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# ECONOMICS COMMENTATOR

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## **Agri-environmental Policy Options for Working Lands in the Next United States Farm Bill**

by

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Professor of Economics

U.S. farm legislation is due to be updated in 2007, to become effective with the 2008 crop year. Major questions surround the role of environmental or conservation provisions in the new Federal farm bill. What are now generally referred to as agri-environmental policies and programs have roots in President Franklin Roosevelt's 'New Deal' conservation programs of the 1930s. The Soil Conservation Service, the predecessor of today's U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), was created in 1935. The 1985 'Farm Bill' was the first to significantly broaden U.S. agricultural policy beyond conservation to a somewhat more integrated approach to environmental and farm income concerns. The Conservation Reserve Program (CRP) program was created, taking highly erodible land out of production under long-term contracts. Environmental compliance provisions also were enacted for the first time in the 1985 Farm Bill.

The Environmental Quality Incentives Program (EQIP) was enacted in the 1996 Farm Bill. In part, EQIP resulted from combining and consolidating environmental programs of the early-1990s that were intended to reduce adverse environmental externalities on farmed land. EQIP, which was continued with modifications in the 2002 Farm Bill, encompasses both crop and livestock production practices. EQIP and its immediate predecessors — with foci often inclusive of, but broader than soil conservation, encompassing a variety of environmental 'externality' and 'public good' concerns—represent the type of program that we have

subsequently come to include under the label 'agri-environmental programs'.

Agri-environmental programs took on even greater importance from an expenditure standpoint in the 2002 Farm Bill. Funding for EQIP was substantially expanded, and the Conservation Security Program (CSP) was created. The CSP, as called for in the enabling legislation, was to be an 'entitlement' working lands program. Farms of all types, throughout the country, were to be eligible to participate on a non-competitive basis. The 2002 Bill authorized a 10-year expenditure plan calling for an 80 percent increase in spending on conservation and environmental programs. Much of the increase in expenditures was to be for working lands agri-environmental programs, particularly EQIP and the CSP. However, the CSP was substantially delayed—the first signups were not held until 2004—and altered, with severe funding restrictions. Only farmers in selected watersheds have been eligible to enroll in the first three signups (in 2004, 2005, and 2006), and there has been a quasi-competitive process for selecting participants. Although \$6 billion was authorized for the CSP for the time period 2002-2011, only about \$500 million (in total) has actually been made available for the first three sign-up periods (2004-2006). Substantial additional funding has gone into EQIP, however. EQIP received \$3.95 billion for the 2002-2006 5-year period. This was an average of nearly \$800 million/year, compared to a funding limit of \$200 million/year under the previous (1996) farm bill.

Other agri-environmental programs for working lands include ones to preserve grasslands and to support the expansion of 'organic agriculture'. The 2002 Farm Bill provided for a new Grassland Reserve Program (GRP). Although U.S. support for organic agriculture does not begin to approach the scope and magnitude of organic programs in Western Europe, some modest initiatives have been launched in the U.S. in recent years.

Despite the increases in Federal expenditures on agricultural resource conservation under the 2002 Farm Bill, farm 'commodity program' payments remain much

higher. Expenditures on USDA-administered conservation programs were estimated to be \$4.5 billion in 2005. By comparison, direct payments, counter-cyclical payments, and marketing assistance loan benefits were forecast to be \$16 billion for the 2005 crop year. They are estimated to average \$11.7 billion annually over the crop years 2002 through 2005. The combination of government payments through commodity programs, emergency assistance, and conservation programs was \$23 billion in calendar year 2005, and it averaged \$16.2 billion/year during calendar years 2002-2005.

The USDA has released a series of '2007 Farm Bill Theme Papers' in recent months, the second of which deals with "Conservation and the Environment" (USDA, 2006). Alternative general approaches for the next farm bill are presented in these papers. The papers do not contain official USDA or Executive Branch positions on what approaches should be taken. Four alternative approaches or general directions are examined in the theme paper dealing with conservation and the environment (I have changed the terminology slightly in some cases): (1) improve existing agri-environmental programs; (2) place much greater emphasis on environmental stewardship payments; (3) encourage private sector markets for environmental services; and (4) expand or strengthen environmental compliance. Obviously, policies and programs across these different areas are not necessarily mutually exclusive, but the four general directions represent alternative possible emphases. In the sections to follow, I have drawn heavily on this USDA theme paper. Other sources are cited in Dobbs (2006), which contains a more complete discussion of working lands agri-environmental policy options and issues.

### **Improve existing agri-environmental programs**

One alternative is to continue most existing agri-environmental programs but concentrate on changes to make them more effective and efficient. Areas in which substantial modifications might be made include better targeting and increased use of market mechanisms, consolidating programs, adjusting conservation investments among programs and purposes, and conserving energy and developing alternative energy sources.

One way to expand 'targeting' is to make greater use of watershed or landscape approaches. The watershed approach already is being used in the CSP. However, national targeting based primarily on the severity of environmental problems or potential for environmental

improvement could make programs like EQIP and CSP less uniformly distributed, geographically, than at present.

Market mechanisms already are being used to some extent, but the 2002 Farm Bill forbade "bidding down" of the cost-share in EQIP. The thinking was that large farms have economies of size that would enable them to more easily bid down than could small farms, resulting in more EQIP funds going to the larger farms.

Just as the 1996 Farm Bill consolidated a number of programs under EQIP, another round of consolidation of various programs might achieve administrative efficiencies and improve delivery. Cost-share and incentive programs like EQIP and CSP could be combined into a single, tiered program. Other programs aimed at keeping land in a particular use for long periods of time—like CRP, GRP, and the Wetlands Reserve Program (WRP)—could be combined under a single, multipurpose easement program. These are just a couple of consolidation possibilities.

Even with the expanded emphasis on 'working lands' agri-environmental programs in the 2002 Farm Bill, roughly half of conservation program expenditures remain devoted to land retirement. It is quite possible that greater environmental benefits could be obtained for a given level of environmental expenditure by shifting even more funds from land retirement to working lands programs. A large number of CRP contracts will be expiring in 2007 and 2008, making such a shift possible.

There are a variety of ways in which energy conservation and production could be more fully integrated with agri-environmental programs. EQIP and CSP already have provisions that support bio-energy production. Expansion of such provisions, or greater use of existing provisions, could further capitalize on agriculture's multifunctionality by simultaneously contributing to energy production, environmental quality, and strengthening of rural economies. However, energy and environmental functions can be competitive in some cases. Use of agricultural biomass for energy at levels that severely deplete soil organic matter is one tradeoff that requires careful examination in policy proposals to incorporate energy production in agri-environmental programs.

### **Place greater emphasis on environmental stewardship payments**

Until the recent collapse of World Trade Organization (WTO) negotiations, one alternative that was the subject

of increased discussion was to shift substantial portions of the ‘commodity program’ payments to environmental stewardship (or “green”) payments. In this way, some farm organizations have sought continued Federal payments on a large scale, but through mechanisms that they hope would fall in the WTO’s ‘green box’. This alternative could face distributional challenges. Also, it may be difficult, if pushed to an extreme, to achieve the desired green box status.

At the present time, there is a quite different distribution of commodity payments and conservation payments. More than 50 percent of commodity payments go to large, commercial farms, whereas a similar portion of conservation payments go to small, rural residence farms. Commodity payments are concentrated in the Corn Belt, Northern Plains, and Mississippi Delta, where ‘program crops’—including corn, wheat, and cotton—are prevalent. Conservation payments are high in some portions of those areas (including portions of the Northern Plains), but overall, they are more widely distributed by geography and farm type. EQIP, for example, encompasses not just cropland, but also grazing land and other livestock related environmental issues.

If a major shift of funds from commodity payments to agri-environmental programs were to be accomplished by channeling the additional funds into existing programs, that could result in an overall redistribution of farm payments from large farms producing ‘program’ crops to farms producing livestock and a wide range of crops. On the other hand, if the shift were to be accomplished by targeting most of the additional agri-environmental funds to farms that produce the major ‘program’ crops, this might result in substantially less environmental benefit than would a strategy based on environmental costs and benefits.

### **Encourage private sector markets for environmental services**

A third alternative approach would be to encourage new and expanded private sector markets for environmental services. Programs like EQIP and CSP essentially are programs for the Federal government to purchase environmental services from agriculture. This third alternative would entail creation and facilitation of market institutions and mechanisms for the private sector to make such purchases. There is a great deal of interest among economists and policy makers at present in the scope for expanded private sector purchases of environmental services from agriculture, including forestry. In some cases, private sector markets might

replace government agri-environmental programs. More likely, however, they might sometimes serve as a complement to government programs, in some cases providing scope for reducing (but not eliminating) government expenditures.

Government has been the major purchaser of environmental services from agriculture in the U.S. because many of these services are in the nature of either *externalities* or *public goods*. By definition, the private market tends to ‘fail’ for such goods—providing too little of the positive goods and too much of the negative ones. One step in expanding the scope of private sector environmental markets, then, is to sort out which of agriculture’s environmental services are more in the nature of *private goods* than of *public goods* or *externalities*. Some forms of recreation in agricultural landscapes—hiking, hunting, boating, for example—have private goods characteristics to at least some extent. Where transactions costs are not too high, private sector markets may be used to induce agricultural land uses that provide those types of services.

For expanded use of private sector markets to complement and reduce the cost of Federal agri-environmental programs, program rules need to allow farmers to sell environmental credits produced as a result of the government support. This is currently permitted under EQIP. In addition, programs need to be structured in such a way that farmers who have potential to market those credits will have incentive to participate in the particular agri-environmental program (e.g., EQIP) at a lower level of compensation than would be required without private sector market opportunities. In practice, many agri-environmental programs induce multiple environmental services, only some of which (if any) might lend themselves to private markets. Therefore, the trick is to design competitive bid or other contract negotiation procedures in such a way that farmer participants will maximize their use of private sector markets and offer the bundle of environmental services at the lowest possible cost (per unit of environmental service) to the agri-environmental program. This can be a challenge, given the difficulties of measuring and monitoring most environmental services from agriculture.

### **Expand or strengthen environmental compliance**

Yet another alternative approach to environmental problems is to expand or strengthen ‘environmental compliance’ provisions (often called ‘conservation compliance’, or ‘cross-compliance’). At present, environmental compliance in U.S. farm policy is focused

on highly erodible land (HEL) and wetlands. It would be possible to expand compliance provisions to all cropland and to environmental concerns other than soil erosion and wetland protection. A prime candidate concern would be nutrient runoff and leaching. Most nitrogen runoff and leaching come from cropland that is covered by commodity payments. Livestock production is frequently associated with phosphorus runoff problems, but since manure management plans generally call for applications to cropland, commodity payments also could provide some compliance leverage for those problems, as well. USDA research has shown that commodity payments generally exceed the costs of dealing with nutrient runoff and leaching through combinations of nutrient management and buffer practices. This suggests that extending environmental compliance to nutrient externalities could be effective.

Depending on how expanded compliance provisions are specified and carried out, there could be significant technical assistance costs for the Federal government, but other Federal costs could be low or non-existent. Farmers presumably would incur the principal costs of compliance, though some costs might be offset by existing agri-environmental programs like EQIP. The added compliance costs are likely to be unevenly distributed across farm types and regions.

### **Fundamental reform?**

The big issue with respect to agri-environmental policies in the years ahead is if the U.S. will embark on a more comprehensive ‘multifunctional’ approach to agriculture—an approach that more explicitly accounts for important functions of agriculture in addition to food and fiber production. That approach has been under way for some time in the European Union (EU), and the

Common Agricultural Policy (CAP) reforms of 2003 appear to be moving the EU even further down the multifunctionality policy path. The latest CAP reforms further ‘decouple’ farm payments from crop and livestock commodity production and place even greater emphasis on rural development and the rural environment. If the U.S. were to embark on a similar path, there could be a major shift of funds from commodity programs to the CSP, allowing the CSP to be carried out more like it was intended in the original 2002 legislation. In addition, the CSP could be broadened to explicitly address rural development objectives, in addition to environmental objectives, as have some of the agri-environmental programs in Europe.

### **For additional information, see:**

Dobbs, T.L. 2006 (September). “Working Lands Agri-environmental Policy Options and Issues for the Next United States Farm Bill.” Economics Staff Paper 2006-3, South Dakota State University. Brookings, SD.

<http://econ.sdstate.edu/Research/Dobbs-StaffPaper2006-3.pdf> )

U.S. Department of Agriculture (USDA). 2006 (June). “Conservation and the Environment.” Second of 2007 Farm Bill Theme Papers. Washington, D.C. <http://www.usda.gov/documents/FarmBill07consenv.pdf>)

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