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SUSTAINABLE AGRICULTURE: POLICY
REFORM IS NOT ENOUGH

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Sustainable Agriculture: Policy Reform Is Not Enough

Steven J. Taff

If praying to the gods for rain does not increase the fertility of our fields, it avails little to redouble our prayers or to make alteration in our wording; we would better turn our energies to the techniques of agriculture.

- Robert S. Lynd

Background

Advocates of a sustainable agriculture increasingly argue that federal agricultural policy is a major barrier to the adoption of alternative farming systems. There have been many calls to reform, my own among them. Two years ago in this forum, I noted three aspects of U.S. farm policy that seemed to stand in the way of farmers moving in the direction of more sustainable practices. First, price supports and subsidies are so lucrative that farmers face severe financial losses if they stop producing all they can of the handful of crops so protected. Second, because farming practices are largely exempt from liability from any off-farm damages they might cause, farmers have no particular incentive to shift to practices that might reduce such damages. Finally, farming risk is partly dealt with through the federally subsidized crop insurance program. This reduces the incentive farmers might have to manage risk through crop diversification, for example, and the relatively small number of crops insured ensures that many farmers won't try new ones.

While policy reform seems a logical precondition for a sustainable agriculture, it is in danger of being oversold. I wish to argue today that while changes in federal farm policy might be necessary to permit a full flowering of sustainable agriculture, they will not be sufficient. We tend to overemphasize

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the importance of the federal programs in the farmer's decision calculus. While important, they do not dominate. Second, I will argue that even if we agree that changes need to be made, we will be unable to accomplish many of the farm-level goals of sustainable agriculture with so blunt an instrument as federal farm policy. National policy may be reshaped to let farmers do Good, but it is ill suited to make them do Good. Finally, I will propose that our attention to leveling the playing field for sustainable agriculture might be misplaced. Reform may not only not be enough, it may actually hinder the adoption of sustainable agriculture on a broad scale.

The Sustainable Agriculture Platform and Farm Policy

In what follows, "policy" should be thought of as a set of rules that condition behavior in government and in markets. The way we run American society is to set the conditions for market activity, let the markets run, and then come in and pick up the pieces if we don't like the outcome. Without societal rules (government acting through policies), markets could not exist. If you accept this, then you rule out any cries to "get government out of agriculture." Instead, you try to decide in what ways public decisions should affect private decisions with respect to agricultural production. In a moment, I'll try to stylize private decisions so that we can fruitfully examine the ways in which the public might influence private farm management choices.

First, let me outline an also stylized version of the sustainable agriculture platform. As I see it, the four major planks of the movement as it has been politically actualized are safe food, prosperous farmers, a safe environment, and prosperous communities. Today, I'm going to focus upon only two of these: a safe environment and prosperous farmers. The others are clearly important, but they have been largely untouched by the debate swirling around American farm policy, reified by the quadrennial farm bill. Safe food as a political issue has been captured by chemists, nutritionists, and consumer safety advocates. Prosperous communities, whose link to the other planks is often asserted but rarely examined, have been left to rural sociologists and prairie populists. But both the farm establishment and most emerging farm environmentalist interests are at home with the two planks I'll examine today.

One way to characterize the sustainable agriculture movement is that it seeks to influence both farming--how farmers practice their craft--and farm structure--how many farmers control how much land. The two may or may not be linked: the research evidence continues to be mixed. But the two are clearly not affected in the same ways by farm policy. Our attention today is on the practice of farming--crop selection, input use, and tillage regimes. How might farm policy influence farmer choices with respect to these?

The traditional focus of farm policy in this country has been the farm bill, a piece of omnibus legislation that Congress takes on every four years or so. (Most of what I, along with most of the sustainable agriculture policy literature, say here is relevant only to crop agriculture. Animal agriculture, with the notable exception of dairy, is only indirectly influenced by farm policy, for a variety of practical and historical reasons. Policy leverage is possible on the crop side, far more difficult on the livestock side.)

If a single goal for American farm programs over the years could be teased out of the welter of legislation, it would probably be the stabilization of farm output prices at a level that provides a decent living to farmers without infuriating consumers. The major implementing instruments have been (and likely will remain) income subsidies, cropland retirement, price supports, and education. In brief, we try to manage output prices by increasing or decreasing the amount of land on which crops are allowed to be grown. If the resulting prices are still too low, we pay a cash bonus on each unit of production. If the environment suffers, we try to convince farmers to change their ways. If that doesn't work, we pay them to change.

Choice Set

Let me illustrate this by reference to what I'll call the farmer's choice set. We all have choice sets. They're simply the combination of all our aspirations, endowments, opportunities, and constraints. Any non-random decision we make is within the context of our own choice sets. Changing the constituents of the set will often change the decision made within it.

One way of looking at the farmer's choice set is to put it into a maximizing framework: the farmer maximizes something by selecting actions subject to certain opportunities and constraints. Not all farmers act to maximize profits, farm income, or sales, although a great many do. Some instead are interested in maximizing family income (including off-farm wages), minimizing personal time investment, or maximizing that elusive concept "lifestyle." No two farmers are exactly alike in this respect, although it is often useful analytically or imperative politically for us to act as if they were all the same.

Farmers, at various points in their careers, are able to choose from among a variety of actions to help them reach their goals. They might choose among enterprises (livestock, grains, specialty crops), among scales (big farm, small farm), or among input philosophies (chemical, low chemical, organic), to name a few. The number and timing of these choices are not common to all farmers, however, as we shall see below.

Opportunities, which can be thought of as those forces that enable farmers to make certain decisions, include the characteristics of the land over which they have management control, how much personal wealth they bring to the situation, the level of input and output prices over which they have no control but within which they must make financial judgments, and the nature of public incentives (subsidies, education, and the like) that are designed to influence farmer behavior.

Constraints, which don't always clearly differentiate themselves from opportunities, can be thought of as those forces that keep farmers from taking certain actions. In this category we commonly include regulations that govern management behavior, taxes that influence prices, a lack of sufficient wealth, the uncertainties of rainfall, and the nonavailability of technological fixes.

Policy Changes

It is useful to think of government policies (like those built into the farm bill), those rules that condition behavior, as attempts to alter components of the farmer's choice set so that the resulting private decisions increase public benefits or reduce public damages. So, for example, traditional American soil conservation policy has stressed the preaching of stewardship (which tries to alter the farmer's maximand) and the application of subsidized conservation practices (which tries to alter the prices faced by the farmer). When this was perceived to fail, or at least not succeed sufficiently, new

policies such as Swampbuster (which is in effect a tax on prices received by farmers) or local conservation ordinances (which restrict the farm management practices available to farmers) have been enacted. A final recourse recently has been to buy, (as in Minnesota's RIM Reserve), or rent (as in the federal Conservation Reserve Program), the rights to crop certain environmentally sensitive lands, thereby removing most management options on those lands completely.

Not all attempted alterations of the farmer's choice set are equally effective in altering farmer behavior in desired directions. The federal farm bill tries to do a lot of manipulation, and some sustainable agriculture interests would have it do more. But not all decisions are policy manipulable: we may be able to influence but at the same time not steer.

Does this system need tinkering, or abolition? You'll note that the sustainable agriculture platform is quite different in its goals than is the present set of programs, as I have characterized them. I contend that a system that was set up to manage output prices at the national level is ill suited to also manage crop selection, input use, and tillage decisions at the farm level. And it is with farm level decisions that sustainable agriculture as a practical canon ought to be concerned.

Groundwater Pollution Example

To demonstrate the inherent bluntness of the farm policy instrument, let's focus further on the specific issue of agricultural pesticides and groundwater quality. No one would argue that we should unnecessarily pollute our water, and few would argue that chemicals are ipso facto bad; the problem comes when we misalign the privately optimal use of pesticides and the publicly optimal level of contamination. (I hold, along with most economists, that zero pollution is not necessarily the social optimum.)

The underlying policy issue is simple: If we perceive a public interest in private farming decisions, should we pay farmers to farm in a certain way, or should we make them? Do farmers have an unimpeded right to manage resources in any way they see fit, or does society have an inalienable right to protection from adverse farming impacts?

We have, in our illustration, some pollution; it clearly is associated with nearby farming practices. A sustainable agriculture wouldn't feature as much pollution. How might policy reforms bring this about?

Several fixes have been suggested over the years:

(1) Remove the present subsidies and production incentives for certain crops (primarily corn, wheat, rice, and cotton) so that farmers can grow crops that rely less upon chemical pest control strategies. But simply lowering prices on some crops does not mean that farmers can profitably farm other crops.

(2) Internalize the costs of pollution. Shift pollution liability to farmers so that their production decisions factor these into account. This is a step our legislators have largely been unwillingly to take, often because of a perception that this cost imposition would bankrupt many farmers.

(3) Provide new incentives for farming practices felt to lead to better water quality. For example, the USDA already pays farmers to employ filter strips and for conservation tillage: it might pay as well for rotations, or forage crops.

(4) Convince farmers to make less money. If there is a trade-off between environmentally benign farming and maximum profit farming, then we might try to show farmers how it is to their advantage to reduce one in favor of the other.

(5) Increase off-farm job opportunities so that farmers don't have to squeeze every dollar from their farm operation. Unfortunately, many farm communities are unlikely to ever create such opportunities.

In each case, I think you'll see that what we're implicitly doing is altering the choice set in the context of which farmers make management decisions. It is the nature of most of these reforms, however, to be pretty broad brushed. Others may be perceived as being unfair. A ban of a particular herbicide, for example, forces all farmers to adjust their pest control strategies, even though probably only some subset of farmers is actually polluting the water. (They may be polluting because they misapply the chemical or because it is impossible, given the particular chemical, their particular soils, and the crop on which it is used, to use the chemical without unacceptably polluting the groundwater.) Is it cost effective to force all farmers to change in those situations in which only some farmers are the source of the problem? Would abolishing all subsidies affect all farmers equally?

Policy Pitfalls

Any policy scheme that tries to influence individual behavior faces three problems. We've just touched on heterogeneity. Every farmer is different--has a different choice set--so not all farmers will respond the same way to a change in the policy environment. Indeed, some farmers perhaps should not be expected to change if they're not causing trouble. Too, not all farmers presently participate in the major government farm programs. Policy reform would leave many untouched.

The second policy pitfall travels under the name of "asymmetric information." Information, or the lack thereof, is the bane of all policy activists. Not only aren't we sure how a given farmer might react to a change in policy, we usually aren't sure how a given action will affect the environment. We can't even be sure sometimes that the farmer even changed management behavior in the first place.

Let me illustrate this second point. Say we ban atrazine, a herbicide that appears with distressing frequency in groundwater and surface water samples throughout the Corn Belt. What will farmers do? Some will switch to different chemicals, some of which might be even more deleterious. Others might shift to different tillage combinations, with uncertain effects upon surface water quality. Not only is each farmer different with respect to strategy, each farmer's strategy is unknown to the policy maker.

The third problem is one of enforcement. Let's say that we accept the policy risk that farmers will react differently. At least atrazine use will go down, won't it? But who will cut back, and how will we know? For certain farm practices, it would be prohibitively expensive to monitor compliance. As long as atrazine is being made somewhere, you can expect some farmers to smuggle it into forbidden territory. Who's to know?

If we only want certain farmers to change, a farm policy designed to influence national prices won't work very well. National policies are very often impotent when it comes to directing particular behaviors. There is clearly a place for national action in the crafting of a smorgasbord of particular incentives and disincentives, to be tailored to individual farmers by a knowledgeable corps of public servants. But such an approach should shift our attention from public policy reform to public administration reform, an altogether different subject. The tradeoff would be the apparent simplicity but

general ineffectiveness of sweeping national reforms, and the apparent cost effectiveness but extreme information costs of a fully targeted set of programs.

Expected Reforms

The actual farm policy changes we're likely to get in the next few years are an easing of commodity base acreage restrictions, some permitted flexibility in planting decisions among program crops, a modest permanent conservation easement acquisition program, the addition of groundwater to conservation compliance provisions, an expanded federal crop insurance program, and lower official chemical use recommendations. Not all these will lead to a more sustainable agriculture, but most are probably moving in the right direction.

If the rules change like this, what are farmers likely to do?

(1) Most will continue to grow those crops they know how to grow and have the equipment to manage. Even without subsidies, corn and wheat are likely to remain the main crops of upper midwest farmers. They know how to grow corn and wheat, and they have the equipment to grow corn and wheat. In some areas, climate and soils combine to make wheat, in particular, one of the few crops one can grow, whatever its relative profitability.

(2) If a new crop promises high prices for more than a year or two, some farmers will switch to it in small amounts. This is what we're seeing in dry edible beans in the Red River Valley, for example. These new crops may support a sustainable agriculture goal of diversity, but their cumulative environmental effects are uncertain.

(3) Most farmers can be expected to continue to manage risk through insurance, not through rotation or diversification. A larger subsidy for crop insurance could mean, however, a modest reduction in the use of irrigation or chemicals to maintain expected yields at profitable levels.

(4) Even when farmers establish rotations that are financially, agronomically, and environmentally sound, there will remain the strong temptation to break out of that rotation if a particular crop's price goes through the ceiling. How many could resist the temptation to cash in on wheat, for example, if China were to experience two straight years of horrible drought? (More research, both

economic and agronomic, needs to be done on this possibility. How resilient are soil and financial systems to occasional deviations?)

Is Reform Necessary?

All this is not to say that farm policy reform such as that detailed above is not desirable, from both the broader public and the narrower sustainable agriculture points of view. Few would argue persuasively against a possible reduction in federal budget outlays, a narrowing of the gap between farm product demand and supply, an increase of the survival chances for small farmers, or a reduction in the incentives to pollute.

But even if such reform is desirable, is it necessary to achieve the aims of sustainable agriculture? I mention this because institutional change, or at least sweeping institutional change, doesn't happen quickly, particularly when well-specified and well-represented political interests are involved. Too, as we saw above, reform of the sort most often proposed might not lead to sweeping changes in the way farmers farm.

An environmentally benign agriculture may not be sustainable, because farmers may not choose to practice it. There is a difference between a sustainable system's financial viability--you won't go broke if you practice it--and some other system's financial dominance--you can make a lot more money that way. While farm policy reform might reduce the dominance of certain traditional systems, it still may not be able to do much about other systems' viability.

There is also the danger that reform so levels the playing field that the whole field is under water. Under present price relationships, it might be the case that no system, sustainable or otherwise, is financially viable without income transfers from the non-farm sector.

Could American farmers move out of the shadow of the perverse influence of the farm programs--as have many farmers already, for many reasons--without the prior dismantling of the programs? Could present subsidies and supports serve as the transition aids so often talked about but rarely funded? Perhaps sustainable agriculture advocates should support the retention of current programs, but try to co-opt policy for their own purposes. Swampbuster might be viewed as one such effort, although in

another forum I would argue that Swampbuster's problems outweigh its benefits. So might some advocates' resistance to liberalized trade policy, so as not to lose potential supply management tools.

I realize that this runs counter to my previous assertion that farm policy reform may not be the ticket. But there I dealt implicitly with reform as the abolition of existing subsidies, the leveling of the playing field. Here, I'm talking not of abolition, but of subversion.

One runs a risk in trying to co-opt farm policy for inherently different objectives, of course. The attempt may fail, leaving us both with a farm policy that doesn't serve national commodity stabilization goals and with no policy that serves largely local sustainable agricultural goals. The whole exercise might be one of trying to pour new wine into old skins. What would we have gained if the skins burst?