RURAL DEVELOPMENT AND AGRICULTURAL POLICY--DISCUSSION

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One would have to be quite presumptuous to feel that he could read five papers as dissimilar as the ones we are dealing with here today and come out with all common elements. While all but one consider the general area of rural development policy, there is a considerable range in their orientation and scope. The common elements in the papers are that they outline some agricultural policy objectives deemed appropriate to the situation in their countries of origin. Secondly, they all recommend or examine some implementation policy designed to achieve the policy objectives defined. Finally, they assess what the degree of success of these implementation policies has been or would be in achieving the policy objectives.

A broad range of policy objectives was considered. The paper from the EEC was quite different and requires a separate discussion.

To begin with, the EEC market policy "to maintain equilibrium between supply and demand at price levels being acceptable for both producers and consumers", would seem to be a bit utopian in its own right. Such a system would be likely to exist only in a perfectly competitive economy or in a closed economy where external supplies can be controlled and internal supplies readily manipulated by government. The latter case seems to be the case in the EEC and this latter case can exist only in the absence of perfect competition, which is a requirement of the model used.

Turning specifically to the model used, it has the usual restrictive characteristics of being short-run, static and linear with fixed supply coefficients. It assumes independent markets for apples and pears, does not simultaneously consider substitutes and complements, or inter-dependencies with the rest of the economy. It also extracts from quality differences and seasonal market effects.

While the authors are to be complimented for their attempt to develop price prediction models rather than use some constant for their prices, their attempts were not totally successful. Only one of the linear price prediction equations has as many as three significant regression coefficients. Five of the equations have only two significant regression coefficients. Further, just over half of the equations have R^2's exceeding 0.50. Thus the question must be raised as to how far we can go in analyzing the effectiveness of policy in recommending new policy from models with such uncertain inputs and restrictions.

Just a few additional points. While validation procedures were used to check the model output with the "real" values, it would have been

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useful to the reader to have a table showing the results of this validation procedure. The authors are to be complimented also for their method of determining transportation costs. This seems to be quite superior to the general rate functions normally used in this type of model, as they do reflect costs obtained directly from transportation firms.

While the model, as applied, demonstrates an income transfer to farmers from the public sector and from consumers via the application of short-run crop withdrawals from the marketplace, the cost seems high in terms of lost welfare. Would another policy, such as direct income supplements to farmers without the market withdrawals (thus allowing the consumer to benefit from full supplies), have had better welfare implications?

Finally, if short-term policies such as these are continued, will it lead to a permanent misallocation of production resources relative to consumer demand, thus have undesirable long-run welfare implications?

Now to the other papers.

Shapiro has undertaken to challenge the gospel as laid out by Schultz. He questions Shultz's hypothesis that the resources available to farmers in developing areas are used efficiently, thus the farmers are "efficient, but poor" because of a lack of resources. He points out that the competition that is assumed to, over time, force the poor farmers out of business leaving only the better farmers to survive, probably does not exist in subsistence agriculture. Therefore, the hypothesis would not necessarily be correct. His work indicates that output could be increased as much as 51 percent by raising all of the farmers to the present production level of the best farmers using essentially the same resources and the same technology. Thus, he feels there may be a great opportunity for Extension education programs in the short run to increase production, where in the longer run it may still require a change in technology.

I disagree with Mr. Shapiro on the statement that "we do not expect <u>that</u> behavior pattern (non-diminishing marginal utility of money income) in modern economies and perhaps more so not in peasant economies." In contrast, I would say that these economies may well face <u>increasing marginal utility</u> for money because money can buy them leisure, social position, status, etc. In economies where social and economic mobility are possible, there may well be increasing marginal utility of money rather than decreasing marginal utility of money, as is generally hypothesized.

The Mandal paper proposes two interesting hypotheses. The first is whether or not the substitution of capital intensive agriculture, i.e., tractors, even though it replaces labor, might not be a more efficient way to produce agricultural products, and secondly, whether or not a mixed technology agriculture might not be more efficient than one with a

single technology. In the first case, his empirical evidence seems to support the hypothesis that the use of a tractor would increase total output more than enough to earn sufficient net income to compensate the unutilized labor. As was pointed out in another session of this Conference, this is only a problem if the displaced labor is hired. It may be a blessing if it is family labor as it might remove the drudgery generally associated with subsistence agriculture.

His second hypothesis that the existence of a mixed technology unit within a given farming area might be optimum, is also tested. The data demonstrate that it could indeed optimize within the constraints of the model used.

However, there are two things that would need to be examined carefully. One is that the success of the proposal seems to rest on the availability of unused land, an expansion of multiple cropping, or at least an opportunity to expand the land in cultivation to utilize the labor displaced by the tractor technology. This may or may not be possible in every case and may differ from situation to situation. The second problem is that the linear program indicates that most of the production would be of the high-yielding varieties of rice which may face a problem on the demand side. It is my understanding that many people prefer other rice varieties to the high-yielding varieties. Thus there might be a marketing problem.

The Nigerian paper discussing the formation of an Economic Community of Western African States, points out many of the very serious problems involved in such an effort. However, several points seem to be compelling. They may be quite right that the economies of scale can not be achieved in marketing, processing or distribution without the formation of such a common market area. It is also compelling to think that research could be done jointly and distributed in all of the countries. Further, since they will be starting essentially from scratch in many of the areas, transportation or spatial equilibrium models could be used to locate the various industries appropriately in terms of expected demand and supply sources and the resource base of the areas. This could result in an efficient location of the total food industry.

In their discussion of the problems of dealing in the world markets and limitations as established by the European Economic Community, they seem to equate the United States with this structure and with other nations which have state trading. However, it is necessary to recognize that the United States basically trades as individual firms and not as a single national buyer or seller. Thus, the incentive within the U.S. for individual entrepreneurs to find substitutes when cartels or other economic groups are formed to increase prices (as has happened in the case of OPEC) is very great. Thus, OPEC's apparent success may result, in my judgment, in energy surpluses in the next decade or two, regardless of the long run energy supply situation.

Authors of the Nigerian paper have assumed that their present agriculture has indeed reached the maximum production possible in terms of their existing resource base and technology. This conflicts with Shapiro's hypotheses and his empirical results Thus, the definition of both short-run and long-run policy could be quite different depending upon whether or not this hypothesis is indeed true or found wanting.

The Nigerian paper properly points out the reluctance of policy makers in developing countries to introduce capital intensive technologies which would displace farm workers. While the Nigerians are aware of the problem, they also are realistic in recognizing the need for minimizing production costs to be competitive both within Africa and worldwide. This is illustrative of some of the policy dilemmas that face developing nations.

While the question of how to implement an Economic Community of Western African States was not examined directly in this paper, there may be a partial answer in the paper by Martin David. David's study found that there are some advantages in employing rural labor in road building and that it is feasible for certain stages. If this finding could be utilized on a broad basis, introducing some capital intensive technology into agriculture to increase efficiency while displacing labor, might not be socially unacceptable, provided the labor could be absorbed simultaneously in building social capital within the developing countries.

Most of the findings in David's study could be quite significant for many developing countries. Their finding that Extension education conducted through groups is much more effective relative to benefit-cost relationships than other methods, could be extremely important. Further, that training in villages rather than in training centers was more effective, could change the structure of many Extension Services. And finally, that in-service training of field officers and others in Extension could be effective if conducted correctly. All of these findings have wide applicability in many countries.

Their results relative to their experience with unsecured credit could also be important. The problems of getting credit to the people who really need it, and the necessity of an automatic repayment system to keep administration from costing more than the value of the credit are both important insights. I have often wondered if credit supplied "in kind", i.e., fertilizer, seed, implements, etc., would not be more effective in increasing output than cash or other financial type credit. Even though the "in kind" inputs might be traded or sold to other producers by those who did not wish to use them, the result would still be an increase in the output of the total production area since those who would be purchasing the inputs would use them to increase their agricultural production. Achieving the desired balance of outputs would, however, be a problem.

I think the insights gained by David in the organization and participation of local persons in the planning and execution of projects is also important. Even in developed countries such as the United States, we have found that citizen participation in land use planning is essential. Without a commitment to the local people to allow them an input into the planning process, nothing really happens.

Perhaps key too, is the importance of having competent professionals working with the local groups in carrying out these sorts of projects. His observation that it is necessary to give these officials sufficient tenure to allow them to establish communication and status in the community should not be overlooked. His feeling that matching grants help encourage local people to participate is a technique long used in some developed countries as an efficient way to get local participation and support of projects.

One important item not mentioned is that of establishing a policy and staying with it a sufficient length of time to give it a good test. Many governments tend to change policy so rapidly that none of the policies are really tested as to whether they will accomplish the objectives set out for them. Thus, a commitment to a policy for a length of time sufficient to allow results to begin to appear, is quite important.

David's observation concerning the information system and its effectiveness in identifying bottlenecks for elimination prior to their actually occuring is important not just in developing nations, but throughout the world. It is not surprising that he found that the bureaucracy, in many cases, is hostile to local involvement because, after all, any time they disperse their authority, they lose some of their power which often was gained via hard political battles.

In summary, it would seem to me that perhaps the more fruitful direction of our discussion today might be to take a look at how the objectives of agricultural policy can best be determined. In these papers we have found policy objectives (1) to transfer income from consumer and governments to producers, (2) to lessen the explicitly unemployed by retaining underemployment in agriculture, (3) policies to maximize exports, (4) to minimize imports, (5) to equate marginal value of products with marginal factor costs in agricultural production, and many others. What are the appropriate objectives of agricultural policy in developing countries and how can they best be determined?

The second general area of concern is, once the policy objectives are determined, what are the most effective ways of implementing these policies? For example, how can we implement government policy towards moving labor into or out of agriculture? How about government policy for the infusion of capital into agricultural production, perhaps with associated changes in technology such as the addition of credit or the addition of credit or the addition of tractors, etc.? How do we implement policies towards improving the technical efficiency as suggested by Shapiro without new production resources? Perhaps some of the suggestions

made in the David paper are useful in this context. How about implementing policy towards decentralizing policy decision-making? How do we get bureaucrats at the central level of government to distribute their decision-making authority to local levels and actually let the local involvement be effective? How do we implement policies to mix objectives in agricultural production with the objectives of infrastructure development in developing countries?

The papers in this session have come from an international audience. We have an international audience here in attendance. Thus, the base of experience and insights for answering these questions is undoubtedly present. Let's proceed to make the most of this unusual opportunity.