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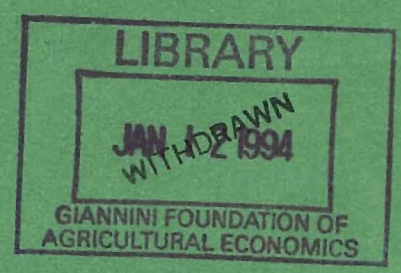
Farm Policies and the Sustainability of Agriculture: Rethinking the Connections

**Policy Studies Program
Report No. 1**

December 1993

**HENRY A. WALLACE INSTITUTE
FOR ALTERNATIVE AGRICULTURE**

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ACKNOWLEDGEMENTS

This report is based on a paper entitled "Impacts of U. S. Farm Policies on Sustainable Agriculture", presented at the International Workshop on Sustainable Land Management for the 21st Century, at the University of Lethbridge, Lethbridge, Alberta, Canada, June 20 - 26, 1993. The author is grateful for the encouragement and comments on the report received from Garth Youngberg, Executive Director of the Wallace Institute, and Paul Johnson, Institute Board member and farmer. Special thanks go to Dr. Thomas L. Dobbs, professor of agricultural economics at South Dakota State University, Brookings, South Dakota, for his support, ideas, and shared knowledge of the connections between farm policy and sustainable agriculture. A visiting scholar at the Wallace Institute during the spring of 1993, Tom has written a closely related paper, "Enhancing Agricultural Sustainability Through Changes in Federal Commodity Policy: Marginal Versus Radical Change," published by the Wallace Institute as Policy Studies Program Report No. 2.

CITATION

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Farm Policies and the Sustainability of Agriculture: Rethinking the Connections

by

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ABSTRACT. Past farm policies have not encouraged a sustainable agriculture in the U. S. However, the 1985 and 1990 farm bills began to move in a more supportive direction, and the Clinton Administration has promised a new commitment to sustainability. There are several reasons why past policies have not fostered sustainability, such as prevailing beliefs and values of our society, resistance from the conventional agriculture community, different meanings of sustainability and ways to achieve it, and lack of facts and information about it. Time, new knowledge, and understanding are now lowering many of these barriers. But full support for a sustainable agriculture could await fundamental changes in the beliefs and values of our society which now run counter to the meaning of sustainability.

Introduction

Many government policies can affect the sustainability of agriculture. As defined here, a "sustainable agriculture" is one that, through time, will continue to produce adequate supplies of food, conserve natural resources, protect the environment and the health and safety of the citizenry, and otherwise meet requirements of economic and social acceptability.

While sustainability has been affected by policies concerned with everything from environmental protection and food safety to economic growth, taxes, and trade, this paper examines only farm policies, expressed through "farm bills". The reason is that a new farm bill is to be passed in 1995. Therefore, it is important that the impacts of past farm bills and their implications for the future be understood.

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Farm Policy Impacts -- Before the Mid-1980's

For decades now, major farm bills have been passed every 4 to 5 years. Their dominant purpose has been to encourage abundant and profitable production of reasonably priced food. While effectively advancing that goal, however, they have also contributed inadvertently to undesirable side effects of the kind that have led to public support for a sustainable agriculture (National Research Council, 1989). The now-familiar list of public concerns includes excessive soil erosion and declining soil quality, a loss of genetic diversity in agriculture, groundwater contamination, pesticide residues in food, growing resistance of pests to pesticides, loss of fish and wildlife habitat, and a dependency of farmers on nonrenewable petroleum-based inputs.

Declining economic viability of farming was placed high on the problem list in the 1980s when stagnating exports of farm products, declining prices, plunging land values, and rising indebtedness of farmers brought a wave of farm foreclosures and personal tragedy to untold thousands of American farm families.

The impacts of farm policies are seen in both the **practices** and **structure** of American agriculture:

Impacts on Farming Practices

Commodity programs provide price and income support to farmers who produce field crops such as feed grains, wheat, cotton, and rice--crops which, in total, use most of the nation's cropland. Payments to participating farmers are based on the amount of land they have used in the past to grow the supported crop (the farmer's "base"). Not only have soil-conserving crops such as forages and legumes grown in rotation on those base acres been ineligible for payments, but growing them has also reduced the farmer's program crop base for future years. Thus, commodity programs unintentionally penalize rotations and other practices believed to increase sustainability (Young, 1989).

Commodity programs have further discouraged sustainable farming by paying farmers on the basis of their actual, "established" yields--thereby paying the farmer to use more yield-increasing chemical fertilizers and pesticides.² So, even though participation in commodity programs has been voluntary, only those farmers having unique skills, financial security, and the deepest commitment to

² Established yields were "frozen" in the 1985 farm bill, but the possibility, however remote, that the freeze might one day be lifted continues to encourage yield-increasing practices.

sustainable farming could easily ignore the advantages of participation.

Agricultural research and education have complemented the effects of commodity programs. The U. S. Department of Agriculture (USDA) and the land-grant colleges of agriculture, which in the fiscal year ending September 30, 1993, received over \$1.5 billion in federal funds for research and education (U. S. Congress, 1992), have used the lion's share of that funding to serve the goal of abundant and profitable food and fiber production. Their success is now well known. Until recently, adverse effects of that success on agricultural sustainability were either not fully appreciated or seen as correctable.

Policies and programs for fruits and vegetables have also affected practices farmers use to produce those products. Among them are programs that pay farmers to hold off the market a portion of their production, to keep the market price up, and product standards that reward farmers for producing uniform and cosmetically appealing products. These programs tend to encourage, if not require, greater use of synthetic chemical pesticides.

Impacts on the Structure of Agriculture

Less well understood are the powerful effects which farm policies have had on the basic structure of American agriculture--which in turn influences production practices. Farm policies have nurtured a trend toward large, monocultural and industrialized farming that began early in this century (Urban, 1991). Farm policy instruments contributing to it include not only commodity price and income supports, but agricultural research and education, credit practices, export enhancements, crop insurance, and disaster payments as well.

The treadmill-like process through which farm policies have affected the structure of agriculture might be summarized as follows:

Farmers adopt new labor-saving, capital-intensive technologies generated by USDA-land grant college research to produce food and fiber more efficiently and profitably, often borrowing from banks to do so. Yields and the combined output of farmers rise, lowering the prices of the products they sell, which then builds pressure for government commodity price and income supports, which when granted encourage farmers to boost production further. To do that, they often need more land which often can be acquired only by buying out their neighbors, which reduces the number of farmers on the land and bids up the value of land, which increases the cost of farming and therefore the need for higher

government price and income payments. Indeed, farm and commodity organizations have consistently pressured the Congress, with success, not only to put a floor under commodity prices but to support those prices at levels that would give them a "fair" return over ever-rising production costs.

Other policies have aided the process of agricultural industrialization, especially tax policies (USDA, 1981, pp. 90 - 99; Strange, 1988, pp. 144 - 165). For example, investment tax credits, though recently curtailed, have stimulated investment in large center pivot irrigation systems and made it profitable for agribusiness firms to control or contract with farmers to manage enormous poultry and hog confinement feeding systems (Manchester and Harrington, 1986). Industrialization has also been boosted by irrigation water subsidies in the West and low fees for grazing livestock on public lands.

While increasing production efficiency and output, the industrialization process has also spurred a dramatic decline in the number of farms and farmers in the U. S. During the thirty years from 1945 to 1975, "...the largest migration in the history of mankind occurred in the United States, when 20 million persons left the farms and ranches of this country and went elsewhere looking for a job" (Bergland, 1992, p. 65). The number of farms in the U. S., which had risen to nearly 7 million in the mid-30s, has since declined steadily to 2.1 million today (USDA, 1993).³

In 1991, only 15 percent of the 2.1 million farms in the U. S. were classified as medium-sized units with annual gross sales of \$40,000-\$100,000 (USDA, 1993, p. 70). About the same proportion had sales over \$100,000. The bulk of the farms--the remaining 70 percent--had sales of less than \$40,000 and their operators earned most of their income away from the farm. About half of the nation's food is now produced on the largest 4 percent of the farms (Strange, 1988, p. 41). Clearly, as Marty Strange explains, "The center of gravity in American agriculture is moving along the continuum from family farming to industrial agribusiness" (Strange, 1988, p. 40).

Advocates of sustainability argue that industrialization is the wrong direction. They say that family farms, particularly medium-

³ The outmigration of farmers, while never planned, was not necessarily viewed at the time as all bad. Many agricultural leaders, distressed by the perpetual lack of economic prosperity on farms, were persuaded that the only solution was to encourage migration of people out of farming and to replace them with technology, thereby increasing the economic returns to the farmers who remained (Kirkendall, 1987, p. 51). But, to proponents of sustainability, the adjustment went too far.

sized family farms, have characteristics favoring sustainability. Therefore, public policy should support family farming. That interpretation is based on the following differences they see in the two kinds of farms (Strange, 1988, pp. 32 - 39):

Family farms are owner-operated, diversified operations that rely on family labor and management, are resource conserving, and are sensitive to the impacts of new technologies. The farmer has a personal stake in the sustainability of the farm and therefore a sense of responsibility for the way it is managed. Family farmers tend to farm in harmony with nature, seek no great advantage over neighboring farms in markets for inputs or farm products, and are committed to values such as concern for neighbors and future generations, and responsibility to their communities.

Industrialized farms, in contrast, are managed and operated by people who have a less personal stake in the future of the farm and its effects on sustainability. They are typically large, monocultural, resource-consuming farms that rely heavily on outside capital in lieu of family labor, make extensive use of off-farm inputs such as synthetic chemical pesticides and fertilizers, and often seem to regard people as "inputs". They seek market advantages and treat concerns for community and future generations as personal matters, separate from the farm business.

To be sure, those descriptions represent extremes on a continuum. As Strange points out, "Many farmers, and probably most commercial farmers, perceive themselves both as family farms and as industrial agribusinesses. Most feel the tension represented by two such contradictory sets of values. Most are pulled in both directions at once" (Strange, 1988, p. 39).

As a result of growing pressure from organizations that support family farming, farm legislation now limits the total payments a farmer can receive from the government to \$50,000. But everyone knows that the limitation is "...widely and relatively easily circumvented by farmers working with their relatives and accountants to redefine and subdivide their farms" (Cochrane and Runge, 1992, p. 149). Interestingly, both family and industrialized farmers, and their supporters, have hesitated to push for enforcement of the limit on the grounds that it would exclude from the program much of the production from larger farms, and thereby thwart the purpose of supply management and price protection for all farmers.

Perhaps the most convincing sign of industrialization in American agriculture has been the steady shift in the control of farming from farmers to others. Agricultural economist Stewart Smith tells us that the input and marketing sectors of the total food system are now in charge of many of the functions and services once performed by farmers (Smith, 1992, p. 3). Between 1910 and 1990, as value adding activities previously carried out by farmers were

picked up by nonfarm firms, the farm sector's share of the total economic value of food declined from 41 to 9 percent. In contrast, the input sector's share rose from 15 to 24 percent, while that of the marketing sector increased from 44 to 67 percent. Dramatic evidence of this trend is seen in the steady expansion of contract farming over recent decades (Manchester and Harrington, 1986).

Farm Policy Impacts -- Since the Mid-1980's

As public support for a more sustainable agriculture grew in the 1980s, pressure mounted to identify and seek ways to overcome obstacles to sustainability in farm policies. New "sustainable" policy programs and provisions were enacted in the 1985 and 1990 farm bills (U. S. Congress, 1985; U. S. Congress, 1990; Public Voice, 1990). The biggest changes occurred in the parts of the legislation dealing with research and education, conservation and environmental protection, and marketing.

Research and Education. The 1985 bill initiated what was then called the Low-Input Sustainable Agriculture Research and Education program, or LISA (Schaller, 1991a). The program was reauthorized in 1990 at \$40 million, but the term "low-input" was removed from its name in response to continuing uneasiness on the part of agribusiness, farm groups, and the agricultural research system for whom the term symbolized less productive and profitable farming. It is now called the Sustainable Agriculture Research and Education program, or SARE. The program actively involves farmers in studies of potentially sustainable farming systems. The 1990 bill authorized a companion program to train the nation's agricultural extension education personnel and other professionals in the meaning and methods of sustainable agriculture.

Conservation and Environmental Protection. Major new programs launched in 1985 included: 1) A Conservation Reserve Program, paying farmers to take up to 45 million acres of highly erodible land out of production of erosive crops for ten years and to put the land into conserving uses; 2) conservation compliance requirements which deny price supports and other federal payments to farmers who cultivate highly erodible land or fail to do so in ways that prevent erosion from exceeding a tolerable level; and 3) "sodbuster" and "swampbuster" provisions denying government payments to farmers who convert grass and wetlands to crop production (Environmental and Energy Study Institute, 1993). Conservation compliance, in particular, represented a break from the long tradition in American agricultural policy of zealously protecting the right of farmers to do with their land whatever they wished.

The 1990 legislation added two new programs. One was a Wetlands Reserve Program to pay farmers to voluntarily protect or restore wetlands on their farms for 30 years and longer. The other was an

"Integrated Farm Management Program Option" which allows farmers to use a portion of their commodity program base acres to grow "conserving" non-program crops without losing the payments they would otherwise receive for growing the supported crop.

Marketing. The 1990 farm bill established a process for setting national standards for organically-grown food, including a National Organic Standards Board to determine the materials that can and cannot be used by certified organic growers. The legislation added a requirement that USDA conduct research to learn the extent to which cosmetic quality standards in federal grades and marketing quotas for fresh produce increase the use of pesticides, to test consumer reactions to less-than-perfect looking produce, and to consider appropriate changes in standards.

Although enactment of these newer programs and provisions suggests that federal policy has turned a corner in support of sustainable agriculture, their implementation has been slow and spotty. For example, while funds have been appropriated to permit enrollment of 36.5 million acres in the Conservation Reserve Program, implementation of the Wetlands Reserve Program has yet to get underway. According to one report, enforcement of the conservation compliance provision has not been uniformly rigorous (Cook and Art, 1993). And funds for sustainable agriculture research and education are well below the amounts authorized by Congress.

Supporters of sustainability who define the concept broadly would add a concern that most of the new policy instruments deal mainly with conservation and environmental protection, neglecting social justice and other requirements of sustainability. As economist Otto Doering puts it, "The Federal policy interest in sustainable agriculture relates more to its hoped-for environmentally benign characteristics than to the inherent character of its internal management, farm resource use, or social characteristics" (Doering, 1992, p. 23).

Yet another concern about many of the newer farm bill provisions is their growing complexity. Terms such as triple base, flex acres, and 0/92 (USDA 1990) confuse not only members of Congress who must vote on them, but even USDA staff and farmers. Economist Harold Breimyer gets to the heart of it when he writes that the 1990 farm bill "...is so complicated and legalistic as to frustrate effective administration. It invites accidental as well as intentional violations, even fraud" (Breimyer, 1992, p. 7).

All of these limitations could now be overshadowed by the Clinton Administration's commitment, announced in June 1993, to reduce the use of pesticides and to promote the sustainability of agriculture. The new policy is a bold and decisive response to a report by the National Research Council on Pesticides in the Diets of Infants and Children (National Research Council, 1993). As spelled out in a

joint testimony before Congress on September 22, 1993, by the leaders of the U. S. Department of Agriculture, the Environmental Protection Agency, and the Food and Drug Administration, the intent is not only to strengthen the pesticide regulatory process and the science related to pesticides and food safety, but to also prevent pest problems from occurring in the first place (Browner et al., 1993). That calls for alternative and sustainable farming systems. The pesticide policy could mark the beginning of a major redirection in the federal government in support of sustainability.

Why Farm Policies Have Not Fostered a Sustainable Agriculture

This section examines reasons why farm policies have failed to encourage the adoption of a sustainable agriculture in the past and, despite encouraging new signs in Washington, D. C., could continue to slow progress toward that goal.

Prevailing Beliefs and Values of Our Society

Farm policies mirror the beliefs and values of society as a whole, as well as those of the agricultural community. The importance our society attaches to abundant production, profits, and technology is a case in point.

The importance of production. Perhaps the most obvious reason why farm policies have not fostered a sustainable agriculture is that, until recently, they were never charged explicitly with that mission (Doering, 1992, pp. 22-23). Their principal purpose was, and still is, to promote abundant production of low cost food and to support reasonable incomes for farmers. The rationale is as compelling today as it was a century ago. The world must expand its food production dramatically to feed a population, now just over 5 billion, that by the year 2025 is expected to grow to 8.5 billion (World Resources Institute, 1990, p. 253). Industrialized agriculture, with its impressive production record, is still widely assumed in the conventional agriculture community to be the most promising path to abundant food production.

Goals other than production are never totally ignored by farm policies. But many of them, whether concerned with rural development, resource conservation, or food assistance to the needy, have long been justified in part by the Congress and interest groups as means to a productive and prosperous agriculture. Soil conservation is a good example (Worster, 1985). Long championed as good environmental policy, programs to withdraw erodible land from production of erosive crops, even the current Conservation Reserve Program, invariably have also had a commodity

supply control purpose (Cochrane and Runge, 1992, p. 83).⁴

The importance of profit. Profits play a central role in modern life. Recent generations have been taught that the well-being of individuals and society advances as people pursue their economic self-interest. Postponing or yielding that pursuit to future generations is believed to be neither efficient nor necessary. Conserving soil and water for use by future generations is a nice idea, but how can we ask farmers to be good stewards of the land if, to do so, they must reduce their economic well-being?

The lure of a higher income is pervasive, even among farmers. As Strange puts it, "No tradition is more glorious in its acclamation of egalitarian values than the agrarian tradition, yet none tolerates and even admires the accumulation of wealth more" (Strange, 1988, p. 4). The desire for a higher income also seems to persist even after one's economic status improves. Three VCRs in the home are better than two. The salaries of corporate executives and professional athletes seem to have no upper limits. Activities once regarded as profitable because they were noble now seem regarded as noble because they are profitable (Kristol, 1974).

The way we calculate profit from farming exacerbates the problem because it does not count many of the environmental, health, and safety benefits of sustainable farming, or the hidden costs of conventional agriculture. Thus, our society gives an artificial economic advantage to conventional agriculture. For example, farming profits do not include the costs of dredging water bodies to remove silt caused by soil erosion, or the costs of additional fertilizer needed to offset the accompanying loss in soil productivity.

The comparison of profits from sustainable versus conventional farming would change, perhaps dramatically, if all of the presently unmeasured benefits and costs were included in their computation. A recent study by World Resources Institute shows that if the "costs" of soil erosion alone were counted in the calculation of profit, sustainable farming in the two areas of the country studied would equal or surpass that of conventional farming (Faeth et al., 1991).

Faith in technology. People in modern society tend to believe

⁴ The idea of tying conservation to farm price supports was introduced as an expediency in 1936 when the Supreme Court declared the 1933 farm bill unconstitutional because it authorized a processing tax on farm commodities to pay farmers to reduce their production of crops then in surplus. A substitute bill, the Soil Conservation and Domestic Allotment Act of 1936, got around that rule by paying farmers to shift from soil-depleting surplus crops to soil-conserving crops (Benedict, 1953, pp. 348-351).

that an endless flow of efficient and profitable technologies will not only assure abundant production of food but also correct whatever adverse side effects might occur in the production process (Worster, 1985, p. 30). Faith in technology "fixes" weakens the logical case for preventing adverse side effects of farm production from occurring in the first place. As a rule, proponents of sustainable agriculture do not reject technology per se, but object to viewing it principally as a means to abundant and profitable production, without giving equal consideration to its many other possible effects.

Resistance from the Conventional Agriculture Community

Due partly to the beliefs and values just discussed, the concept of sustainability continues to elicit cautious or negative reactions within the conventional agriculture community--even though no one claims to be against it. There are reasons. Agribusiness firms producing and selling synthetic chemical inputs naturally resist the idea of farming with fewer of those inputs. Other people and firms associated or identifying with conventional farming may see it as a step backward to a less efficient and productive agriculture. Agricultural researchers and educators have been inclined to interpret it as unjust criticism of their tireless efforts over past decades to make American agriculture more and more productive. Environmentally and socially conscious farmers have naturally resented suggestions that they may be "part of the problem." No doubt, many of these reactions have been heightened by the intense commitment and understandable impatience of proponents of sustainable agriculture.

Agricultural scientists have been skeptical of sustainable agriculture for another reason. Trained in conventional agriculture, they have difficulty understanding that sustainable farming involves a fundamentally different way of thinking. A sustainable agriculture is holistic and "systems" oriented, while conventional agriculture is the product of a reductionist and seemingly piecemeal way of thinking. The sustainable orientation questions the wisdom of extreme specialization and the habit of solving one problem at a time. It says that farming problems and practices are so intertwined that only by understanding and capitalizing on their connections can the many requirements of sustainability be satisfied.

The conventional, reductionist orientation pervades not only modern science but also the way most institutions involved in the farm policy process are organized--from the USDA and the Congress to agricultural interest groups. Farm production, resource conservation, and food quality and safety are handled by separate parts of the USDA. Congressional committees and their commodity-oriented constituencies, which have had a major voice in the crafting of farm policies, are not accustomed to thinking in terms

of whole farm systems or of integrated and sustainable farming. General farm organizations might have the capacity to do so, but their foremost concern tends to be commodity prices and farm income.

The lack of compatibility between existing agriculture organizations and the sustainability concept may help to explain a natural tendency for people in such organizations to believe that they can effectively advance sustainability simply by adding a sustainable component or purpose to their current missions. Thus, sustainable agriculture tends to be treated by research managers as just another research topic needing attention. Sustainable agriculture coordinators are assigned to government agencies and agricultural organizations. Though steps in the right direction, they overlook the point that sustainable agriculture is more than an "additional consideration".

Different Meanings of Sustainable Agriculture and Ways to Achieve It

A closely related reason why sustainability has not been advanced by farm policies is confusion about its meaning and ways to achieve it. Definitions range from environmentally benign farming to a far more encompassing concept of agriculture linked to community values, social justice, and equity.

When drafting the research and education section of the 1990 farm bill, the Congress spent more time discussing and debating the meaning of sustainable agriculture than any other single issue (Youngberg et al., 1993, pp. 304 - 305). The definition finally agreed to has something for everyone--a natural outcome of the public policy process. The 1990 bill defines sustainable agriculture as:

"an integrated system of plant and animal production practices having a site-specific application that will, over the long-term: (A) Satisfy human food and fiber needs; (B) enhance environmental quality and the natural resource base upon which the agriculture economy depends; (C) make the most efficient use of nonrenewable resources and on-farm resources and integrate, wherever appropriate, natural biological cycles and controls; (D) sustain the economic vitality of farm operations; and (E) enhance the quality of life for farmers and society as a whole" (U. S. Congress, 1990, Title XVI, Research, Subtitle A, Section 1603).

Important differences in the meaning of sustainability exist not only between those who support the concept and those who are skeptical of it, but also among its supporters. Environmentalists quite naturally attach primary importance to the environmental requirements of sustainability. Consumer interests feel the same

way about food safety requirements, and economists about economic viability. Proponents of sustainability may have different answers to the question, "What do we want to sustain?" Nevertheless, most seem to want the benefits of sustainability to continue to go to those people who already enjoy them. Social scientists Patricia Allen and Carolyn Sachs put it this way:

"While there is variation in the goals of those in the sustainable agriculture movement, the goals, at least implicitly, tend to reinforce the socioeconomic status quo--maintaining the benefits of the food and agricultural system for those who currently possess them, rather than securing benefits for everyone.... For example, dominant sustainable agriculture discourse advocates safe, organic food, but does not address hunger. It is interested in fair returns to farmers, but has little to say about equitable conditions for hired agricultural labor. Similarly, it promotes the preservation of a family farm-based agricultural structure, but does not complement this with a focus on reconfiguring problematic gender and racial relations that have been part of this structure" (Allen and Sachs, 1993, p. 144).

In truth, most people who claim to support a sustainable agriculture bring to it a background and interest primarily in agricultural production, conservation and environmental protection, or food safety. They tend to give less attention to social justice and equity as goals of sustainability, or they believe that those goals can be better addressed after progress is made on more familiar fronts. But relative neglect of social goals, if it persists, doubtless will dilute not only the meaning of sustainable agriculture, but also potential support for it from interests beyond agriculture and the environment.

The ideas and preferences which people with these different interests bring to the pursuit of sustainability also explain their reactions to different proposed policies to encourage sustainability. Regulations tend to be more acceptable to environmentalists, whereas most agriculturalists see regulations as curtailing the farmer's freedom of choice. Family farming groups and environmentalists are also inclined to think differently about the pros and cons of limiting commodity program payments to individual farmers. Without limits, family farming advocates maintain, the programs will unduly reward industrialized farmers. But environmentalists fear that if industrialized farms cannot receive payments above a certain amount, they will also be immune from the requirement that they conserve soil and otherwise protect the environment to be eligible for payments.

The very thought that a sustainable agriculture involves a number of equally important goals poses practical difficulties, too. It

is difficult, perhaps impossible, to simultaneously achieve several, equally important goals. Attainment of at least one of them undoubtedly will have to be partial, whether it be food production, environmental protection, profitability, or social justice. But which goal should be sought first and which can be treated later is a question so awkward that it is rarely asked. Proponents of sustainability who grew up with conventional agriculture, as most have, tend to regard profitability as a paramount goal. They don't dispute the summary assertion found in a major farm magazine editorial that, "The only sustainable agriculture is a profitable agriculture" (Ainsworth, 1989).

One way to deal realistically with the dominance of profitability is to treat it not as a goal but as a condition or requirement to be satisfied in the process of pursuing ecological goals. Cornell University scientist Timothy Crews and his colleagues suggest this approach. They write,

"If an ecologically sustainable farming practice does not turn a profit, we should look critically at our social structure to determine why, rather than use this economic indicator to judge the practice as unsustainable....We should work toward structuring society in such a way that sustainable agricultural practices are profitable (for example, by modifying commodity programs to end incentives for continuous corn cropping), rather than including profitability within the definition itself" (Crews et al., 1991).

The idea is appealing. But some backers of sustainability may still worry that such an approach will only perpetuate the current tendency to treat profitable production as the overriding goal, and others, such as conservation and food safety, as mere qualifiers.

Lack of Facts and Information about Sustainability

Another reason why farm policies have not fostered sustainability, which contributes to those already mentioned, is the lack of sound facts and information about sustainable farming practices relative to those of conventional agriculture, as well as about the barriers to their adoption and likely impacts of alternative policies designed to encourage their use. The USDA's Sustainable Agriculture Research and Education program and other research efforts underway in the USDA-land grant system have only begun to meet those needs. Overall, the factual void continues to leave farmers and policy officials little choice but to rely mainly on limited experience, guesses, and opinions. For policy decision makers, that means relying mainly on people and sources with political clout.

One research need, rarely mentioned, is the need to more fully document the connections between different characteristics of farms and farmers, and the sustainability of agriculture. A few studies have begun to address those links (see, for example, Taylor et al., 1992). As noted earlier in this report, proponents of sustainability tend to assume that family farmers have characteristics most likely to favor sustainability while large industrialized farmers do not. But the argument rests on faith as much as fact. Indeed, family farming in the U. S., historically, has always been regarded as a noble end in its own right. Hence the need to more deliberately document its effectiveness as the path to sustainable agriculture, versus industrialized farming.

Traditional indicators used by researchers to distinguish between family and industrialized farmers, and the analytical methods they employ to tie those characteristics to behavior, fall short of capturing the links that seem to explain sustainability. Indicators such as farm size, sales, acres farmed, source of labor supply, and participation in commodity programs fail to pick up the differences that may matter the most. One can find farmers who have large acreages, sales, and incomes and who hire off-farm workers, but are thoroughly committed to sustainable agriculture, just as there are smaller family farm operators with off-farm employment who are less able or willing to practice sustainable farming. Scientists need to create new indicators to characterize the phenomenon of sustainability.

Implications for Future Policies

If future federal policies are to effectively encourage a sustainable agriculture, the reasons why past farm policies have not succeeded in doing so must be understood and addressed. Fortunately, several of the reasons mentioned above are becoming less formidable barriers than they were a few years ago. For instance, resistance within the conventional agriculture community is lessening. Growing numbers of agricultural scientists, extension educators, writers, farmers, and farm business people now appreciate and contribute in a meaningful way to the pursuit of a sustainable agriculture. Differences in definitions of sustainability and ways to achieve it, though substantial, seem to be aired and discussed more openly in meetings and other settings.

Furthermore, the lack of sound facts and information about sustainable farming is being addressed. Due in large measure to examples set by programs such as the USDA's SARE program, attention to sustainability is on the rise throughout the USDA-land grant university research system. This will continue to shed needed light on how farming can be more sustainable, as well as help to replace opinions with sound information about the likely impacts of widespread adoption of sustainable systems versus the continued expansion of industrialized farming (Schaller, 1991b).

But not all of the barriers are coming down. Prevailing beliefs and values in our society remain as major hurdles. As long as conventional notions of production, profit, and technology retain the dominance they hold in today's world, it is difficult to visualize a major breakthrough in farm policy favoring sustainability. For that to happen, substantially different beliefs and values are imperative. Henry A. Wallace, Secretary of Agriculture in the 1930s, put it well when, commenting on the habit of advocating conservation because it pays, he said, "It is selfishness that has destroyed our natural resources, and to plead for conservation merely to stop the loss of dollars is to appeal to the same selfishness that wrought the destruction" (1939).

Beliefs and values of our society would be even more formidable barriers to sustainability if its proponents should unite in agreement that sustainability must benefit *all* people. This is because prevailing beliefs and values tend to favor support for an agriculture that will continue to benefit its current beneficiaries rather than one that would serve the currently unmet needs of farmworkers, minorities, and other constituencies.

Still, sustainable agriculture need not remain another dream to be pursued now and then by new but equally unsuccessful movements. For implied in its vision is at least the suggestion that, by the example it sets, it could begin to change the very beliefs and values that now slow its adoption. The thoughts and writings of visionaries past and present offer abundant insights to support such a hope. The first step is to recognize that the beliefs and values involved are not unique to agriculture. They are society-wide.

Fred Kirschenmann, farmer and philosopher, speaks of sustainable agriculture in this light. He writes, "If sustainable agriculture is successful, it will change the way we think....This will happen not because sustainable agriculture possesses some magical powers to transform mythologies. It will happen rather because of what sustainable agriculture is. Sustainable agriculture is, by definition, based on a notion that more than matter matters. Sustainable agriculture boldly asserts that there is more to a healthy agriculture than producing a lot of stuff" (Kirschenmann, 1992, pp. 29-30).

The links between sustainable agriculture and communities are central to this idea. As Kirschenmann explains, "Evolving sustainability is a community process. Individual sustainability is probably an oxymoron" (Kirschenmann, 1992, p. 30). Instead of appealing to vested interests that are the traditional players in the farm policy process, an increase in the sustainability of agriculture will become, in effect, the vested interest of the whole society. Herman Daly and John Cobb expand on this theme in their book, For the Common Good (1989, p. 374).

Finally, just by turning our thinking in the directions suggested by Kirschenmann and other visionaries, we should be able to improve the perspective needed to craft and judge wisely those policy options that, in today's world, may be politically the most realistic. This will occur if, routinely, we ask of each policy option, What can it do to help overcome the reasons why farm bills in years past have failed to encourage a sustainable agriculture?

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About the

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