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# Conservation and Environmental Policy Options and Consequences for the 1990 Farm Bill

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The farm bill is no longer only for farmers. Other food system participants and interest groups now influence agricultural policy. Conservation and environmental groups advanced their interests in the 1985 farm bill, which contained more environmental provisions than any previous farm bill. Given expanded public concern about the environmental and health implications of agricultural practices, policy options to address such issues in the 1990 farm bill are likely to receive much attention and debate. New conservation and environmental provisions may have substantial impacts upon agriculture and other participants in the food system.

## *Current Situation*

Both the scientific evidence and the public perception of agriculture's impact on the environment are reason for concern. Consider the evidence:

- Trends in agricultural chemical use have increased the potential for water contamination. Between 1965 and 1984, the use of inorganic nitrogen fertilizers increased by 150 percent and pesticide use tripled (Lee).
- Pesticides were detected in underground water supplies in at least 38 states (US EPA).
- As many as one-third of U.S. counties may have groundwater supplies that are vulnerable to contamination from agricultural chemicals. Nearly half of the population, and 97 percent of the rural population, get their drinking and household water from groundwater sources (Nielsen & Lee).
- Kansas farmers exposed to herbicides for more than 20 days per year have six times the risk of developing non-Hodgkins' lymphoma as were nonfarmers (Congressional Record).
- Estuaries, semi-enclosed bodies of water where fresh water from rivers and streams mixes with marine salt water, are especially vulnerable to

contamination. Concern about contamination is heightened because at least two-thirds of the commercial fish stocks harvested in the United States depend on estuaries at some point in their life cycles and because often estuaries provide recreational opportunities close to metropolitan areas. Agricultural runoff contributes 25 percent of total nutrient loadings and 40 percent of the total sediment loadings entering 78 major estuaries, and high rates of pesticides were found in 21 of the 78 estuaries studied (Crutchfield).

- Excessive levels of nutrients and sediment were found in 48 of 99 watersheds studies; agriculture contributed more than 50 percent of the nitrogen in 9 watersheds and more than 50 percent of the sediment in 34 watersheds (Ribaud, 1985).
- Sediment from soil erosion is estimated to cause damage worth more than \$7 billion per year through siltation of navigation water systems, water storage systems, drainage ditches, irrigation canals, and interference with water-based recreation (Ribaud, 1986).
- Between the mid 1950s and the mid 1970s, 87 percent of the 460,000 acres of former wetlands was converted to agricultural use. Also about half of the prairie potholes that have served as nesting grounds for waterfowl were drained and filled (Reichelderfer and Phipps).

These facts show agriculture can have significant, negative impacts on the environment through: 1) elimination of wetlands and pasturelands for wildlife habitat; 2) deterioration of both surface and groundwater quality for household, recreation, navigation, and other uses; and 3) a reduction in the safety of our food.

Public perception of environmental consequences of agriculture, while not always based on scientific findings, will affect the agenda for the next farm bill. A 1986 Harris poll found that 93 percent of people surveyed nationally felt that water pollution was a serious problem and 86 percent felt drinking water contamination was a serious problem. Another recent national survey found that 60 percent of the respondents believed farmers used too many pesticides, and only 23 percent were willing to accept small amounts of chemicals in their drinking water even if government standards were met (Congressional Record).

In addition to the general consuming public, farmers and their families also are concerned about their water supply. A recent nationwide survey found that 97 percent of the farmers agreed that fertilizer, manure, and agricultural chemicals are a problem in groundwater (Congressional Record).

### *Policy Trends and Status*

Although conservation has been a part of all farm bills since the 1930s, the 1985 farm bill placed more focus on conservation and the environment than any previous farm bill. Past legislation emphasized the importance of conservation to preserve the productivity of our nation's farmland. The 1985 farm bill contained major provisions aimed also at reducing the off-farm effects of soil erosion. The focus of policy initiatives for the 1990 farm bill will likely be water quality, but wildlife habitat and food safety may also enter the policy debate.

The 1990 farm bill will not be the first legislation to address water quality. Particularly in the last five years, states have taken an active role in water quality legislation. Some 21 states have laws to control erosion and sediment; 26 states have enacted legislation to alter land use to protect groundwater quality; at least four states have specific provisions to reduce nonpoint pollution; all but seven states have programs to monitor pesticide levels in surface and groundwater; and 11 states have banned the use of certain pesticides or pesticide use practices that are not restricted under federal law.

More than two dozen federal agencies have responsibility for some aspect of water quality. The Environmental Protection Agency alone has authority to protect water quality through the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Endangered Species Act, the Water Quality Act, the Safe Drinking Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation and Recovery Act.

In spite of the recent state and federal legislation to improve water quality and other aspects of our environment, critics believe the results have fallen short and that the states' record on enforcement of regulations is weak (Batie). For example, California has just 300 inspectors statewide to police 33 million acres of cropland. In Kern County, records show 665 violations of the pesticide laws between July 1987 and June 1988, but only eight fines were levied and most of those were for \$50. At the federal level, the Food and Drug Administration can test less than one percent of fresh fruits and vegetables for pesticide contamination. The tests, which take an average of 28 days to complete, cannot detect half of the pesticides in use today (Nazario).

The conservation title of the 1985 farm bill contains broad conservation/environmental goals and provides discretionary authority for the U.S. Department of Agriculture (USDA) to achieve the goals. Thus, the success of the legislation hinges primarily on the implementation process. The

conservation title contains provisions for the Conservation Reserve Program, Sodbuster, Swampbuster, and Conservation Compliance Programs.

The goal of the voluntary Conservation Reserve Program (CRP) is to retire, for 10 or more years, 40 to 45 million acres of highly erodible cropland by 1990. This represents 10 percent of the nation's cropland. The purposes of the CRP also include soil conservation and water quality protection. Farmers may submit bids stating the annual rental fee they would accept from the federal government in payment for taking their highly erodible land out of production for 10 years and planting it with an approved cover crop. The program pays for half the cost of establishing permanent cover crops.

The goals of Sodbuster and Swampbuster are to prevent erosion, improve water quality, and maintain wildlife habitats by preventing the conversion of highly erodible grasslands and wetlands to cropland. These cross-compliance provisions deny USDA program eligibility to farmers who drain and cultivate wetlands or who plow fragile grassland not cultivated between 1981 and 1985, without an approved conservation plan in place.

The goals of Conservation Compliance are also to reduce erosion and the accompanying environmental problems. Under its provisions, the Soil Conservation Service (SCS) has cataloged all U.S. cropland which is highly erodible based on wind, precipitation, soil and certain other characteristics attendant to each field. By the summer of 1988, the SCS had determined that nearly 100 million acres were to be classified as highly erodible. To remain eligible for government program benefits, farmers were required to have a SCS-approved conservation plan for highly erodible acres by December 31, 1989, and the plan must be fully implemented by 1995. By the summer of 1989, about 78 percent of the conservation plans were done. The requirements for acceptable plans were changed since the plans initially were conceived. Originally, the plans were to require practices which would result in reduction of soil loss to a specified level. As done now, however, plans are acceptable if practices will result in a significant reduction of erosion, and plan approval is left to SCS field offices.

The commodity titles of the 1985 farm bill also are being recognized for their influence on the location and mix of crop production and associated soil erosion and agricultural chemical use. Their adverse environmental effects arise from the differential support of commodity program crop prices and the linkage of farm income support to production levels. Traditional farm programs support the price of commodities that incidentally have high relative soil erosiveness and chemical input requirements. The use of commodity production histories as the basis for farm income

support payments further reduces production flexibility, discouraging diversification of farm operations for employment of low-input agricultural systems.

Recent federal legislation administered by USDA aims to improve the environment and food safety by encouraging low-input sustainable agriculture (LISA). Some federal research and extension funds have been earmarked for LISA. Additional proposed legislation promoting LISA has been introduced in the Congress.

### *Major Issues*

Many conservation and environmental issues will affect the 1990 farm bill. Among the questions now on the agenda are:

- Should environmental quality goals be integrated into the 1990 farm bill to reduce environmental threats?
- Should the 1990 farm bill encourage the design and adoption of LISA systems?
- Should new approaches be developed and carried out for supporting farm income which also improve environmental quality?

Political trends suggest that the above issues will be dealt with in the next farm bill. The success of conservation and environmental interest groups in influencing the 1985 farm bill is likely to lead to even greater activity and involvement by such interests in the next farm bill. Such groups are more organized and have become more sophisticated in their strategies to more effectively participate in policymaking. Not only do agricultural interests no longer control the farm policy agenda; agricultural issues are placed on other agendas. Agricultural representatives may prefer that environmental issues be resolved within the context of the farm bill rather than through other legislative means, such as stringent environmental regulation (Reichelderfer and Phipps).

### *Alternatives and Consequences*

What provisions might be included in the 1990 farm bill to address these issues, and what would be the likely results? Here are some of the possibilities being considered by those who make or influence policy.

**Generalized Cross-Compliance.** Cross-compliance would extend the conservation compliance provisions of the 1985 farm bill. To remain eligible for commodity and other federal farm programs, producers could not clear land of trees or contaminate well or surface waters with agricultural chemicals. The success of this alternative would hinge heavily upon its mode

of implementation, as it does for the current conservation compliance provisions.

The Soil Conservation Service (SCS) could be required to set up Best Management Practices (BMPs) for specific soil, water, feedlot, and dairy characteristics, and require program beneficiaries to adopt those practices. Such practices could be met by farmer participation in programs such as Integrated Pest Management (IPM) established in collaboration with the Extension Service.

The USDA (or another agency) could specify "acceptable levels" of agricultural chemicals found in water supplies (as the USDA originally specified a particular "t" level of acceptable soil erosion for Conservation Compliance). Once this acceptable level is exceeded, stringent cross-compliance control standards would be applied. This option would be costly to monitor, particularly because it is difficult to trace pollution to a specific source. In addition, the option assumes that water quality would deteriorate below acceptable standards before action is taken.

The success of generalized cross-compliance also depends on the continued profitability of farmer participation in government commodity programs. If commodity prices rise, if the benefits from commodity programs are reduced, or if cross-compliance requirements are too stringent, the incentive to participate in the program would be diminished.

It is difficult to compare the benefits of generalized cross-compliance with those of the current conservation compliance provisions, in part because conservation compliance will not be carried out until 1995. However, one recent study of conservation compliance in a highly erodible corn belt area shows that profits may actually increase when conservation practices acceptable to the SCS are used (Osborn and Setia).

**Expanded Conservation Reserve Program.** Under this option, land with a "high potential for ground or surface water contamination" could be bid into the program, as "highly erodible" land can now be bid into the CRP. Or, the criteria for "highly erodible" land could be expanded to encompass greater acreage. Or, the acceptable level of bids could be raised to draw more land which is now eligible into the CRP. Under this option, CRP acreage could be expanded from the current goal of 45 million acres to about 65 million acres.

The results of this policy would depend on how it is implemented. If for example, farming could continue on the land bid into the program but only with no or reduced chemical applications, federal outlays for rental payments would be less than if harvest was prohibited (as with the current CRP). Similarly, some of the proposals call for CRP acreage to count

toward set-aside requirements of the commodity programs, again increasing the attractiveness of the CRP and reducing federal outlays. Program costs would increase, however, as added program acres were taken from more productive land. Finally, the costs of an expanded program depend on what happens to commodity prices. As commodity prices increase, commodity program deficiency payments decrease, and thereby reduce federal outlays associated with putting additional program crop acres into the CRP.

So far, the CRP has reduced annual soil erosion by 574 million tons, and has had small but positive effects on water quality and the environment. Studies suggest, however, that effectiveness could be improved if the program was targeted to those lands particularly subject to erosion, and to the eastern part of the United States where erosion problems are greatest. The effects on commodity prices and exports associated with taking land out of production would vary with the acreage enrolled and its productivity. Though as many as one-third of all U.S. counties have groundwater supplies that are vulnerable to contamination by agricultural chemicals, the acreage eligible for an expanded CRP program to reduce groundwater contamination would depend on the specific criteria set for program eligibility.

***Expanded LISA Program.*** An expanded LISA program would increase funds for research, education, and farmer subsidies to expand low input sustainable agriculture. Research and extension would help develop and adopt inexpensive monitoring and testing for plant nutrient needs; develop pest-resistant plants; and develop shorter-lived and more specific pesticides, and other technologies to reduce fertilizer, pesticide, and irrigation applications. Farmers who agreed to acceptable LISA practices might receive low-interest loans, subsidized crop insurance premiums, or added commodity program benefits. Supporters of LISA argue that research and educational efforts to develop and promote profitable, low input farming will be more effective and less costly than regulatory measures.

***Decoupling or Greater Reliance on Markets.*** As in 1985, much of the farm bill debate will focus on reducing government's involvement in agriculture and its effect on production decisions. Decoupling, which would maintain subsidies for some farm families but sever the relationship between subsidy payments and current production, is one mechanism to reduce government involvement in agriculture. Reducing and eventually dropping target price and loan programs would also place greater reliance on markets.

These broad policy changes are encouraged by current efforts to free international trade through multinational reductions in farm subsidies and

by efforts to reduce the federal deficit. This policy option may improve conservation and environmental quality because it reduces the tendency to build base acreage, reduces incentives for high yields on subsidized program crops, and reduces the bias against nonprogram, but conservation-oriented, crops such as hay, pasture, and trees. However, the incentive, through cross-compliance to follow approved conservation and environmentally sound practices may also be diminished.

*Modification of the Base Acreage System.* Because the current system limits the flexibility of farmers to respond to changes in prices or to practice crop rotations, several alternate changes in commodity program crop acreage bases are being discussed. One proposal would allow farmers to plant up to one-third of their program base in certain nonprogram rotation crops without reducing current or future commodity acreage bases. This would increase farmers' flexibility in using crop rotations to improve the soil and for pest control, but would not allow full responsiveness to changes in market conditions.

Another option, referred to as Normal Crop Acreage (NCA), would return acreage to nonspecific commodity base, as was used before 1981, instead of computing separate bases for each program commodity. Farmers could plant any crop on their permitted NCA. While this would likely create benefits for both farmers and the environment, it would again lead to policy questions about the advisability of making deficiency payments to farmers who are not producing a program crop, or switching from one program crop to another. These were the reasons why nonspecific bases were phased out in 1981.

Modifications of the acreage base allowing greater flexibility are, in effect, a movement toward decoupling as long as the deficiency payment is fixed, regardless of the crop produced or the level of production.

*Prohibit or Severely Restrict Chemical Use.* As environmental concerns have intensified, proposals to restrict or effectively prohibit the use of agricultural chemicals have surfaced. Such zero, or negligible risk, proposals have the potential for markedly reducing the volume of production (yields), increasing unit costs, and increasing market prices. The uniformity of product quality and physical appearance would likewise be reduced. On the other hand, the risks of environmental degradation due to agricultural chemicals would be reduced. The adverse impacts of reduced chemical use on production volume, prices, and costs would be reduced if the restrictions were implemented over a longer period with time provided for development of substitute methods of control.

## Conclusions

Food safety and environmental advocates have become important players in the farm bill debate. In the 1985 farm bill they were allies of the farm organizations which desired higher levels of control over productive capacity in supporting the enactment of the Conservation Reserve Program. Yet, they also insisted on conservation cross-compliance measures to reduce erosion on acres planted under the program. In the 1990 farm bill, the attention of environmental advocates will likely shift to issues of food safety and chemical residues in the water supply. Unless farmers and chemical manufacturers establish a mutually agreeable plan that meets the environmentalists halfway, the agricultural establishment will likely be on the defensive.

## Notes

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