Paper AEWP 1990-13

AGRICULTURAL POLICIES WITHIN THE CONTEXT OF RESOURCE CONSTRAINTS AND POLITICAL REALITIES

Harold F. Breimyer
Professor of Agricultural Economics Emeritus
University of Missouri-Columbia Dept. of agricultural economics

I open with an observation that establishes an instant relationship between agriculture and the grants economy. It is that agriculture, both explicitly and implicitly, has been a major participant in it. As an example, during more than a century grants in aid from the federal government to state agricultural experiment stations and, in later years, down to county Agricultural Extension offices have been a showpiece for intergovernmental grants for noble educational purposes.

Individual farmers have qualified for a host of grants ranging from rural free delivery of mail to commodity price supports to payments for carrying out soil conservation practices.

Farmer recipients of concessions and grants have behaved as the normal human beings that they are. They minimize the grantsmanship that has come their way. Professor Don Hadwiger of Iowa State University has written that the farmer's "most abundant product" is paradox (p. 156). It is, in my words, "the paradox of denied dependence." The ultimate paradox is that the individual proprietary farmer, who proclaims his self-reliance, could not -- my words again -- "survive in the industrialized economy of our era without some special attention in law" (p. 38).

My assigned topic begins with the words "agricultural policies." That is a Mother Hubbard term. It encompasses many public actions, or publicly-induced private ones, ranging from the research and extension I have just mentioned, to the familiar and ever-contentious price and income assistance, to holding a food reserve as protection against a drought of 1988 severity or hostilities in Operation Desert Shield, to making sure no dangerous chemical leaches from a farmer's fields into drinking water. All these are agricultural policies. And there are more.

But that, in the vernacular, is "only the half of it." When I teach my undergraduate course in farm policy I lecture loudly about how many public policies affecting agriculture are not agricultural. They are general policies, notably macroeconomic ones, that bear on agriculture. It is conceivable that the federal policy with the deepest imprint on agriculture is tax sheltering -- the deductibility of interest payments above all. That is to say, the grants that excuse a taxpayer from his income tax obligation may be the weightiest of all dispensations that reach agriculture, because they bear so heavily on the investment pattern.

Paper given at session, "The Grants Economics of Agricultural Policies within a Global Setting," Association of the Study for the Grants Economy, Washington, DC, December 28, 1990.

But I must limit my remarks. My assigned title continues with the words, "...within the context of resource constraints...." The phrase is a gem of an ambiguity. One's impulse may be to think first of budgetary constraints. To return to my remark that agriculture is highly vulnerable to macroeconomic policies, the budgetary threat is ominous. I will touch on it later. But I choose to interpret "resource" in terms of the mineral and land resources on which agriculture draws, and the resource that the products of agriculture themselves constitute.

This is not just a convenient ploy. Agriculture may in fact be viewed as the lodging place, and farmland owners as the custodian, of a resource of distinctive character and intense social importance. That agriculture comprises the essential resource of land, plus access to water to make it productive, is known to every schoolchild. That modern farming draws on an immense quantity of depletable mineral resources is also a part of our knowledge base. That agriculture is essentially a producer of energy -- not just the energy content of foodstuffs but of industrial energy such as ethanol -- is not so ingrained in our thinking.

Programs for conserving the nation's soil base have long been a claimant to public grants. In the dustbowl summers of the 1930s Hugh Bennett told Congress that if the Plains area failed to protect its topsoil, dust storms from Kansas would blacken Washington even as they were doing then. Ever since, the federal government has devoted many tax dollars to soil conservation. A number of states have done so too. At the federal level the Soil Conservation Service (SCS) has been the principal educational agency. It has worked with local soil and water districts. The Agricultural Stabilization and Conservation Service (ASCS) has administered an Agricultural Conservation Program (ACP) under which farmers are paid about half the cost of a variety of conserving practices they carry out.

"Conservation Compliance"

I have a further reason for choosing to focus on public policies to protect agriculture's natural resources. It is that the so-called farm programs, invariably applauded or castigated in terms of their transferring income from taxpayers to farmers, have increasingly become joint income-support and resource-protection programs. And, year by year, they are taking on more of the latter character and less of the former.

Let me sketch the background. As a veteran of farm affairs I can testify that as long ago as the 1930s a call was heard, expressed in about these words: "If the government is going to underpin farmers' incomes, let a condition be imposed that farmers must protect their land from erosion or other degradation." Incredibly, the proposal was never acted on until 1985. In that year a law was enacted, truly a landmark one, that required farmers who farm highly erodible cropland to take steps to protect that land against excessive erosion. Any who fails to do so will be declared ineligible for price supports, deficiency payments, and a half dozen other government benefits. This provision is called Conservation Compliance. It is a provision with teeth.

Since 1985 farmers wishing to participate in commodity programs have had to complete their conservation plans by 1990, and to put them fully into effect by 1995.

I now offer two observations. I have mentioned the first. It is that linking soil and water objectives with income assistance to farmers alters appreciably the context in which grants to agriculture are viewed. No longer are they essentially income supplements (with the side benefit of providing a food reserve, itself not negligible). They are now environmental programs too.

My second observation is an updating. The 1985 farm law has been replaced by a new 5-year 1990 law. The new law is a mixed bag. It continues the shift away from commodity-oriented price and income supports. Provisions for flexibility in use of acreage undercut to some degree the status of program crops such as wheat and cotton, as does an approximately 25 percent trimming of income aid. At the same time, some environmental features are strengthened. For example, the new law offers incentives for preventing contamination of ground and surface water on 10 million acres of farmland (Columbia Tribune, October 26, 1990).

But offsetting these features is a weakening of Conservation Compliance. The 1990 law does not do so directly but as a collateral consequence of making commodity programs less attractive. That action was taken under orders from the October budget "summit." Irrespective of one's approval rating of reducing farmers' income supplements, the linked-in consequence to soil conservation can only be regretted, in my judgment.

Many farmers having cropland of the highly erodible category, and facing the cost of carrying out soil conserving practices, will now have second thoughts about participating in commodity programs. Some will simply stay out. That means they will be free of obligation to take soil conserving measures. The overall outcome will be a set-back to soil conservation.

The new budget and new farm law will save government money but will not save the nation's topsoil.

In a newspaper column I write I moralize about popular impressions that the federal budget is as full of holes as a Swiss cheese and can be balanced without doing any significant harm. Where soil conservation is involved, that dodge is without validity. The October 1990 budget action did considerable harm to goals of protecting soil and water resources.

Mineral-depleting Agricultural Technology

Modern technology in farming, glorified so much, essentially consists of drawing on mineral resources to supplement land and labor as inputs to agriculture. I am thinking primarily of fossil fuels, and not so much in terms of their supplying draft power as their providing the chemicals of fertilizer nutrients, fungicides, herbicides, and a number of other "cides" that are a part of modern farming.

In early years the new technology was lauded to the skies. The unconstrained confidence did not last. Rachel Carson helped generate environmental concerns about careless or excessive use of chemicals, especially pesticides. Those concerns are still with us and continue to stir debates as to how best to take protective measures. Much of the dispute can be characterized

as a choice between offering farmers grants to encourage safe practices, and imposing mandatory rules.

This two-way choice bears on the principles of a grants economy and the environmental program dilemma that will be faced in agriculture in the event of continuing budget austerity. In a 1989 article I observed that the fiscally-induced "national trend away from monetary incentives to achieve socially desirable individual action...will likely frustrate the environmental goals attached to acreage reduction" (p. 27). Only a year later agriculture offers a case in point. It is the weakening of incentives to Conservation Compliance. Will soil and water protection henceforth be brought about by regulatory action; will the nation have second thoughts about economizing on grants for that purpose; or will resource-protection goals be abandoned?

A Sustainable Agriculture

More recently, a different kind of awareness has gripped a sizable minority of citizens including not a few farmers. It is the temporal aspect of the depletability of mineral resources used in agriculture. What is augured for the future if our food and fiber production rests on resources that are exhaustible and being exhausted?

Within the crazy quilt that is U.S. agriculture we now find a patch labelled "sustainable." A sustainable agriculture is defined as one whose cultural practices can be sustained indefinitely. Those practices generally are at least neutral toward the environment, and they do not rely on disappearing stock mineral resources.

Sustainability is being pursued in two directions. One is to minimize the utilization of mineral inputs in farming. A farmer can get nitrogen from crops plowed under ("green manure") or animal waste. He can choose Integrated Pest Management in place of applying pesticides. In general, these practices require more labor and they lower yields to some degree, but they also reduce production costs.

The other route is the opposite, in the sense that it calls for a high level of new technology. It is the special technology variously called bioengineering, genetic engineering, or biotechnology. By means of genetic transformation, new crops, and perhaps new species or strains of animals too, can be developed that can thrive without the cover of a dozen chemical soil nutrients, fungicides, pesticides, and such. This route holds considerable promise.

The route also presents public issue problems of the grants category. Most of the traditional new technology introduced to farming during the last century has involved practices that were, and are, implicitly in the public domain. They do not lend themselves to patenting; the benefits cannot be preempted privately. Therefore, individual firms have customarily left much of the basic research to federal and state agricultural experiment stations. It has been financed by grants.

Apparently, new bioengineered germplasm is patentable, or can be made so. To what extent is public sponsorship of research needed or even appropriate? For my part, I continue to believe that basic research in agriculture is not only a proper but a merited public activity. That

is, it qualifies for grants. But I admit that there is cause for uncertainty, and decision-making about biotechnology will be difficult.

Biomass

Lastly, agriculture produces energy. It produces energy that fuels human beings. Agriculture as broadly defined to include farm woodlots has contributed a not-negligible amount of energy for home heating. The natural fibers help human beings keep themselves warm.

Nonetheless, the most publicized recent contribution of agriculture to energy has been its supplying of ethanol as a supplement to gasoline as a motor fuel.

Distilling ethanol from corn is only an example of a broad class of enterprises that draw on agriculture for industrial materials. It is known as biomass. Biological sources can be utilized for producing an almost infinite variety of items that now originate with petrochemicals. Just now, the nation's corn producers are trumpeting a bio-degradable plastic made from corn. Their claims are probably exaggerated. Nevertheless, at a seminar held recently at the University of Missouri-Columbia, Dr. William Tallent, Assistant Administrator of the Agricultural Research Service of the U.S. Department of Agriculture, narrated for half an hour the industrial products that conceivably can be manufactured from agricultural raw materials. The most impressive of his stories is the converting of high-erucic-acid rapeseed oil into automobile motor parts. Perhaps at some time in the future we will drive cars made from rapeseed oil powered by soybean oil as an alternate diesel fuel.

My personal judgment is mixed. I am convinced that biomass is in our future, because it rests on renewable resources. On the other hand, much of the present enthusiasm is premature. Ethanol is now obtained from corn only by distillation, an energy-intensive process. Before biological materials can be drawn on to replace fossil fuels it will be necessary to develop some form of catalytic conversion from coarse organic material into ethanol or methanol.

Moreover, apostles of biomass overstate the potential for supplying energy from farm products. Our country is a petroleum hog. Alcohols from biomass sources can replace only a small percentage of our enormous consumption of petroleum.

Having set forth my caveats, I summarize on a futuristic note that begins from the trend now underway in the grants aspect of farm agricultural policy. It is the gradual shift of focus from commodity price and income aid to environmental concerns. In my judgment this is appropriate. It will be the more so as, within the next generation, the nation's soil resource will gradually be drawn on for biomass products. That resource will thereupon be treasured as never before, and protected with an intensity not now conceived of. Initially, grants for conservation will be generous. Eventually, though, the situation will reverse. Not only will public aid not be necessary, but windfall capital gains to landowners, and accelerating rents, will be socially destabilizing. This touch of futurism seems strange now; but does anyone believe that events of a day extrapolate straight-line, indefinitely?

References

Breimyer, Harold F. Farm Policy: 13 Essays. Ames: Iowa State University Press, 1977.

_____. "New Farm Law Weakens Soil Conservation." On the Economy (private newsletter), November 10, 1990.

_____. "How Budget Tightness Will Affect a New Farm Bill." Choices, Third Quarter 1989, pp. 26-27.

Hadwiger, Don F. "Farmers in Politics." Agricultural History 50, No. 1 (January 1976), pp. 156-70.

Tallent, W. H. "The Research Challenge of New Crops/Products: The Utilization Dimension." Economic Development via New Crops/Products from Agriculture. Agricultural Experiment Station, University of Missouri-Columbia, 1991.