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Using Economic and Other Scientific Knowledge to
Improve Agricultural Policy -- A North American Viewpoint

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Historians tell us that the Western world is in an era of the nation-state. The state has replaced the family, the tribe, and the religious body as the basic political unit of human society. The nation-state came into being partly as a unit of defense. It has since taken on more functions. National governments now accept responsibilities that range from administration of justice to building trails to mountain villages. Invariably, some of the activities of central governments are economic in nature. At least, many have economic aspects or consequences. To be sure, nations differ as to how much of an economic role their government plays. Socialist countries of the Soviet bloc give the most central direction to economic activity. Some countries do much less. But every nation-state on our planet assigns some economic tasks to government.

Perhaps the most universal action government takes is to keep a check on the economic health of its constituency. All central governments are economic pulse-takers. Stated in another idiom, all nations seem to be self-conscious as to how well they are performing economically. They are economic hypochondriacs. They fret about whether unemployment is too low, or inflation too rapid; and they ask whether economic growth is taking place as fast in their own country as in the rival next door.

As an example of the last question, the United States went through a period of trauma when it thought the Soviet Union's Gross National Product was growing faster than ours. (Mainly, the USSR was converting its household activities into commercial enterprises. Literally, the Russians were beginning to do each other's laundry -- for kopeks, and also for inclusion in the GNP data.)

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Fortunately or unfortunately, we now worry about our own problems and are less concerned about how we compare with Russia.

Every nation represented in this shortcourse has an economic program of some kind relating to its agriculture. The programs are not alike. But all of them are serious efforts by the several governments to improve their national economies.

If these opening remarks are designed to find a common denominator among persons attending this seminar, the next place to find one is in the conviction that economic and other scientific knowledge can be used to improve economic programs for agriculture.

That, in the American idiom, is why we are here.

In remarks that follow I will discuss the skills that economists can contribute to improving government programs for agriculture. But economists are only a surrogate for other trained persons, be they statisticians or agronomists or sociologists. It may even be a mistake to speak of persons; what we really have in mind is a scientific technique, an analytical viewpoint, or even the simple idea that if we take time to think through and analyze whatever we are doing, we can do it better.

To most persons present it is hardly necessary to defend this thesis. It is never hard to convert those who already are true believers. But not everyone is of this persuasion. A few economists do not want to study farm policy or programs. They say that such programs are political, and they do not want to soil their professional record. On the other hand, some officials who administer programs also doubt that economists can be of service. A few are actually hostile. If some economists regard policy as political, some officials regard economics as impractical and sterile if not outright dangerous.

Yet on the whole the skills and knowledge of economists have been applied to economic policy for agriculture with increasing frequency. This has been done in many nations, especially since the end of World War II.

The primary purpose of this shortcourse is to present economic ideas, data, and methods of analysis that can be useful to persons who are responsible

for agricultural policy. In view of the fact that some distrust still exists, it may be equally important to seek ways to improve the communication between economists and administrators. If we do that we can also increase mutual respect.

This shortcourse is designed to be practical -- to convey information that can be put to use. We are not trying to develop profound abstract principles in order to provide monistic scholars something about which to debate. We want to put knowledge to work.

Nevertheless, we are trying to educate in the best sense of the word. All education involves arriving at principles -- ideas that can be applied in varying circumstances. I hope that each man goes away from this shortcourse with a number of principles in mind that will fit situations that he will encounter in his own country.

A Personal Note

In remarks I am about to make I will violate two of my own precepts. Those precepts are that the leader of a shortcourse should be as modest and inconspicuous as possible; and that we gringos should not cite the United States as a model for other countries to copy. Nevertheless I would like to tell you about my experiences, principally because I have both watched and taken part in agricultural programs of the United States for more than 35 years. I hope I have learned something; and I hope further that my observations will help to explain what economic knowledge can contribute to agricultural policy.

My career almost exactly spans the period of federal farm programs in the United States. My federal salary began on July 1, 1933, soon after the first legislation had been enacted to hold land idle in order to improve prices of farm products. (Four years earlier, our government had tried to support prices without restraining production. The Federal Farm Board, which

administered the program, soon ran out of money.)

In 1936 I joined a unit that was responsible for studying and analyzing the land control program of that year. This was the period when farmers were paid to produce so-called conserving crops instead of soil-depleting ones. The depleting crops such as corn, wheat and cotton were the ones most in surplus. Hence, our government thought it could kill two birds with one stone: if it paid farmers to raise fewer depleting crops it could both strengthen their prices and conserve the soil.

We tried to estimate the number of acres that should be removed from soil depleting crops in each part of the country. We asked the agricultural experiment stations of our land-grant universities to help us. We had been scolded for doing so much of our thinking and calculating and planning in Washington. So we asked the state institutions to do it for us.

Although I am now located at a state university, in honesty I must admit that the project was not very successful. Each university had its own idea about farm programs. A few thought they were an invention of the devil. We asked for data that would show how each type of soil should be farmed. The data did reveal patterns, but the differences did not follow the geography of soil types so much as the political boundaries between states.

Having been disappointed by scholars, we shifted our trust to the common people, particularly farmers. Prominent farmers in each county were asked to map their local soils and to propose a desirable land-use policy. In my judgment they proved as capable as the university professors. But they were betrayed by their fellows. The farmers' political organizations did not want voluntary groups of farmers to determine agricultural policy. They were able to abolish the farmer planning activity.

In 1938 our government, encouraged by some changes in the personnel of our Supreme Court, abandoned the soil depletion approach and initiated a program of supply management of commodities. This required more economic

expertise. Economists estimated how much any reduction in production would increase price and income to farmers. We also began to draw up data on national requirements for various kinds of foods and other products. We took into consideration both demand for food and the nutritive quality of the various foods.

Meanwhile, our government made a serious error. My first work was done within the agency that administered the programs (the Agricultural Adjustment Administration). Later all economic analysis was moved to a separate agency. I think the administrators did not want economists close at hand telling them they were making decisions that were economically unwise. We were banished. I concluded then, and I am still convinced, that if economists are to contribute to decisions in agricultural policy they must be located within an arm's reach of the administrator whom they advise. I also learned that unless the higher ranking administrator is receptive to economists and their analyses, economists are doomed to futility and frustration. If an administrator only acts upon his hunches, the sign of the zodiac -- or, a more common failing, his guess as to what will please the Minister (Secretary) -- he cannot make use of economic analysis.

On April 7 Dr. Paarlberg will explain how and where economic analysis is now performed in the United States Department of Agriculture.

For several years I developed current economic information and forecasts that were indirectly helpful to program officials. Then I found myself on the staff of the highest policy analysis agency in our government, the Council of Economic Advisers in the Office of the President. Here I think I learned two new lessons. The first is that all major economic policies must ultimately be brought into some degree of harmony. No agency of government can be entirely autonomous. The ^{reconciling} can only be done in the office of the President. The second lesson is almost contradictory. It is that it is

extremely difficult for officials who oversee all the economic policies of government to understand each policy accurately. How to solve the problem of the need for giving central direction even though it is humanly impossible for top officials to know all they ought to know is something I have not yet learned. Perhaps I will be granted a life long enough to discover the answer.

During World War II I was a navigator, not an economist, and did not take part in programs to increase our production.

Next I became economic adviser to the administrator of marketing programs. This was a gratifying experience. My administrator was himself a trained economist. He knew how to use economic advice -- including when to disregard it. In my opinion he also knew the best administrative structure for conducting economic analysis of programs. Each major administrative division had its own small analysis unit. That unit reported to the chief of the division. But in addition, the several economic units would keep in touch with me as adviser to the administrator. Furthermore, the economists in those units would occasionally be brought together in committees or task forces. Thus those economists reported formally to their division chiefs but informally could talk freely with other economists including myself. This system resembles the staff versus line concept used in the armed forces. I think it is a good one.

My first experience had been with land retirement and price support, but in the marketing agency I was concerned with market services. These were information, grading and standardization, cooperative marketing, regulation of market practices. Also, we purchased perishable commodities at times of surplus, and distributed them to schools, low income families, and certain hospitals and other institutions. All these also are agricultural programs. It is a mistake to think of programs for agriculture as relating only to methods of controlling production and improving prices.

Meanwhile I began to accept short-term assignments in other countries. I was in Argentina twice, Guatemala once, Peru once, and Colombia once. My first Argentinian assignment was to help to develop better markets for Argentine beef. The second was concerned with organizing a program of economic research that would help Argentina's program administrators. In Guatemala I tried to sketch some economic principles that must enter into sound programs for agriculture. In Peru and Colombia I evaluated the work being done by economists of U.S. universities.

Now I am an educator and a research economist at a State university. I exploit my license to advise and propose and object as I see fit. I hope I do so responsibly, so as to contribute to public understanding of issues in policy for agriculture.

U.S. Economists' Performance Record

I have already admitted that administrators of agricultural policy in the U.S. are not always receptive to economic advice, I told you how our unit was banished in 1938, but added that I later had an administrator who was astute in using economic guidance. Our situation is mixed. So, I suspect, is the situation in most countries.

Nor is any failure to respect economic information wholly the fault of administrators. We economists have not always done our job well. I think our worst mistake is that we tend to drift toward one of two extremes -- toward ideas way up in the stratosphere, or toward narrow overconcern with day-to-day matters.

A few economists, I fear, are so detached from practical matters, so esoteric that it is questionable whether their work has any value to agricultural policy. At the other extreme are those who cannot see beyond the problem lying directly in front of them. An economist working on wheat may give no thought to how the program might affect corn. One trying to solve

today's problems may fail to ask whether his solution might create new problems tomorrow. This latter is a grievous error. Administrators tend to be short run trouble-shooters. They may be excused for their limited vision. There is no similar defense for economists. Economists must see beyond the present; and one of their tasks is to make administrators likewise consider broader and longer consequences.

The General vs. the Specific

My remarks thus far are concerned mainly with how the economist working on policy relates himself to persons who administer programs.

It is time we considered just what the economist has to offer. What is in his bag of tricks? Does he really have some special insight, perhaps even some clairvoyance?

The economist indeed has no magic powers. Sometimes economics is painted as unworldly, almost mystical. This is not true at all. Half of economics is common sense alone; a fourth comes from quantification -- even though this is usually only approximate. A mere fourth is truly a special scientific skill.

Perhaps above all else the economist tries to inculcate a respect for the scientific method and especially the scientific point of view. The latter involves personal qualities of inquisitiveness, of orderly observation, of logical induction and deduction, and of integrity. Moreover, the scientific viewpoint builds on the idea inherited from the ancient Greeks, that the laws of nature are universal. There is order in the universe, even the economic universe. We therefore can learn from experiences and apply what we have learned.

We hope then that the scientific method can be employed to improve the economic content of programs for agriculture.

Very often, the opposite is done. Decisions are made by habit, or custom, or hunch, or rule of thumb. Dr. McDermott has said that all too

often administrators act on tradition and intuition. We hope to help them do better.

It may seem contradictory, but in extolling what economics can contribute I also warn against taking ourselves too seriously. No problem is exclusively economic. Therefore no problem can be solved by means of economic analysis alone. For example, any administrator of a program must take into account the administrative feasibility of any proposal the economist makes -- that is, whether it is possible to accomplish what the economist asks. A program that cannot be made to work successfully is unsound irrespective of how good it appears in the author's mind, or on paper.

Furthermore, I said earlier that we seek to find principles -- principles that can be applied in various circumstances. Now I must warn against over-applying general principles. My caution goes especially to economists from developed nations such as the United States. A warning, already voiced a thousand times, is worth repeating. For the thousand-and-first time, I emphasize that economists from developed nations who try to advise developing nations must not apply routinely the ideas they have learned in their own nations. The economics of sheep raising in Montana may or may not tell us how to improve the sheep enterprise of the Bolivian altiplano. The economics of food merchandising in Detroit is not readily transferable to Santiago.

I have sometimes declared, with a little humor, that my biggest job when I work in Latin American countries is to simplify the grandiose proposals that my predecessor gringos have advanced.

In summary, we try to learn general rules and principles, and then we also try to learn where and how they can be applied. The second step is equally as important as the first.

But let us consider the first step a little further. What economic principles are international? What ones can be shipped across national lines,

from hemisphere to hemisphere, from developed nations to those now on the way to development?

I suggest several. Each person can add others.

Perhaps first of all, all nations are seeking to rationalize their agriculture -- to apply human judgment and ingenuity so that agriculture will serve the needs of that nation.

This itself is a powerful fact. Man first subsisted on whatever nature put in place for him to eat. Century by century he learned to cultivate and store; to select seedstock; to control weeds and insects. Despite the progress, even today in the world's most advanced nations agricultural production and marketing only imperfectly respond to the goals set for them; and the performance is poorer in less advanced nations.

"The goals set" for agriculture. These are powerful words. For every program, big or small, comprehensive or inconsequential, there must be goals. Economists ought to be able to help formulate goals.

This does not suggest that goals for agriculture are similar everywhere. Far from it! In one nation the object may be to increase production as fast as possible. In the United States we have sought to restrain the output of some products. Yet when production is excessive, we may want to increase consumption rather than reduce production. In the United States we have programs to do that too.

Within a nation, goals may differ by sectors. In many nations of Latin America there exist a subsistence sector, a small-farm commercial sector, and a big-farm export sector. The temptation is to give most attention to the export sector and least to the subsistence farmers. But ought we omit subsistence agriculture from our attention? Absolutely not! Measures to improve production and marketing may have more direct human benefit in those circumstances than in any other. Further, almost always there is a genuine desire to convert subsistence sectors to at least partial commercial status.

A second general principle is that every nation wants to use its human and physical resources effectively. In no nation are all human needs met; hence, resources ought to be put to use in the best possible manner.

Right here we introduce a cardinal principle of economics. It is that resources are most productive when they are combined to best advantage. The technical word is "optimally." This idea is deceptively simple. The misunderstanding found so often is to interpret the principle as maximization -- such as to get the largest possible production. In Argentina nine years ago I warned sharply against trying to maximize yield of grain per hectare, or of meat or milk per cow.¹ Professor Raup of the University of Minnesota has written that in the Soviet Union, "Throughout the war years and until the end of the 1950's the goal for farm managers ... was to 'maximize output per hectare'."² The Soviets have since learned better, and I hope Latin Americans -- and norteamericanos too -- are equally enlightened.

Usually, multiple resources are combined, in pursuit of multiple goals. This fact makes problems complicated, and life hard for economists. But so it is.

Still another general principle is that government programs to enhance the agriculture of a nation usually call for some kind of "institutionalized" activity. In more primitive economies, there is little specialization or centralization in economic enterprise. It is all diffused. By contrast, when a nation decides to modernize its agriculture it usually sets up some kind of institutionalized service or undertaking. In farm credit, it is to

¹Harold F. Breimyer, Seminario Sobre Economia Ganadera Y Comercializacion de la Carne, Operacion Carnes, CAFADE, 1962.

²Philip M. Raup, "Policy Objectives and Management Goals in Soviet Agriculture," University of Minnesota, Dept. of Agricultural and Applied Economics, Staff Paper P70-5, March 1970, p. 14.

establish a bank or a cooperative or a government agency to make credit available to farmers, replacing or supplementing private money lenders.

In marketing there may be institutions for commercial storage of farm products, or a central wholesale market for selling fruits and vegetables. Almost invariably, governments want to establish or add to institutions for collecting statistics, for conducting research, and for education.

My own judgment is somewhat conservative with regard to institutionalization. For example, I believe that open village markets perform a useful function. I doubt that supermarkets are the answer to many food merchandising problems in Latin America. Rural busses may not be a bad medium for transporting produce from small farms. Nevertheless, new and better institutions in agriculture are needed in many places for various purposes; and economists have the obligation, and the capacity, to advise as to which institutions are best suited for ameliorating a given problem.

I think a fourth general principle follows from the first three. It is that all parts of agriculture and all parts of the nation are to be benefitted by progress in agriculture. Winds of democracy and the revolution of rising expectations are sweeping the world. These simply will not let us design agricultural policy for the exclusive benefit of any single class. The rule is just as pervasive in developed nations as less developed ones. In fact, I think it is embarrassing the developed nations most. For example, it has shamed us in the United States, where we boast so much of our agriculture, to admit that 30 percent of our rural population lives below the poverty line; also that some of our people still lack good diets.

This principle packs an explosive punch. It is so easy to do things that help part of our people but hurt others. It is so hard to take steps that improve the lot of all. I have often warned against devoting all agricultural policy to commercial agriculture, while neglecting noncommercial.

I have shouted my disapproval of policies to introduce labor-saving methods to marketing, unless industrial development employs the displaced workers. I have even told our commercial farmers who seek the right to bargain collectively, that if they are granted such authority they will be forced to accept unionization of hired farm labor. And all U.S. economists have lectured farm leaders who want tariff protection for their products that if they get it, harm will be done to consumers and to the other farmers who sell in export markets.

Unglamorous Economics

Those four general principles do not complete the list but are sufficient to stimulate our thinking.

Most of the remarks made thus far have used the more conspicuous examples of applying economics to policy. Yet just as a retail store with its attractive salesroom has storerooms in the back where storekeepers do their chores, so the economics of agricultural policy requires that there be supporting services of collecting statistics and of making economic studies. Reliable statistics are absolutely essential; without them, economic analysis of policies is impossible. Some economists must work with physical scientists to assess how production responds to various resources, such as chemical fertilizer applied to a particular type of soil. Others must study demand; still others, the economics of transportation, or of foreign trade; and so on.

Thus, underlying the public actions for a nation's agriculture are the unglamorous services of collecting data and conducting research.

A Concluding Disavowal

No nation to my knowledge has made the fullest use it could of economic ideas and information. All fall short in some measure.

Yet the wise man does not oversell -- does not promise more than can be delivered. During my many years in policy work I found that seldom was a

policy question exclusively economic in content. Rarely could it be solved on economic criteria alone. So I conclude by making a disavowal I hinted at earlier. Economists must not expect to be granted an exclusive audience. For most problems have not only economic aspects but sociological, or cultural, or political ones as well.

Economic factors are only one part of policy for agriculture. Policy for agriculture is only one part of policy for a nation. What can be done to improve agriculture depends on what can be done to improve literacy of the people, and social stability, and integrity in government. The economist who announces what he can do for the agricultural policy of his nation should also admit what he cannot do.