, if not dramatically so—and the specialization associated with increases in the extent of the market has made possible a remarkable decline in the number of farms.

What causes a division of labor in the production of agricultural commodities? Often, it is the result of changes in technology, which can range from advances in equipment design to new ways of performing old tasks. If a farmer has an idea as to how he can sharpen plowshares more efficiently than other farmers, he may decide to stop farming, or reduce the amount of time he spends farming, and sharpen plowshares for other

farmers. His method of sharpening plowshares represents a new or different way of doing things—that is, a new technology. New technologies may be mechanical, biological, or managerial, but whatever form they take, they have the potential of increasing the division of labor and bringing about increased specialization. The growth of the market and increased specialization may make external economies possible, and so an entire industry may become more productive and efficient than it otherwise would be.

Historically the number of farms in the United States has been large relative to the number of firms in the industries from whom they buy, as, for example, farm machinery manufacturers. The same is true for many industries to which they sell, as, for example, meat processors. This state of affairs has created some special economic problems for farmers, and has led to legislation designed to address what some believe has been an imbalance in economic power between farmers and the non-farm economy.

Unlike most other industries, farming is concerned with managing biological processes (plants and animals). Traditionally, plant and animal husbandry enterprises have required a good deal of space and have tended to be located in areas with a relatively low population density. Historically, specialization, and division of labor have come much later to such enterprises than to their mechanical counterparts, becoming a major force for change only in the mid 20th century. Farm machinery and many other supplies have been produced by firms off the farm for several decades, and numerous marketing activities were moved off the farm some time ago as well. As understanding of biological processes improved, researchers and farmers created technologies that permitted the fragmentation of plant and animal production processes on the farm as well. As these technologies were implemented, it was discovered it was not always necessary for certain production processes to take place on a traditional farm. It also became possible for some farms to specialize in certain components of the total biological process, even as other components were moved to locations off the farm or to other farms.

From 1945 to 1993, for example, the number of chickens hatched by commercial hatcheries increased approximately five times. Purchased feed, livestock of all kinds, and seeds constituted only about 18 percent of all farm purchases in 1930, but rose to 26 percent by 1990. As these data illustrate, many farms have surrendered production to nonfarm firms; in other instances the more highly specialized farms have bought and sold more to each other (U.S. Department of Agriculture, 1967, 1994).

Industrialization has affected the production and marketing of agricultural commodities in different ways (Rhodes, 1995). The concentration of production, for example, has been much greater for livestock generally than for crops, and it has been much greater for poultry and swine than for other types of livestock. These types of concentration currently are matters

of great concern, particularly as they pertain to swine. Concentrated swine production can cause severe environmental damage. Further, the increased output from these operations often results in less production from traditional, smaller farmers. With regard to marketing, industrialization has revolutionized the way agricultural products are made available to consumers. For example, at one time milk or eggs were sold mainly as single products: if consumers wanted cream or butter, they had to separate cream from milk, and if they wanted egg whites, they had to purchase entire eggs. Compare such a state of affairs with the present situation. The modern supermarket offers several varieties of skim milk, half and half, cream, and butter, as well as flavored, plain, frozen, full-fat, low-fat, and nonfat yogurt, in addition to countless egg products.

Changes in the agricultural industry have occurred both horizontally (that is, with regard to the size of the industry's firms) as well as vertically (that is, with regard to their ability to control all aspects of their operations, from growing a certain product to marketing it). If a firm grows horizontally, it increases its size, and perhaps market share, by increasing its output of a given product or service for a particular niche in the production or marketing process. A firm that grows vertically, on the other hand, may take over more and more operations that are related to its product and have traditionally been performed by outside firms. These types of specialization can, in fact, subject a firm to increased risks in the marketplace. A firm that specializes horizontally, for instance, depends not only on firms that supply its inputs, but on those that market its products as well. Such a firm can suffer large short-term losses if prices fluctuate even modestly. The same may be true of certain vertically integrated firms. Given these circumstances, strong incentives exist for the creation of institutional arrangements that will provide protection from the risks and uncertainties of the marketplace. Such arrangements range from purchasing and selling contracts to outright ownership. The effects of these arrangements will remove or blunt the impact of market fluctuations. Such arrangements may have more than just defensive advantages; they may also open the door to other opportunities to exploit purchasing or selling power.

As noted previously, specialization and firm growth occurred earlier off, rather than on, the farm. This is why input supply firms and marketing firms traditionally have been larger than the farm firms they supplied or from which they purchased products. Often, because of market risks, there have been advantages for some large agribusiness firms to establish formal linkages with individual farms. Such linkages have ensured a market, in the case of input suppliers, or a stable supply of a product of uniform quality, in the case of food or fiber marketing firms. And, of course, some highly vertically integrated firms supply inputs as well as market the output. A firm off the farm may, as an example, supply growers the baby chicks and

broiler feed they need to produce a given number of broilers for the firm. The firm may even specify the chicks' growing conditions, so that it is assured of a given number of broilers of a particular quality that will be delivered at a particular time. Some very large vertically integrated firms have simply bought farms outright rather than contract with them for certain products (Drabenstott and Smith, 1996, p. 4).

Transaction costs refer to the costs associated with transferring title to a good or service from one firm to another. It is possible, of course, for increased transaction costs to offset the lower production costs that result from specialization and the division of labor. By contracting with other firms, or by owning more than one state of production, it may be possible to reduce transaction costs and reduce market risks, as well as lower production or transformation costs. All of these opportunities are open to integrated firms in contemporary agriculture. Writing in 1937, R.H. Coase regarded the "cost of using the price mechanism" as the main reason for the existence of firms. The possibility of reducing transaction costs may provide incentives for coordination and integration within an industry.

It is important to keep the relative importance of the various concepts in perspective. Rhodes (1995, p.113) wrote concerning swine production:

> *"In summary, the profits achieved by being a leader in reducing production costs have been the main incentive for structural change; reducing transactions costs by vertical relationships has been a minor one. The volume of hogs produced in vertical integration is not yet important; furthermore, much of it has been attracted more by high returns on equity in hog production than by small savings achievable in transactions costs."*

Box 1 summarizes much of the material presented in this section. It makes clear the recent attention directed toward agriculture needs to recognize how the issues are deeply imbedded in U.S. economic history. In order to deal with it intelligently, it is important to understand how the effects of industrialization have been dealt with in the past.

## Why Do We Care About Agricultural Industrialization?

Whether it is socially desirable to have large agriculturally industrialized firms has been a long-standing question in the United States (See Barkema, 1993; Coffey, 1993; Rhodes, 1993). As noted, agricultural industrialization and contract agriculture have been common for several decades in poultry and egg production, and also in some vegetable production. What is new is the use of industrialized methods in the countryside for the primary production of certain products. The major current concerns about agricultural

**BOX 1 Forces affecting agricultural industrialization and the traditional farm firm at the beginning and end of the 20th Century**

| Forces | Beginning of the 20th Century | End of the 20th Century |
|---|---|---|
| Specialization and Division of Labor | Traditional farm firms had many crops and livestock enterprises. Considerable output was used or consumed on the farm. Much family labor was absorbed by the farm. | Traditional farm firms have a small number of enterprises. Many inputs are purchased. High percentage of output is sold or contracted. Income earned from off-farm sources may exceed net farm income. |
| Extent of the Market | Much output sold locally or regionally. | Global market place. Total demand has grown but not as rapidly as population x income. |
| External Economies | External economies were beginning to be achieved in input manufacturing and marketing. Input manufacturers and food processes generally were fewer in number and larger than farms. | Extensive external economies in both input production and marketing, as well as in marketing of agricultural commodities. Input manufacturers and food processors consistently are fewer in number and larger economically than farms. |
| Transactions Costs | Many production and consumption processes were internal to farm firms. Market risk to farmers was great for commodities sold and inputs purchased. | Contracting and ownership is used to coordinate fragmented production and marketing processes, lower transactions costs, and reduce market risk. |

industrialization involve competition between such industrialized firms and family farms, and the changes in farm structure that result from this competition (larger but fewer farms; loss of autonomy in decision making); the negative effects of industrialization on natural resources and the environment; undesirable community impacts, including changes in rural labor markets; and the creation of conflicts about the desirability of economic development and the way it occurs. These concerns are examined in detail below.

## COMPETITION WITH FAMILY FARMS

A particularly well publicized concern is industrialized agriculture's competition with family farms. The term "family farm" has many meanings. On a traditional family farm, the farm family was the principal source of farm labor and the farm itself was the major source of farm income. In recent years, economic forces have reduced the number of traditional family farms in the United States. Many farm families have hired laborers to work with them, and many farm family members have either found work off the farm or developed other outside sources of income. As a result, the term "family farm" has come to mean that a given farm is owned and/or managed by the immediate or extended members of the original farm family. In

turn, this means that some very large, highly industrialized operations are now called family farms.

Whatever the definition, family farms have been under great pressure for several decades. The percentage of the population engaged in farm work has declined steadily throughout this century. In 1900, 42 percent of the population worked on farms. By 1990 the percentage had declined to approximately 2 percent. There were nearly 30 million farms in 1900; in 1990 there were only about 2 million. Traditional farms produce an ever-decreasing percentage of the country's poultry and swine, while output from industrialized firms has grown rapidly. The 1980s were an especially difficult period for traditional farms because of tight money, high interest rates, reduced exports, and a loss of rural industry in some places.

American democratic society establishes the legal framework within which private sector firms operate. For decades private sector corporations have been the dominant organizations driving economic development domestically and internationally. Thriving on specialization and the division of labor, they also push to reduce or eliminate transaction costs through contracting and outright ownership, with notable consequences for smaller businesses. As noted earlier, there has long been concern about the declining number of traditional family farms. However, most government efforts to preserve family farming, as it has been defined historically, have failed. If the family farm is to survive, it must do so by exploiting the weaknesses of industrialized agriculture, rather than by attempting to compete in those arenas where industrialized firms are the strongest. As a case in point, large, industrialized firms typically are inflexible and have difficulty changing directions rapidly or adapting to different conditions. They do best when they can produce goods and services of a specified quality in volume. Traditional farm firms can compete best where those factors are relatively less important.

The United States, as well as many other parts of the world, provides a growing market for specialized agricultural products. Per capita income is rising and many people are becoming increasingly conscious of the relationship between nutrition and health. These conditions have created a potential for specialty markets that may be best served by traditional farm firms. An analogy may be drawn with the banking industry. Despite the recent wave of bank mergers and consolidations across the nation, many small banks are thriving. They have done so by concentrating on banking services not offered, or not performed well, by large banks. For example, smaller banks may be able to make rapid decisions on loan applications, based on detailed knowledge of local conditions. It may be difficult for large banks to give local branch managers this degree of autonomy.

Public policies can help small businesses survive and grow without attempting to curtail or prohibit larger operations. For example, government

can provide special educational programs for the owners of small businesses, and can offer assistance in obtaining access to services available outside the community, ranging from capital and credit needs to the understanding and use of government programs and policies. The special needs of small rural businesses of all kinds, not just farms, deserve attention. In most of rural America, farms generate fewer jobs and less income than small non-farm businesses do. Further, society may have an interest in the survival of small firms as a means of preserving competition in the economy. If permitted to do so, firms with significant market share may direct their energies and innovative efforts to discouraging competition rather than decreasing costs and improving product quality.

**NATURAL RESOURCE AND ENVIRONMENTAL PROTECTION**

Industrialized agriculture poses special challenges for natural resource and environmental protection. Many of today's livestock feeding operations, for instance, generate as much animal waste as does a small city, and the geographic concentration of that waste creates unique problems. Indeed, the types of environmental problems created by such operations and the potential approaches to remedy them will vary substantially according to the degree of concentration involved. When production is highly concentrated, environmental problems likely will be infrequent but severe. When concentration is more dispersed, problems may occur more frequently, but perhaps may be less threatening.

Most economic development changes the natural environment in some way, although the natural environment will not necessarily become less healthy or be less appealing. But if the change is for the worse, and if the environmental quality of an area is allowed to decline, the area may be less attractive for future economic development. This will be especially true for businesses that place a premium on desirable living conditions.

Competition for economic development exists among states just as it does among local communities. Some places may be more willing than others to attract agricultural industrialization at the cost of environmental quality. When this happens, questions about who is making the decisions and whether all the costs are being considered are of great importance. The odors from concentrated livestock operations, for example, may impose fewer costs on a sparsely populated area that is suffering from economic decline than they do on a more densely populated, prosperous community. One of the advantages of local autonomy is that such differences can be taken into account. However, if the environment of an area suffers permanent damage, the interests of a larger jurisdiction (for instance, the state in which the area is located) are affected. Just as individual states have reason to be concerned about competition among local units of government to attract agricultural industries, the federal government has reason to be

concerned about competition among states to attract these industries. In such cases, only a more general jurisdiction may be in a position to judge if environmental quality generally is being sacrificed on the altar of economic progress.

Federal, state, and local governments each have environmental protection responsibilities. Federal legislation applies to all parts of the nation and is administered through state agencies and programs. States may not only establish higher standards than specified by federal law, but may provide environmental protection not specified by federal law. Local government is subject to both federal and state law, but it may go beyond such law in addressing local issues. There is considerable variation from state to state in the relative importance of state and local regulation (Oakerson, 1995).

## IMPACTS ON RURAL COMMUNITIES

Agricultural industrialization can have major impacts on rural communities. It tends to concentrate production and marketing; it may enhance income and employment in some places; it may cause decline in others; and it may even dramatically affect the composition of local labor markets. Janet Fitchen, an authority on rural welfare in the United States, investigated both external and internal immigration into rural areas. With respect to meat packing in the High Plains, she has written:

> *"In Kansas and Nebraska meat-packing towns, the most obvious and talked about of the internal migrants are relatively recent immigrants. Particularly of note are the Southeast Asians from California, who come as part of 'planned secondary resettlement' and Mexicans who perceive better economic opportunity for themselves in High Plains meat packing than in South Texas or in crop agriculture. The less-noticed immigrants are the 'non-ethnic' whites, individuals and families unable to support themselves elsewhere, who are attracted by reports of good money to be made in meat packing. Some have undertaken this single long-distance move as part of redirecting their lives; others are 'passing through' or 'on the road,' moving around the country in search of a better life. All of these immigrants arrive poor, and although some have skills and educational preparation that enable them to get a good job, many others are unable to escape from poverty. Typical of the latter are the women interviewed at a skills training program who found that despite available jobs, making an adequate living can be*

*elusive, either because of the nature of the jobs or because of their own education and employment deficits, or both. Having come to the meat-packing town with a husband or boyfriend, they had experienced no improvement in household well-being, for their partners had been unable to succeed either, perhaps remaining unemployed for long periods, and the couple had then separated. On their own as single parents, the women remained in the new location, tried to support the family with a retail clerk job at the mall, and had eventually turned or returned to welfare. Thus, though jobs may be plentiful in such a community, more potential workers migrate in than industry can absorb or adequately support, and the 'excess' become part of a floating low-income problem."*
(Fitchen, 1995, pp. 257-258)

The problem Fitchen writes about is not only one of worker income. Concomitant increases in demand for schools and social services may place a heavy burden on local government and taxpayers. Further, an influx of people from different ethnic and cultural backgrounds may mean that social tensions will increase and social organizations will be less productive than they were previously. These problems, real in some areas and possibilities in others, have been the source of considerable anxiety about, and perhaps disenchantment with, agricultural industrialization. Localities must therefore consider all of the costs and returns likely to be associated with particular economic developments, agricultural or otherwise, before they decide to take them on. Too often, it is assumed that if an enterprise is a profitable one to the people engaged in its operation, it will also be desirable for the community or local area in which it is located. Such is not always the case.

Yet such matters should be kept in perspective. It would be contrary to the American experience, to say nothing of American law, to prevent the location of an economic activity in an area on the basis of the ethnic or cultural background, or the economic status, of its employees. Furthermore, some of the most stable and productive members of countless communities were at one time impoverished immigrants. It is not clear that a case can be made that rural areas generally need, or should have, special policies to deal with social change. At the same time, each local community will face special problems and will need to seek solutions for them. If a community or an area concludes that the costs of hosting a particular type of industry outweigh the benefits it will bring, economic development plans and programs should discourage such industries from entering the area. This type of action, however, is very different from targeting a particular ethnic group or particular economic class as undesirable.

Garden City, Kansas, provides an example of how one community has addressed the problems arising from the location of a large meat packing plant there. This small western Kansas town has experienced a considerable increase in population and ethnic diversity. The public schools and many of the churches have attempted to accommodate these manifestations of growth and change. Apparently they have been successful in their efforts to do so (Gurwitt, 1998).

## ECONOMIC DEVELOPMENT

In parts of rural America agricultural industrialization is the most controversial issue since school consolidation. Industrialization does more than pit outsiders against local people: it makes neighbors disagree with neighbors, region with region, and even has created conflict between states. A great deal of this disagreement often pertains in one way or another to economic development generally, and not just to agricultural industrialization. Some express concern about whether agricultural industrialization is an effective way of stimulating economic development; others fear that economic development will pass them by if agricultural industrialization is not embraced. Some concede that agricultural industrialization stimulates economic development, but question the quality and sustainability of that development; others doubt whether economic development is necessarily a good thing for everyone. Each point of view has some validity, generally, but clearly the answers vary from place to place. Therefore, general policies must take particular circumstances into account.

When an agriculturally industrialized operation comes into a rural area, it is often judged by whether it is likely to "trade locally"—that is, whether it will affect only the farming sector, or whether it will purchase and sell in local markets. There is, of course, question as to just what "trade locally" means. Does "locally" mean a particular rural town, a township, a county, or even a larger area? In practice great variability exists among such firms in this respect. In the long run they can be expected to do what is to their economic advantage. This will mean a relocation of a great deal of local economic activity generally, as well as agricultural production.

Economic development may help only some people in a given area. The poor who do not get better jobs or wages may lose ground either absolutely or relatively. The environmental quality of an area may be damaged and some people may be worse off as a result. Typically, there is no mechanism for those who benefit to compensate those who lose.

Many of the concerns that have been expressed about agricultural industrialization obviously have a basis in reality. It does little good to ignore, and it is inaccurate to deny, that such concerns exist or to say they are without foundation. The relevant questions are what, if anything, can

be done about them, or even if something can be done about them, and whether the costs of doing so are greater than the benefits that will be derived (Miranowski, 1998). Such questions have been at the center of a great deal of public policy throughout our nation's life, and especially so since the latter part of the 19th Century.

# 3 *Can Industrialization Be Controlled?*



A RESULT OF INDUSTRIALIZATION is the creation of large firms with thousands of employees and annual sales running in the billions of dollars. A landscape dominated by such firms is a far cry from the nation of farmers and small businesses favored by Thomas Jefferson. American citizens have long been concerned about such trends and through the years their government has, at various levels, devised public policies that deal with large industrial firms. Although these policies are still evolving, they constitute a precedent that must be considered in the formulation of public policies for agricultural industrialization.

Concern about the undesirable social effects of rapid industrialization and big business became a major national issue in the latter part of the 19th Century. At that time, many businesses had become large enough to significantly influence prices of the items they bought and sold. Labor was in many cases exploited by these large businesses, and the accumulation of enormous fortunes by big business owners and their families created deep unease. Landmark legislation was enacted in the last decade of the 19th Century, which subsequently influenced many new forms of business regulation.

The Sherman Act of 1890 has come to be regarded as important landmark legislation. Section 1 of the Act prohibited "contracts, combinations and conspiracies in restraint of trade." Section 2 prohibited monopolization, attempts to monopolize, or combinations or conspiracies to monopolize trade or commerce among the states or with foreign nations. Price fixing was the target of Section 1 and market dominance of Section 2. (Viscusi et al., 1992, pp. 57-58). It was difficult to apply the Sherman Act,

however, and in 1914 the Clayton Act was passed to more clearly define anticompetitive behavior. The Federal Trade Commission Act also was passed in 1914. Its purpose was to create a commission to perform administrative and adjudicative functions related to antitrust matters.

The decade of the 1920s was a difficult one for farmers even though the United States was enjoying general prosperity. Many believed some of the difficulty being experienced by farmers was because farmers enjoyed less market power than did those from whom they bought and to whom they sold. The Packers and Stockyards Act was passed in 1921. It was an attempt to protect the public interest by regulating the practices of meat packers engaged in interstate operations and the marketing of livestock through public stockyards (Roy, 1976, p. 113). The act prohibited practices that would give competitive advantages to particular persons or localities. In 1922 Congress passed the Capper Volstead Act, which made farmer associations legal for the purpose of marketing agricultural products, as well as agricultural bargaining for items used by farmers. The Perishable Commodities Act of 1930 established comparable standards for perishable commodities as were established under the Packers and Stockyards Act for livestock (Beierlein and Woolverton, 1991).

This kind of antitrust legislation is not the only way that government may influence business decisions. Economic regulation, which typically pertains to the output and pricing policies of businesses, is another tool. It is based on the assumption that if the public interest is negatively affected by the conduct of certain businesses or industries, government intervention is justified. More recently, a different type of regulation has emerged, typically referred to as social regulation. The decade of the 1970s marked the emergence of the U.S. Environmental Protection Agency, the Consumer Products Safety Commission, the Occupational Safety and Health Administration, and the Nuclear Regulatory Commission. Together, social regulation, antitrust legislation, economic regulation, and special agricultural legislation represent a wide range of avenues through which government may modify business practices.

Obviously, government intervention cannot be practiced capriciously or without rationale. The size of a business, for instance, is not an appropriate rationale for intervention, because size in and of itself does not adversely affect the public interest. The simple fact that General Electric generated sales of approximately $50 billion in 1997 is not grounds for regulating it (although General Electric is subject to myriad regulations imposed for different reasons). Similarly, the breakup of Standard Oil of California several years ago did not happen simply because the company was large. Rather, the U.S. government held that the public would be better served by several smaller companies, rather than by one large firm (Carlton and Pulaff, 1990). Although size can, in fact, be related to the exercise of

**An increase in confined animal facilities has occurred in many rural areas.**

Photo courtesy of the North Central Regional Center for Rural Development.

monopoly power, the relationship is not always close. The market share a certain firm holds may be more relevant than its size. A $50 billion firm serving, say, a single $100 billion market is very different from a $50 billion firm that has a smaller market share of several markets. Even a small firm may exercise monopoly power if it has a sufficient market share. Nevertheless, it is the actual exercise of market power rather than its existence that results in anti-trust regulation.

Often, business size is a political issue. There have been numerous political efforts to provide help and support for small businesses, with the Small Business Administration serving as a case in point. Further, there are many government programs to assist family farms within the agricultural industry. Even so, it would be misleading to say that only small businesses get special help from the government. Large corporations have lobbyists at every level of government to look out for their interests, and entire industries organize for political purpose. Larger and fewer firms may be able to organize for political purposes more easily than industries that have a large number of small firms; even though government can affect the operation of large firms, large firms can also affect government decisions.

# 4 *Change in the Countryside: Rural America Today*



JUST AS AMERICAN AGRICULTURE has been transformed in the 20th Century, so too has the American countryside changed. Because its distances are so great, its area so enormous, its conditions so variable, and recent change so rapid, contemporary rural America is difficult to describe with accuracy. Stereotypes abound based on conditions that may have existed at one time but no longer prevail. Only if one goes beyond stereotypes can the impact of agricultural industrialization on the countryside be judged.

The major sources of change in rural America are the expansions of both U.S. cities and the global marketplace (Jacobs, 1970). Cities and their surrounding suburbs have grown enormously since World War II. Many small towns and communities have suddenly become urban and suburban satellites, if not actually a part of an urban or suburban development. Rural labor markets typically are transformed when rural places are within commuting distance of urban and suburban developments. Employment opportunities in urban and suburban places create numerous additional options for many rural people. Rural enterprises must compete with outside employers in the employment of local people. But new employment opportunities may develop in the rural areas as well. New businesses may arise to serve needs in urban and suburban areas; others may arise or expand in response to those who work in the urban or suburban areas, but who choose to live in rural places (bedroom communities). Nevertheless some areas, such as parts of the Great Plains, continue to experience population loss as farming and other traditional industries have become less labor

intensive. As the population has declined, the remainder of the rural economy has often become stagnant or declined as well.

Global and international developments have had a major impact on the countryside in recent decades. In the early 1980s U.S. domestic policies discouraged exports. This had a major impact on those rural areas that exported agricultural products as well as on those rural areas that exported goods from rural industries. More recently, domestic policies and economic performance have made U.S. goods and services more competitive. In addition, rising hiring standards and expanding economies abroad have expanded markets for rural and urban goods and services alike.

Much of the change that can be observed in rural areas has been associated with the process of industrialization both in urban and rural America. Large firms often have found it in their interest to locate plants in rural America. Such location decisions may be driven by low wages in rural places. When it is possible to relocate in places with even lower wages, for example overseas, such plants may be closed or their output reduced, and the employment of rural people declines (Glasmeier and Howland, 1995, pp. 148-150). Industrialized methods have also affected small business in rural areas. For example, the origin and much of the growth of Wal-Mart has been in rural America. Just as industrial agriculture has created competition for the traditional farm business, the presence of Wal-Mart and other large enterprises eliminated many small businesses. Thus, many of the same basic forces that have transformed American agriculture have also changed rural America.

Retirees, who represent a growing segment of the nation's population, have had an impact on rural places as well. Lower rural living costs as well as the presence of natural amenities attract numerous clusters of retirees. And, of course, the growing popularity of outdoor recreation has made the natural amenities of rural America even more attractive to many urban and suburban people who spend a part of their time in rural places. Rural areas that have prospered over the past two decades have had one or more of the following characteristics: proximity to the city, attractive natural amenities (such as a good climate or striking scenery), high quality social services (such as educational or health-related facilities and personnel), or unique cultural attractions (Drabenstott and Smith, 1996).

Three fundamental, but often overlooked, characteristics of rural America shape the rural environment: rural-urban interdependence, a relatively sparse human population, and enormous diversity. **Rural-urban interdependence** is rooted in much more than the steady stream of goods and services that flows in both directions between rural and urban America. Many people reared in rural areas now spend much or all of their working lives in urban and suburban places. Urban people look to the rural areas for recreation, places to retire, and as providers of natural amenities (Weber, 1995).

**Sparsity of population** is the second fundamental characteristic of rural America. The 1990 census reports that 97 percent of the land area of the 48 contiguous states is rural, and about 80 percent is nonmetropolitan. This vast land area provides residence for 22.5 and 24.8 percent of the population, respectively. Rural and nonmetropolitan land areas include areas where there is little or no human habitation, such as desert and wilderness.

Farming is one of the principal space-using activities in rural America, occupying about one-half of its land area. As a result, the words "rural" and "farming" are often treated as though they mean the same thing, although they clearly do not. Mills describes the contribution and relative economic importance of American agriculture in rural America as follows:

> *"There are two extraordinary characteristics of the farm and rural sectors in the United States. First is the small size and high productivity of the U.S. farm sector. Only about 2.4 percent of U.S. workers are employed in farming. No other country in the world that comes close to feeding itself with domestic farm production does so with such a small percentage of its work force in agriculture. Not only does the farm sector feed the U.S. population very well; it also accounts for 10 percent of U.S. exports.*
>
> *Second is the tiny fraction of workers in rural areas who work in farming. About one quarter of the U.S. population lives in rural areas, and about 27 percent of U.S. workers reside in rural areas, but only about 2.4 percent of U.S. workers work on farms. Given that about 2.5 million workers resident in urban areas also have farm jobs, the clear implication is that more than 90 percent of U.S. workers resident in rural areas have non-farm jobs. In no other country of the world is the percentage of workers who live in rural areas and have non-farm jobs as great as in the United States. Only Canada and a few northern European countries even approach the U.S. figure."* (Mills, p. 103)

Thus, most of the economic activity in rural America occurs off, rather than on, the farm. This reality is of direct relevance to the problems posed by agricultural industrialization. Although such industrialization may substantially affect some rural places (those where farming maintains great relative importance), the percentage of the total population that derives its income from farming has declined to the point where any reorganization of farming will not have a large impact on labor use nationally, or even in rural areas generally.

**Diversity** is a third fundamental characteristic of the countryside; that which prevails in one place may not exist in another. For example, traditional agricultural policy is of great importance in some farming communities, but most rural people are little affected by it. Environmental issues vary greatly from place to place, even as they become increasingly important throughout the countryside. Health and educational services are of great importance, but the most effective way of providing for them is quite different from one place to another.

These three fundamental conditions establish the major parameters within which rural public policy must work. Rural-urban interdependence means that solutions to rural problems usually are not to be found in isolation from urban considerations. The relative sparsity of rural population creates unique issues related to communication and transportation. Even so, sparsity of population is a relative matter and the space-using activities of forestry and farming no longer provide a major part of the employment or economic activity for rural America as a whole, although they are of major importance in some places. The enormous diversity in rural America means that generalizations about, and general prescriptions for, all of the countryside are hazardous and are likely to be wrong or harmful.

One common thread runs through the complex fabric of rural America, however. It is the implicit and explicit realization that the centers of power for the complex society in which we live usually are not in rural areas. Large corporate headquarters are located in cities, where the various special interest groups are headquartered. The greatest wealth and the most vibrant outlets for entertainment, education, and culture are typically in cities. And as the relative power of cities grows, so the power of rural areas, especially in the political arena, declines. Rural interests no longer control most legislatures. Rural interests are fragmented and no single organization, or even a coalition of organizations, speaks for rural America. Approaches to many local rural problems are structured by federal and state legislation. And, of course, it really cannot be otherwise, because complete rural autonomy would create enormous problems. Nevertheless, given the great diversity in rural America, the case for considerable local autonomy is strong.

Some rural people and communities appear to have accepted this reality and have adjusted to it. Others deny it. Their attitude may reflect the rural populist tradition, which has held that much rural difficulty can be traced to economic and public policy decisions made by people located far away, who have little knowledge of rural America. In an extreme form, such an attitude may result in a kind of inferiority complex and suspicion of outside forces, part and parcel of the mix of attitudes and traditions that is rural America today.

# 5 *The Exercise of Rural Autonomy*



THE RECOGNITION THAT MANY decisions affecting rural people and places are made elsewhere directs attention to rural autonomy. How much leeway do rural people and places have in deciding their own fate? How much autonomy should they have? Rural-urban interdependence may suggest there is little need for autonomy, but the enormous diversity that exists argues powerfully for decentralization.

Political power in the United States is divided not only among the legislative, judicial, and executive branches of government, but also among national, state, and local governments. Local government is one important avenue for the exercise of local autonomy, but there are other avenues as well, including numerous non-governmental organizations that exist in every community. Many rural people and communities are aware of the autonomy available to them and are attempting to exercise that autonomy wisely.

The development and conservation of the total rural capital stock is the principal avenue that a rural area has to exercise its autonomy. How well its capital stock fares over time provides a measure of how well local autonomy has been exercised.

# 6 *The Rural Capital Stock and Agricultural Industrialization*



THE RURAL CAPITAL STOCK encompasses four types of capital: natural, manmade, human, and social. **Natural capital**, of course, is the natural environment in rural areas. Rural industries such as forestry, outdoor recreation, and agriculture depend on the presence and preservation of natural capital, which also provides such essentials as drinking water for the local population, as well as numerous other amenities. **Manmade capital** consists of items produced by humans that can be used in more than one time period, such as buildings, machinery, and software. The contents of a library represent manmade capital just as much as the library building itself.

**Human capital**, in contrast, reflects investments in people that enhance their future capacity to contribute to individual goals as well as those of society. The obvious example is formal education, which not only permits individuals to better realize their aspirations, but also results in a better society. This is reflected in numerous cost-sharing arrangements between individuals and societies for the costs of education.

**Social capital** refers to the group arrangements that make individual actions more productive. Examples of social capital can range from the informal networks that arise in emergency situations to a formal institution such as a school district. The common elements in these arrangements generally include a degree of formal trust, the existence of reciprocity, and some means of enforcing commitments. Ethnic background, cultural heritage, and shared aspirations all may affect the stock of social capital. (See Coleman, 1990; North, 1990; Flora and Flora, 1993. An extensive discussion of social capital as a part of the rural capital stock may be found in Castle, 1998.)

**Rural natural amenities are of interest to both rural and urban people.**

Photo credit: PhotoDisc

The amount and quality of these four kinds of rural capital provide rural residents with a means for satisfying their individual and group aspirations. Rural capital connects these people to their history as well as to their future. It permits them to consider issues of sustainability as well as short-run productivity. The rural capital concept discourages preoccupation with any one capital component to the exclusion of other forms. The concept encourages rural people to consider the extent to which one capital form may be substituted for one or more of the other forms of capital.

The capital stock of a rural community provides a useful measuring rod for appraising actions that will affect the future productivity of a community. It makes it possible to judge the effectiveness of group actions in meeting group objectives. Properly used, it becomes a means of appraising agricultural industrialization. Most of the concerns about agricultural industrialization can be traced to rural capital issues. Perhaps without being aware they are doing so, the most effective rural planners consider the effect of various actions or options on the four components of the rural capital stock. The effects of agricultural industrialization on each component of rural capital are now considered.

## Effects on Natural Capital

Considerable concern has been expressed about the environmental impacts of industrialized agricultural firms. In some cases the large amount of animal waste they generate may overload the assimilative capacity of the natural environment unless special attention is given to the problem.

Watercourses, the soil, groundwater, and the atmosphere all may be affected negatively unless protective steps are taken. However, the environmental impacts of agricultural industrialization are not necessarily all negative. The concentration of production may permit specialized treatments of environmental problems that are not feasible with a more dispersed production pattern. Further, the sheer wealth of some large firms allows them to make investments in environmental protection that smaller firms with inadequate financial resources would have a difficult time undertaking.

A key issue is whether agricultural industrialization will cause reversible or irreversible damage to the natural environment. If the damage is irreversible, or reversible only at significant cost, the natural capital of the area will not be conserved. Unless such losses can be offset by improvements to other capital stock components, the capacity of the local area to meet future problems will be diminished. The burden of proving that natural capital will not be diminished by agricultural industrialization should rest on those who advocate and would bring about such industrialization. Of course, the immediate impact of even reversible damage may cause considerable concern, but unless the effect is irreversible, or reversible only at a cost, the future stock of natural capital will not be affected.

## Effects on Manmade Physical Capital

As one travels through rural areas where agricultural industrialization has taken root, one is struck by the creation of manmade physical capital—for instance, both poultry and swine production buildings have sprung up to provide housing for the livestock. (For a view of various aspects of swine production, see Hayes et al., 1995 and 1996.) Several characteristics of these structures are striking. They are highly specialized, designed to serve specific production plans. Will such specialized facilities enhance or detract from the countryside when production practices and financial arrangements change, as they surely will? Such structures may not only become eyesores, but they may not be well suited to future rural activities. Some rural residents may be concerned about their temporary nature, conditioned by traditional farm structures built to last many years. But the possible durability of such structures perhaps should be of greater concern than their short lives.

**Farm machinery is one form of manmade rural capital.**

Photo courtesy of the Agricultural Research Service, USDA.

**Continuing education and life-long learning enhance the human capital of numerous rural communities.**

Photo courtesy of the North Central Regional Center for Rural Development.

Large, industrialized firms often have the capacity to create manmade capital that will serve social needs, such as schools, medical facilities, and other community services. To the extent such firms enhance the local tax base or engage in philanthropic activities, they may increase the amount of manmade capital available for community use. However, many jurisdictions use tax breaks as well as other incentives to attract industry. Unless such measures are used judiciously, they may diminish a jurisdiction's capacity to provide for its future social needs.

## Effects on Human Capital

Agricultural industrialization has had mixed effects on human capital. Some industrialized firms depend on educated employees, or employees interested in and capable of individual growth and development. If such firms locate in a rural area, they will have a vested interest in developing and conserving human capital over time. Unfortunately, other kinds of firms may actually benefit from, and so attempt to perpetuate, a low-skill, low-wage environment. Some firms may encourage immigration if a work force to their liking is not available locally, but the firms may leave on short notice if it is to their advantage to locate elsewhere.

The aggregate impact of industrialization is to increase the substitution of manmade capital for labor. When agriculture becomes industrialized, fewer people are engaged in agricultural production, and these people will be more concentrated geographically than if they were in smaller firms dispersed across the countryside. Clearly, when this occurs, the economic activity in some communities may be increased significantly, but there will be a decline elsewhere, perhaps resulting in a slight decline in several communities.

**BOX 2 A checklist for judging the impacts of industrialization on the stock of rural capital.**

| COMPONENTS OF RURAL CAPITAL | IMPACTS | | |
|---|---|---|---|
| | Enhance or Develop | Conserve | Deplete |
| Natural capital<br>• atmosphere<br>• watercourses<br>• wildlife<br>• groundwater<br>• land use | | | |
| Manmade capital:<br>• private<br>• public | | | |
| Human capital:<br>• youth<br>• work force<br>• seniors | | | |
| Social capital:<br>• traditional<br>• new | | | |

## Effects on Social Capital

As discussed earlier, social capital refers to arrangements that facilitate cooperation among individuals and permits accomplishments that would not be possible in its absence. As economic development occurs, the need for social capital continues, but the most valuable kind of social capital will change. The family, for example, is a major source of social capital, but the type of cooperation among family members necessarily changes as economic development occurs. If no family member works off the farm, family members may specialize in various ways in their on-farm work. But if some family members obtain employment off the farm, their mix of activities on the farm will change. This does not necessarily mean the family is less interdependent, nor that mutual trust or reciprocity has disappeared.

Similarly, the introduction of industrialized production in a rural community will cause changes in its social capital structure. Communication and trust are necessary for all forms of social capital, and these social characteristics are altered by the introduction of a major new commercial enterprise in a community. Whether social capital will emerge to replace that which is lost or changed will depend upon emerging needs, as well as on the costs of bringing new forms of social capital into existence. Because individual property rights in social capital do not exist, there may be inadequate incentives to create it immediately. It often comes into existence as a

byproduct of other enterprises, and this may happen only with the passage of time. As a consequence, there may be a time lag between the need for a particular form of social capital and when it comes into existence. For example, when industrialization first occurs, there may be a need for the kind of services that typically are provided by, say, credit unions. It may, however, take time to establish a social capital base that will make a successful credit union possible.

Clearly, agricultural industrialization has enormous impacts on the rural capital stock and so will affect the capacity of rural places to meet future challenges. Whether the stock of rural capital is enhanced or depleted will depend on the steps rural communities take to protect themselves against the loss of their capital base as economic and social change occurs. Those who promote, advocate, and ultimately are responsible for economic development should establish that agricultural industrialization will maintain or enhance the capital stock.

Box 2 provides a suggested checklist that local areas may use in formulating economic development plans and policies pertaining to industrialization. Each local area should develop a checklist to fit its individual circumstances. Rural capital components in the first column will vary from community to community. The thoughtful completion of such a checklist will permit an individual community to decide whether industrialization, agricultural or otherwise, will enhance, conserve, or diminish its capacity for future growth and development. The checklist will also bring differences in opinion into the open within the community.

# 7 *A Coherent and Consistent Rural Public Policy*



GENERALLY, AMERICANS CAN take one of three attitudes concerning a development such as agricultural industrialization. They can opt for a "hands off" or "leave alone" approach; a "prohibit or prevent wherever possible" approach; or a "monitor, manage, and modify where necessary" approach. The "hands off" or "leave alone" approach permits agricultural industrialization to proceed in accordance with existing public policies and market incentives. Even though the undesirable effects of agricultural industrialization may be plain for all to see, adherents of this position hold that intervention through public policy would have more undesirable than desirable consequences.

The "prohibit or prevent wherever possible" approach has been adopted in certain areas across the nation: many states have statutes that place special controls or constraints on corporate farming, including constitutional prohibitions against corporate farming (Harl et al., 1998). The "monitor, manage, and modify where necessary" approach attempts neither to eliminate agricultural industrialization nor simply accept it. It encourages the pragmatic development of policies to deal with particular problems rather than the application of a predetermined approach in every circumstance.

The first two approaches are unrealistic because they ignore history. Advocates of the "hands off" approach choose to disregard the fact that much existing policy places special controls or constraints on existing or potential agricultural industrialization. These policies would need to be reversed in order to achieve a consistent "hands off" policy. At the other extreme, any attempt to prohibit agricultural industrialization outright would require the complete restructuring of today's agricultural industry, an impossible task.

Monitoring and managing, on the other hand, is a realistic option, albeit one requiring that tough questions be faced repeatedly on a situation-by-situation basis.

A policy of monitoring and managing is based on the assumption that markets permitting agricultural industrialization are human institutions subject to social control. What happens in markets is a function of many forces, including the legal and institutional framework within which the markets operate. If the legal and institutional framework is changed, the markets also will change, even though it is not always possible to predict accurately how and when they will do so. For example, a state may prohibit corporations from using more than ten acres of land for agricultural purposes with the objective of discouraging corporate firms from participating in farming operations. However, the legislation will be rendered ineffective if an out-of-state, family-owned firm contracts with in-state farms for the production and marketing of agricultural commodities. Such an operation would be legal, but inconsistent with the intent of the law. Therefore, the essence of public policy in an enterprise economy is how the institutional framework can be modified and used to bring about socially desirable results. In this sense, the policy issues related to agricultural industrialization are no different than the policy issues associated with other possible changes in the economy.

Rural residents need not feel helpless in the face of agricultural industrialization (Harl et al., 1998). Even though they may not wish to erase past developments or preclude additional industrialization, they can take a number of steps to control their destiny. (See also Hamilton, 1997a and 1997b.) In fact, several communities have become actively involved in managing their responses to industrialized agriculture. The Center for Rural Affairs and Land Stewardship Project in Minnesota provide examples of this approach.

The following are possible strategies that rural communities can use to cope with agricultural industrialization. These strategies are based on the assumption that there are no overriding national benefits from agricultural industrialization sufficient to justify the sacrifice of local autonomy. An important issue in this respect is whether agricultural industrialization will continue to provide consumers with cheaper food if these strategies are employed. Until now, agricultural industrialization has lowered the cost of producing food significantly over time. However, there is no evidence that conforming to the kinds of policy strategies set forth below would significantly increase the cost of producing food. Industrial firms often protest proposed regulations, of course, but when the proposals become law, typically they comply and build the cost of compliance into their cost structure. They also innovate through research and development to lower their compliance costs through time. Ambiguity in administration as well as

uncertain or temporary rulings merely add to their risks and to their cost of production. In other words, if firms have to deal with regulations at all, they prefer clear-cut and evenly enforced regulations. (For a discussion of the relative efficiency of different sizes of swine operations see Kliebenstein et al., 1998.)

## Strategies to Address the Negative Effects of Agricultural Industrialization

Local people need not feel that all negative effects of agricultural industrialization are inevitable. Some of these effects can be avoided by applying existing public policies; some can be addressed by policies yet to be developed.

- **Industrial agricultural firms should be held to national and state laws and regulations pertaining to anticompetitive behavior.** Local and state governments as well as rural watchdog groups may wish to monitor the behavior of firms and call possible violations to the attention of appropriate state and federal authorities. These firms are operating in an industry where market power generally is not highly concentrated, but firms that command significant market shares in particular markets may be able to influence market performance. For example, concentration in the poultry industry has reached the point where the behavior of a small number of firms may have a discernible effect on price. Such firms should not be permitted to restrain trade or engage in monopolistic practices.
- **Industrial firms in rural areas should conform to federal, state, and local environmental standards and regulations.** If industrial firms do not conform to the regulations imposed upon them, they are not paying all of the real costs of their operations. Such costs should even include site restoration if the industrialized firm changes location. Performance bonds are one such device for accomplishing this. The performance bond is sacrificed if the industry does not restore the site in conformance with agreed-upon standards.
- **Industrialized firms in rural areas should pay the full costs associated with their location in a community to that community.** If industrialized firms are not responsible for the entire costs of their actions, they will erode the capital of local areas. The issue becomes especially troublesome when competition among communities leads to the extension of tax breaks as a means of encouraging economic development. This is not to say that tax breaks should never be extended to stimulate economic development. This is a matter each local jurisdiction must decide consistent with its development policies and programs. However, if tax breaks are extended the benefits need to be evaluated relative to costs. If the natural, man-made, human or social capital will be eroded, this must be considered as a cost that will handicap the area in dealing with problems in the future.

- **Industrialized firms should be subject to rules and standards concerning vertical integration.** Vertical integration in agriculture is achieved by numerous means, ranging from outright ownership to leasing and contracting. The public has a legitimate interest in the arrangements made to bring about coordination, because the bargaining power of the parties to such agreements may not be equal. Rules and standards pertaining to bargaining and contracts are appropriate areas of public policy (Hamilton, 1995b).
- **Farmers should avail themselves of special protection provided in the law for the marketing of agricultural products and bargaining arrangements for farm purchases.** The Packers and Stockyards Act, the Capper-Volstead Act, and the Perishable Commodities Act provide examples of special provisions in the law that have been made for agriculture. In some instances they provide a mechanism by which associations of smaller producers can meet the competitive challenges of large agriculturally industrialized firms, both on the selling and on the purchasing sides of the market.



## Strategies to Harmonize Local, State, and Federal Policies

The United States is a vast and diverse land where local, state, and federal authorities share the responsibilities of governing. The precise division of responsibilities varies among states, but it is possible to establish public policy guidelines for an issue such as agricultural industrialization. In this regard:

- **Rural communities and local units of government should attempt to develop a coherent and consistent set of approaches and policies concerning such issues as environmental quality, the promotion of economic development, and the level of social services.** When there is substantial controversy within a community over such matters, complete consistency may not be possible. Nevertheless, the process of attempting to accomplish it will be of great value. Debate, discussion, and investigation will, in time, result in greater understanding of the important issues. As previously noted, some rural residents currently are in a state of denial about agricultural industrialization. They are unwilling to recognize it has been under way for several decades and is an accelerating process. At the other extreme there are those who maintain the process is inevitable, and that its consequences, desirable or not, should be accepted with little question. Neither position provides a reliable base for public policy. Box 2, page 33, modified to fit the particular circumstances of a local area, is one means for bringing these kinds of issues into the open.

- **Local policy positions should reflect an understanding of federal and state programs. Inconsistent programs at different levels of government serve no constructive purpose.** As every experienced local politician knows, local pressures can influence state and federal policies. It is appropriate for local interests to identify desirable changes in state and federal programs, and then move to bring them about.

## Strategies to Harmonize Economic Development Policies with Social Objectives

Much of the controversy surrounding agricultural industrialization stems from the different aspirations of rural community members. Some place a high value on economic prosperity and wish to stimulate economic growth. They may recognize that economic development will cause change throughout their community, but believe the ends justify the means. Others may not place such a high value on economic growth, and there may be still others who would like to see economic growth but place limits on what they are willing to sacrifice to achieve such ends.

There may be more than one avenue that a rural area can take to greater economic development. Value-added activities may be one, but only one, such avenue. For example, the local processing of potatoes into fries or other potato products before they leave the area where they are grown provides an example of a value-added activity. When decisions are made regarding the conditions under which agriculturally industrialized firms will operate, it will be important to know about possible alternative avenues for development. The rural areas that have prospered the most in recent decades have adhered to at least one of the following guidelines:

- **Rural communities that want to develop economically should work to enhance their urban connections wherever possible.** Many rural residents work in urban areas. They may commute daily, weekly, or even for longer periods. Some rural people work in their communities but have urban clients, or work for firms that do. As a consequence, good transportation and communication links with cities are vital.
- **Rural communities should take advantage of and preserve their natural amenities.** Spectacular natural amenities are not essential for resorts, recreational facilities, retirement communities, or rural residences, but pleasant and attractive amenities are. Urban access is important. Climate, and in the case of retirement communities, cost of living, are known to be of significance in many places.
- **Rural communities should strive to maintain quality cultural, educational, and health service facilities.** Every rural community cannot become a cultural mecca, but those that offer distinct cultural advantages typically have done very well economically. While not a panacea, educational

investments have yielded good returns. Good medical facilities have been sources of economic growth for numerous rural areas.

- **Rural communities should maintain a hospitable environment for small businesses, both agricultural and nonagricultural.** A balanced economic development strategy will help local firms grow and develop, as well as attract external firms. Such a strategy should provide for the needs of local entrepreneurs—especially for their capital and educational needs. A helpful discussion of financial capital needs may be found in a publication entitled *Financing Rural America*, published by the Federal Reserve Bank of Kansas City in 1997. (See especially pages 53-54 and 71.) Barry and Ellinger report in this publication that nonagricultural rural banks have enjoyed greater profitability than have agricultural banks.

The educational needs of local entrepreneurs and their employees can be addressed in a variety of ways. Generally successful educational programs have two characteristics: they are attuned to the requirements of urban and global systems, and they emphasize activities in which small firms have a comparative advantage. Large firms typically have advantages in the production of a standardized product for a large market, but as noted previously, they may be relatively inflexible and slow to change directions. Smaller firms, in contrast, can supply emerging specialty markets, and can be employed by large firms for outsourcing and subcontracting.

# 8 *Conclusion*



AGRICULTURAL INDUSTRIALIZATION has been a powerful force in making rural areas what they are today. It remains a powerful force and holds prospect for creating even more change in the future. There is great concern about some of the current manifestations of agricultural production, especially concentrated swine production, which yields both positive and negative consequences in the rural areas where it occurs.

In considering such a development, it is important to recognize that rural America is highly diverse. This means a development such as concentrated swine production will not yield an identical combination of benefits and costs, or of pluses and minuses, from one community to another.

Under our system of government, rural areas have been accorded a degree of autonomy in managing their affairs consistent with state and federal policies and programs. This means the policy issues associated with many agricultural industrial operations will arise again and again on a community by community basis. Local public policy will be most effective if it is consistent with federal and state policy. However, local autonomy may permit a rural community to go beyond or to develop approaches different than those being used at the national or state levels. Above all else, rural places need to consider how agricultural industrialization will affect the quality and quantity of capital stock as they face the future. Will it enhance, develop, and conserve, or will it diminish and deplete the natural, man-made, human, and social capital of a community? The answers to these kinds of questions will permit local areas to make necessary policy choices

and to develop appropriate strategies. Rural people have both the right and the responsibility to protect the capital base of their communities. It is this capital base that connects them to the past, that determines their productivity and welfare in the present, and that permits them to influence the future.

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