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**ASSISTANCE TO
DEVELOPING COUNTRY AGRICULTURE
AND U.S. AGRICULTURAL EXPORTS:
THREE PERSPECTIVES ON THE
CURRENT DEBATE**

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FOREWORD

This collection of papers is intended as a contribution to the current debate on the relationship between assistance to agricultural development in the Third World and the decline in U.S. agricultural exports. Is the former a principal cause of the latter? Or are there other factors that have dimmed the bright picture of expanding markets in the late 1970s and early 1980s? And how might that growth be rekindled?

Dr. G. Edward Schuh lists six changes over the last twenty-five years that have substantially altered the international economic environment and reviews the implications of those changes for the United States. Dr. Earl D. Kellogg presents evidence about the relationship of agricultural development in developing countries and their agricultural imports to changes in U.S. agricultural exports. He also outlines a potentially positive relationship between increased agricultural production in developing countries and increased imports of agricultural products, quoting extensively from recent research. Both Dr. Schuh and Dr. Kellogg write from the perspective of agricultural economics.

The third paper offers the viewpoint of a political scientist, Dr. Robert L. Paarlberg, who describes the policy action, farm and nonfarm, needed in both developing countries and the United States if we are to realize Dr. Kellogg's scenario and find new markets in the developing world for the prolific output of our agricultural sector.

We believe these thoughtful analyses will shed a clear light on some of the most complex issues that must be faced by both those committed to development assistance and those seeking solutions to the crisis on the American farm.

March 1987

Joan H. Joshi
Project Manager
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CHANGES IN THE INTERNATIONAL ECONOMY:
IMPLICATIONS FOR THE UNITED STATES

G. Edward Schuh

These last twenty-five years have witnessed remarkable changes both in the configuration of the international economy and in the economic forces that drive it. These changes have produced large shocks to our domestic economy, they have altered our position in the global economy, and they have posed major challenges to U.S. policymakers. Now we find we must revise the widespread perception of our economy from one that is essentially closed and self-sufficient to one that is open to the forces of the international economy.

These changes have also presented an enormous challenge to U.S. educators. Since most of today's students will either live abroad for significant periods of time or work for a company that has a substantial involvement (or faces substantial competition from) abroad, we now need to prepare them to live and work in a truly global economy.

Yet while these changes give us new problems to deal with in terms of economic policy, they also provide us with a major research opportunity since the new international world economy is still poorly understood. It seems likely that, fifty years from now, economic historians who assess them will consider these changes to have been the most significant of the last century.

A Changed International Economy

For the purposes of an overview, at least six such changes in our international economy can be identified. The first is an increased dependence on international trade worldwide. This is not a recent development; international trade has been growing faster than global GNP throughout the entire post-World War II period. However, this trend accelerated in the 1970s, especially for the United States. Our dependence on trade doubled from 1970 through 1979, and if we extend the period back to 1965, it actually tripled—a phenomenal change considering the size of the U.S. economy. At the beginning of the 1980s, our economy was as dependent on international trade as was that of Japan or Western

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Europe as a whole, in striking contrast with the self-contained Fortress America image that we tend to have of ourselves and that still dominates our economic thinking today.

The second significant change is the emergence of a well-integrated international capital market--a market of enormous proportions, which connects national economies together in ways every bit as important as international trade. Equally as important, this capital market links our economies in ways they were never linked before.

Early in the post-World War II period this capital market consisted largely of direct equity investments of companies in one country in another and capital transfers of bilateral and multilateral aid agencies. In the 1960s there emerged a Eurodollar market as European banks began to relend their dollar deposits. This evolved into a Eurocurrency market as the banks broadened their lending into other currencies. With the surge in petroleum prices of the 1970s, this lending burgeoned as commercial banks were urged to recycle the petrodollars in order to keep the international economy from collapsing.

The scale and scope of the international capital market defies imagination. In 1984, for example, international financial flows were on the order of \$42 trillion, whereas international trade flows amounted to only \$2 trillion. To understand the forces that determine the value of national currencies or foreign exchange rates then, one must look to the international capital market, not to international trade.

The third significant change occurred in 1973 with the shift from the old fixed exchange rate system that had prevailed since the end of World War II to a system of bloc-floating exchange rates. In this system the major currencies float relative to each other, but each has a significant number of currencies fixed relative to itself. Prior to the shift to this new system, U.S. citizens hardly thought about the value of our national currency in foreign exchange markets--or what we call exchange rates. Today, however, the value of our currency in those foreign exchange markets is the most important price in our economy--as both American farmers and workers in our smokestack industries have discovered the hard way.

The fourth change of significance is probably the most poorly understood, a factor that only increases its significance. The global economy, and especially that of the United States, experienced fairly stable monetary conditions throughout the post-World War II period. The supply of money grew at a fairly constant rate, and changes in interest rates were fairly modest. Beginning in 1968, however, and continuing on into the early 1980s, monetary instability increased significantly. Interest rates corrected for inflation varied from large negative to large positive values from one year to the next, and the growth in the money supply was quite erratic. This instability was reflected in stop-and-go monetary policies of the Federal Reserve, as well as in large swings in the flow of capital into and out of the country.

The fifth change is the rather dramatic shifts in comparative advantage evident in the international economy. For example, we have

seen the unprecedented rise of the newly industrialized countries (NICs), who have pulled themselves up by their bootstraps in a fairly short period of time, concomitant with significant relocations of particular manufacturing industries in the international economy. Whole industries shifted out of the United States some twenty years ago and went to Japan. From there they moved to Taiwan and South Korea, and more recently to Brazil and Mexico. Very soon after, other industries followed suit.

Several factors are behind these shifts. First, since these industries depend on technology that is not location-specific as is that of agriculture, they can be easily transferred when economic conditions are right. Second, these industries tend to be labor-intensive; hence, as soon as they have contributed to general economic development and raised wage rates, they are no longer economically viable and must move on. And third, the widespread increase in primary and secondary education in the developing countries has made adoption of manufacturing industries relatively easy.

Similar changes are taking place in the agricultural sector, with production patterns transforming on a global scale and individual countries becoming highly competitive with traditional producers. One of the driving forces behind these trends is the significantly increased capacity for agricultural research in the tropics. Although, in contrast to technology for the industrial sector, agricultural production technology tends to be highly location-specific, a system of thirteen international agricultural research centers has emerged under the auspices of the Consultative Group on International Agricultural Research, a collection of governmental aid agencies and foundations from much of the industrialized world. These centers are strategically located and designed to produce new technology for tropical food crops--something that is almost entirely new on the global scene.

But equally as important, individual developing countries are strengthening their own capacity for agricultural research. Countries as diverse as India, Brazil, and Indonesia have made such investments and now have productive national research systems, and there are other examples as well.

As we look to the decade ahead, we can expect to see even more of such shifts in comparative advantage on the international scene. As the location of manufacturing industries and agricultural production changes significantly, so too will the product and agricultural commodity mix in individual countries. Which countries have a competitive edge in individual products will probably change each year, and the competition we now see in the international economy will look negligible some ten years from now.

The sixth change in the international economy involves the dual constraints most countries now face in the formulation of their economic policy. In today's world, trade accounts are no longer the only issue as individual countries manage their economic policies; yet we in the United States still tend to view our international relations largely through our trade accounts and to neglect the now equally important capital accounts, that is, those that record the inflow and outflow of capital. The

international debt crisis, especially during the early 1980s, should have moved us away from that tendency, but it hasn't--as witnessed by the clamor in the press every time our trade deficit is announced.

In addition, the trade accounts and the capital accounts must balance overall, and thus they are interrelated. For example, unless a debtor country such as Mexico is to continue to borrow, at some point it will have to run a surplus (exports greater than imports) on its trade accounts to service and repay its previously acquired debt. That will be the only way the deficit on its capital accounts, represented by its payment of interest and/or amortization of its loans, can be offset in the overall external accounts. By the same token, creditor nations, such as the United States was until a little over a year ago, will have to accept a trade deficit (imports greater than exports) if the developing country is to repay its debts. And associated with the trade deficit for creditor countries there is an inflow of capital.

Obviously, when economic circumstances change, these relationships require economic adjustments on the part of both creditor and debtor nations. This is burden sharing in the best sense of the term. However, although the United States and the various multilateral agencies continually remind the debtor nations of their need to adjust, less seldom do they remind the creditor or industrialized nations. Commercial bankers, of course, realize full well that the United States and other creditor countries must accept imports from debtor countries if the latter are to service and repay their debt. Consequently, the bankers have joined the exporters in helping to resist protectionist pressures. (Export sectors such as agriculture have traditionally recognized, for example, that the United States must oppose large tariffs and accept imports of the manufactured and agricultural products from other countries if those countries are to have the foreign exchange to purchase our exports.) This is probably the first time in modern history that there has been such significant political support for freer trade. If it weren't for this support, we would undoubtedly have done more backsliding on protectionist measures than we have actually experienced.

As noted above, the trade deficit for creditor countries tends to have a capital inflow associated with it, yet this fact in itself does not explain the large capital inflow the United States is now experiencing. That inflow reflects in part both the large U.S. federal budget deficit and the very low savings rate in this country. As a consequence of these factors, we must borrow a great deal from abroad--especially from Japan--to finance the deficit. Thus, some part of that available capital is being pulled away from developing countries. And this problem is complicated by the fact that Japan and the countries of Western Europe have been pursuing macroeconomic policies that are the mirror-image of ours--conservative fiscal policies and relatively easy monetary policies. They have balanced or run small surpluses in what is the equivalent of their federal budgets and kept interest rates relatively low.

Apart from these problems, however, the emergence of the international capital market means that all countries willing to participate can now have access to capital from sources beyond their

border and thus can take advantage of an international pool of savings. At the same time, they can also earn the foreign exchange they need by competing in trade. Hence, economic opportunities have been expanded for all countries, although in the present crisis situation, and in light of our failure to understand the relationship between the trade and capital accounts, these new alternatives sometimes appear to be more like problems than opportunities.

Finally, it should be noted that nothing in the existence of the dual constraints on economic policy implies a zero-sum game. If economic growth can be activated worldwide and especially in the developing countries, it would spark a growth in trade, which would make it easier to service existing debts, and many countries that now appear to have too much debt would again be borrowing to spur the growth in their economies. Although this won't happen until some time in the future for most developing countries, the obvious importance of growth as a means of dealing with the debt crisis is the basis of current World Bank policy that is aimed at promoting such growth.

Implications of the Changes for the United States

One of the first and perhaps most important implications of these changes for both the United States and other countries is that a more open economy is increasingly beyond the reach of domestic economic policy. This economic reality is a major source of frustration not only for us but for other countries as well. Policies that worked in particular ways in the past no longer work in the same way, and those that once seemed effective now appear totally ineffective.

U.S. farm programs are a perfect example. Despite programs costing billions and billions of dollars, many farmers are still in serious difficulty. This is because those programs were designed in an earlier day when for all practical purposes we had a closed economy; in today's open economy, however, the programs are simply swamped by economic forces from abroad. Our smokestack industries have experienced similar difficulties. For various reasons they have not been able to compete in the international economy; contrary to some popular notions, it isn't domestic factors that are doing them in.

Second, the combination of a well-integrated international capital market and flexible or bloc-floating exchange rates causes the burden of adjustment to changes in monetary and fiscal policy to fall on the trade sectors--those that compete with imports and those that are export sectors. This is because the operative variable is the exchange rate, and as noted above, the foreign exchange market is dominated by capital and financial flows. Tight monetary policies, for example, induce flows of capital, which in turn bid up the value of the dollar relative to other currencies. This makes our export sectors less competitive, while at the same time it brings in a flood of imports to compete with domestic industries. As we have seen in recent years, our smokestack industries and our agriculture bear the brunt of the adjustment. As monetary policies ease, however, the adjustment goes the other way. Our export sectors become more competitive and those that compete with imports face

less competition. And the fact that the trade sectors bear the brunt of the adjustment stands out in a sharp contrast to the period of fixed exchange rates and a weak international capital market when the impact of changes in monetary and fiscal policies were broadly diffused in the economy.

This large international capital market combined with flexible exchange rates creates another problem as well. Large flows of capital induce large swings in exchange rates that mask underlying comparative advantage. For example, the outflow of capital and the associated decline in the value of the dollar in the 1970s gave rise to an export boom for U.S. agriculture that was not sustainable. As a result, resources were overcommitted to agriculture and other export sectors at the same time that the weak dollar--a form of protection--created a sense of complacency among sectors that compete with imports, such as the textile and automobile industries. The 1980s, on the other hand, have seen just the reverse. While neither our agriculture nor our smokestack industries seem able to compete in foreign markets or with foreign competitors, parts of our agriculture and some of our smokestack industries clearly have an underlying comparative advantage. It is just masked by the large swings in the value of the dollar in foreign exchange markets, swings which at the same time impose significant shocks on our economy and create a great deal of instability.

What these problems reveal is the need for rapid adjustment to changing economic forces from abroad. Shifts in underlying comparative advantage will add to this need. And to meet it, we will have to work harder to remain competitive by producing more technology and by raising the educational attainment of our population.

Finally, the dual constraints on economic policy that the emergence of a well-integrated international capital market imposes require us to share in the burden of the international debt crisis and other problems that arise in the global economy. One way we can help extricate those countries in economic difficulty is to be more willing to accept their imports so they have the wherewithal to service their debt. The alternative is to write off the debt and take the adjustment on our capital accounts, which is not necessarily any easier. But there is no way we can avoid making the necessary adjustments short of cutting ourselves off from the international economy and division of labor, which is certainly not in our best interests.

Accordingly, what this nation clearly needs is a more effective set of policies to enable us to adjust more quickly to changing economic conditions and thus to sacrifice less economic growth from unused resources. We have never successfully implemented adjustment policies; it is high time we did.

In conclusion, one reason we are experiencing these large shocks to our economy is that our international institutional arrangements are in such a bad state of disarray. In particular, we are beset by large monetary disturbances because the old Bretton Woods system (the fixed exchange rate system that required imbalances in the trade accounts to be corrected by changes in domestic economic policies) has broken down, and

nothing has replaced it. More generally, our economic integration internationally has far outpaced our political integration. Consequently, we have no effective way to manage the international economy cooperatively.

It is long past due that we set our minds to better understanding the recent changes in the international economy and to designing the institutional arrangements they demand. Even more crucial, it is long past due that the United States as a nation uses its economic and political power to help put a new system of international institutional arrangements in place. Institutional improvements are needed to provide greater monetary stability in this international arena, a more robust system for promoting free trade, and some means of establishing more rational international investment policies.^{1/} Unless we do help bring about these institutional changes, we may see the international economy come collapsing down around our heads.

Footnote:

^{1/} For more detail on what these institutional improvements might be, see G. Edward Schuh, The United States and the Developing Countries: An Economic Perspective (Washington, D.C.: National Planning Association, 1986), especially chap. 7.

AGRICULTURAL DEVELOPMENT IN DEVELOPING COUNTRIES
AND CHANGES IN U.S. AGRICULTURAL EXPORTS

Earl D. Kellogg

An important question to emerge in the United States over the past few years is whether providing agricultural development assistance to developing countries around the world is in the best interests of American agriculture. The concern is that increasing agricultural production in these countries has contributed substantially to the decline in U.S. agricultural exports since 1981. This paper considers the basis for this recent concern and briefly examines the evidence and data relevant to it. In addition, it discusses why U.S. agricultural exports have declined over the past five years; examines more closely the relationship between increasing agricultural production in developing countries and those countries' demands for agricultural imports; and concludes with a few comments about the future.

Why Agricultural Assistance to Developing Countries
Has Recently Become an Issue

Although the possible inconsistency between supporting agricultural development in poor countries and increasing U.S. agricultural exports has been potentially troublesome ever since agricultural development assistance began several years ago, it has only recently become a big issue. Generally speaking, three reasons can account for this.

First, international and foreign phenomena are having a growing influence on U.S. agriculture.^{1/} For example, large international capital flows affect U.S. interest and exchange rates and help finance U.S. budget deficits. All these variables affect U.S. agriculture; the floating exchange rate of the U.S. dollar alone frequently changes prices of U.S. agricultural exports and imports. At the same time, substantial increases in the value of U.S. agricultural exports and imports between 1960 and 1984 (by 721 percent and 372 percent, respectively) have in turn increased the influence of global phenomena on our country (see Table 1). Finally, the proportion of U.S. agricultural exports going to developed countries versus developing countries has changed. In FY 1976, 30.5 percent of all U.S. agricultural exports went to less-developed

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countries (LDCs) while 69.5 percent went to developed countries. The same variables in FY 1985 were 41.4 percent and 58.6 percent, respectively (see Table 2).

Table 1. Value of U.S. Agricultural Exports and Imports, by Fiscal Year

	1960 (\$ mil)	1970 (\$ mil)	1984 (\$ mil)	1960-84 Increase (percent)
U.S. Agricultural Exports	4,628	6,958	38,010	721
U.S. Agricultural Imports	4,010	5,686	18,910	372

Source: ERS/USDA, U.S. Foreign Agricultural Trade Statistical Report (various years).

Table 2. U.S. Agricultural Exports for Fiscal Years 1974-85

Year	To Developing Countries ^a (\$ bil)	To Developed Countries ^b (\$ bil)	Total (\$ bil)	Share to Developing Countries (percent)	Share to Developed Countries (percent)
1974	7.61	13.95	21.56	35.3	64.7
1975	8.27	13.55	21.82	37.9	62.1
1976	6.93	15.81	22.74	30.5	69.5
1977	8.46	15.51	23.97	35.3	64.7
1978	9.24	18.05	27.29	33.9	66.1
1979	11.04	20.94	31.98	34.5	65.5
1980	15.67	24.81	40.48	38.7	61.3
1981	18.24	25.54	43.78	41.7	58.3
1982	15.30	23.80	39.10	39.1	60.9
1983	14.45	20.32	34.77	41.6	58.4
1984	15.59	22.44	38.01	41.0	59.0
1985	12.92	18.27	31.19	41.4	58.6

Notes: ^a Includes all Latin American countries, all countries in Asia except Israel and Japan, and all countries in Africa except South Africa.

^b Includes all countries except developing countries.

Source: ERS/USDA, U.S. Foreign Agricultural Trade Statistical Report (various years); ERS/USDA, Foreign Agricultural Trade Statistics of the United States, FY 1985 supplement.

A second reason lies with the growing visibility of U.S. universities (and other institutions supported by U.S. funds) in implementing projects designed to improve agricultural production in developing countries. Legislation in Title XII of the Foreign Assistance Act has created a distinct mandate for U.S. universities to be involved in these projects, giving rise to small but identifiable international sections in many institutions, and state clientele are raising questions about such international activities.

And third, U.S. farm problems affecting farmer net income and net worth positions have become more severe in the past four to five years. In many regions, farmers are facing declining asset values, heavy debt burdens, high interest rates, low product prices, and reduced export sales (see Table 2).

Whether Increased Agricultural Production in Developing Countries Has Caused U.S. Agricultural Exports to Decline

If increased agricultural production in developing countries has been the reason for the decline in U.S. agricultural exports, one or more of the following conditions would also have to exist:

- * Significant increases in total and per capita agricultural production in LDCs since U.S. agricultural exports began to decline in 1980-81;
- * Increases in agricultural exports of LDCs; or
- * Significant reductions in total agricultural imports by LDCs.

Regarding the first point, from 1980-81 to 1983-84, total agricultural production in LDCs increased only 2.5 percent annually.^{2/} Further, per capita agricultural production in these countries has remained essentially constant since 1973-74; only in East Asian LDCs has it increased substantially in the past decade. Thus, since LDC regions in general have shown little or no improvement in per capita agricultural production in the mid-1980s versus the early 1980s, they have apparently undergone no widespread boom in agricultural production to have caused the volume of their agricultural imports to decline.

As to possible increases in agricultural exports of LDCs, in 1970, developing countries accounted for 38 percent of the world's agricultural exports, whereas in 1980 the value declined to 32 percent, and in 1983 it was 29 percent.^{3/} Overall, agricultural exports by LDCs during the 1980s have been steady to declining. Therefore, developing countries in general have not been taking away U.S. agricultural export markets. On the contrary, LDCs are losing agricultural export market shares, not increasing them.

Finally, far from being reduced, the value of developing countries' agricultural imports from 1974 to 1984 in fact increased by 141 percent. For the last four years of that period, however, their value declined, but that was only by 4 percent, or \$2.5 billion. Moreover, if measured

from 1982 to 1984, the value of those imports actually increased by 6.3 percent,^{4/} and in 1984 it was higher than in any other year except 1981. In addition, from 1981 to 1984, when their value was falling, the volume of agricultural imports by developing countries actually increased.^{5/}

Apart from these points, it should be noted that from 1968 to 1983, the developed world, excluding the United States, increased its market share of LDC agricultural imports from 27 percent to 41 percent. The U.S. market share during the same period, however, increased only from 31 percent to 33 percent.^{6/} Therefore, the United States has not increased its share of the LDC agricultural import market nearly as fast as have other developed countries.

In summary, then, there has been no major increase in per capita agricultural production in LDCs in the 1980s; the share of world agricultural exports accounted for by LDCs is declining, not increasing. And although LDC agricultural imports have been declining slightly in value in the 1980s, they have been increasing in volume, and other developed countries have been able to increase their share of the LDC agricultural import market much faster than has the United States. Therefore, based on the data, it is illogical to maintain the notion that increased agricultural production in developing countries has been a major factor behind the decline in U.S. agricultural exports over the past five years.

Why U.S. Agricultural Export Values Have Declined Since 1981

If decreases in U.S. agricultural exports cannot be blamed on developing countries' increases in agricultural production, why have U.S. agricultural exports declined from \$43.8 billion in 1981 to \$31.2 billion in 1985?

Significantly, the United States is the only major exporting country to experience an absolute decline in export volume in the 1980s, and that was due entirely to a loss of market share in world agricultural exports. World export volume, on the other hand, increased by 1.7 percent per year from 1981 to 1984. Therefore, it is not fair to say that the world agricultural export market has collapsed. It has grown, but the U.S. share has declined.

One study shows that since 1981, the volume of U.S. agricultural exports has decreased far less than their value (20 percent versus 35 percent).^{7/} About 60 percent of the decline in value of U.S. agricultural exports can be attributed to declines in exports to developed countries, and 40 percent rests with declines in exports to LDCs. Thus, the bulk of the problem is with U.S. exports to the developed world. In addition, the decline in the value of U.S. agricultural exports to LDCs since 1981 (\$5.3 billion) is greater than the total decline in agricultural imports of the developing world (\$2.5 billion) over the same period. Therefore, it is not logical to blame LDCs for buying fewer U.S. agricultural exports when LDC total agricultural imports have not fallen by very much. The problem is that the United States is not keeping pace with other countries for the LDC agricultural import market.

Why, then, has the value of U.S. agricultural exports declined over the past five years?

The first reason is that from 1980 to late 1984, the U.S. dollar increased in value against many currencies. This raised prices for all exports from the United States, and a recent USDA study has estimated that the resultant decline in volume of U.S. agricultural exports amounted to \$6 billion between 1981 and 1983.^{8/} Although the value of the U.S. dollar has been falling since early 1985 relative to some currencies (e.g., the Japanese yen and German mark), this decline has not been as substantial against many other important currencies. From February 1985 to August 1986, the U.S. dollar declined only 4 percent against 17 currencies of important U.S. buyers and competitors.^{9/} It has actually risen against the currencies of several nations including Canada and Mexico. Further, because some currencies are "pegged" to the U.S. dollar, it is difficult to devalue the dollar against these currencies. Given these situations, it will take longer to reduce U.S. agricultural export prices through U.S. dollar declines than might be expected.

Second, other developed countries have increased their agricultural exports, thus increasing their share of the world agricultural export market from 44 percent in 1975 to 49 percent in 1983 while the U.S. share has remained relatively constant.^{10/} For example, the U.S. share of world wheat exports declined from 45 percent in 1978-79 to about 28 percent in 1985-86.^{11/} The countries that were increasing their shares during this time were Canada, Australia, Argentina, and those in Western Europe none of whom have received agricultural development assistance from the United States for decades.

Third, developing countries have reduced their growth in imports of agricultural products. This can be partly attributed to decreasing availability of foreign exchange in these countries. From 1970 to 1983, the percent of GNP that was debt service among LDCs increased 73 percent in low-income countries, 187 percent in lower middle-income countries, and 176 percent in upper middle-income countries.^{12/} During this same time, exports of LDCs generally decreased: the annual decline from the mid-1970s to 1983 was 0.8 percent for low-income countries and 0.4 percent for lower middle-income countries, although upper middle-income countries saw an annual increase of 0.5 percent. Out of 73 countries with data listed in the 1985 World Bank World Development Report, only eight (11 percent) had positive current account trade balances. Thus, foreign exchange in developing countries for agricultural imports is becoming more scarce. Yet even with all their economic difficulties in the 1980s, developing countries have been growing in importance as markets for U.S. agricultural exports (see Table 3).

Reduced growth in agricultural imports among developing countries can also be attributed to their slower economic growth. One study reports that annual GNP growth among LDCs, which averaged a strong 6 percent during the 1970s, fell to 1.4 percent in 1981, to 0.9 percent in 1982, and to a dismal 0.4 percent in 1983.^{13/} Further, GNP per capita in many developing countries has declined in the 1980s.

Table 3. Percent of U.S. Farm Exports That Went to Developing Countries

<u>Category</u>	<u>1980</u>	<u>1983</u>
Food Grain	55	67
Coarse Grain	29	42
Oil Seeds	15	19
Cotton	42	44

Source: R.L. Paarlberg, United States Agriculture and the Developing World: Partners or Competitors? Final report of an agricultural policy study (Washington, D.C.: Curry Foundation, 1986).

A fourth reason for the declining value of U.S. agricultural exports since 1981 lies with U.S. policies in support of agricultural prices. These policies have tended to increase world prices above what they would have been otherwise, thus encouraging other countries to increase agricultural production and exports. Additionally, U.S. restrictions of agricultural exports to several countries in the 1970s, and at other times to the Soviet Union, may have also made it attractive for other countries to enter the agricultural export business.

And fifth, the centrally planned countries have decreased their agricultural imports since 1980. At that time, they accounted for 11 percent of the world's agricultural imports; in 1983, they accounted for only 8 percent.^{14/}

Not one of these reasons for the decline in U.S. agricultural export values since 1981 has much to do with increasing agricultural production in developing countries. Moreover, many researchers feel that the total volume of U.S. agricultural exports, which rose more than 10 percent annually during the 1970s, will return to a more normal long-term growth rate of 2 to 3 percent annually between the early 1980s and the year 2000. The mid to late 1970s was an extraordinary period, and the conditions that defined it may not be repeated for some time to come.

Relationship Between Agricultural Production and Imports In Developing Countries

Does increased agricultural production in developing countries necessarily mean they will decrease their agricultural imports? Before this question can be answered, four important characteristics of developing countries must be acknowledged:

- * Agriculture accounts for a significant proportion of their total economic activity.
- * As incomes increase, significantly more is spent on both more food and diet diversification; food expenditures may increase 5

to 6 percent for a 10 percent increase in income. In many LDCs, 40 to 60 percent of income is spent on agricultural products, and as incomes rise, more is spent on meat and dairy products, which in turn increases the indirect demand for feed grains. Primarily for this reason, per capita grain consumption in developed countries is typically two-and-a-half to four times that in developing countries.

- * In general, people who work in agriculture have lower incomes than those who do not. Therefore, an increase in income for agricultural workers will create a higher demand for food than the same increase would cause in the nonagricultural sector.
- * Population growth rates in developing countries, while declining slightly, are still relatively high and will remain higher than those in developed countries for many decades.

These characteristics indicate there may be strong possibilities for relatively high growth rates in the demand for agricultural products in developing countries.

Theoretically, greater agricultural production in LDCs might affect their agricultural imports in several ways. Some effects may be negative. For instance, production of a specific commodity may increase faster than domestic demand for it, which may cause the volume of imports of that commodity to decrease. Or the increased production of a certain commodity may be exported, thus replacing exports of another country.

On the other hand, increased agricultural production in LDCs may have positive effects on their agricultural imports. First, income generated from increased production of certain agricultural commodities may cause the demand for other agricultural commodities to increase faster than domestic supply. Second, increased production of certain commodities might be exported to earn foreign exchange for more agricultural imports. Third, as production increases for certain commodities, land and other resources may need to be transferred from production of other commodities; and imports of these commodities may increase to compensate for this change in output mix. Fourth, more agricultural products may be imported for use as inputs (e.g., new variety seeds and livestock breeding stock) or as commodities to ensure full capacity operation of agricultural processing industries. Finally and most important, increasing agricultural production is necessary for economic growth and increasing incomes in most LDCs, which is vital if they are to remain good customers for U.S. agricultural exports. Therefore, to support and increase economic development, many developing countries will have to increase their domestic agricultural production.

Is there any solid evidence that such a positive relationship exists in developing countries between increased agricultural production and changes in agricultural imports? One study has shown that the sixteen developing countries with the most rapid growth rates in staple food production between 1961 and 1976 also increased their net staple food imports by 133 percent during this period.^{15/} In another study, the group of eighteen developing countries with the most rapid growth rates

in per capita food production between 1970 and 1982 also increased total agricultural, corn, and soybean and soybean product imports at respective rates of 34 percent, 97 percent, and 257 percent faster than the group of thirteen developing countries with the slowest growth in per capita food production.16/

Further, even developing countries that have become net exporters of agricultural products can also be expanding markets for certain agricultural imports. For example, Malaysia, a consistent net exporter of agricultural products, increased her imports of food, feed grains, and oil seeds from a wheat equivalent basis of about 1 million metric tons to almost 2.4 million metric tons from 1967 to 1983.17/ In addition, from 1970-72 to 1980-82, Brazil, a country that competes with us in soybean product exports, increased her imports of wheat and wheat products and corn and corn products from the United States by 27 percent and 86 percent, respectively. Moreover, between 1970 and 1984, a time when Brazil was rapidly increasing her own agricultural production, the quantity of U.S. agricultural exports to Brazil increased by 8.7 percent per year while the value of those exports grew by 16.3 percent per year.18/ Finally, while the United States is acknowledged as a large net exporter of agricultural commodities, not so well recognized is its status as the world's third largest importer of agricultural products: note, for example, its 233 percent increase in agricultural imports from 1970 to 1984 (see Table 1). As these examples show, increasing agricultural production along specialized comparative advantage lines in developing countries can complement increasing agricultural exports to them.

Lastly, in a recent analysis of sixty-five developing countries from 1970 to 1982, for those LDCs experiencing growth in per capita agricultural production, a positive and significant correlation was found not only between such production and per capita agricultural imports but also between such production and per capita income.19/ Also in this study, per capita income emerged as the most important variable affecting agricultural imports; increases in income spurred the demand for commercial agricultural imports and embodied services. In this study, there was no evidence that increasing agricultural production had a negative and significant effect on agricultural imports. A similar study found that the relationship between developing countries' agricultural productivity per worker and per capita Gross Domestic Product (GDP) was positive and significant. In addition, a strong and positive relationship was found between per capita GDP and agricultural imports of developing countries.20/

The conclusion to which all this evidence points is that for LDCs, increases in agricultural production are necessary for widespread income growth, which leads to increases in agricultural imports. Because of this, LDCs with the faster-growing agricultural sectors were the faster-growing markets for U.S. agricultural exports. Thus, American agriculture has nothing to gain and much to lose from slowing down agricultural development in developing countries.

Regardless of one's position on the issue of how agricultural development assistance in LDCs affects American agriculture, it is clear

that U.S. government expenditures on such assistance in developing countries are relatively small. U.S. domestic agricultural commodity price and farm income support expenditures in 1983 (not even counting the Payment in Kind, or PIK program) were twenty-five times larger than were U.S. expenditures on agricultural, rural development, and nutrition assistance programs for LDCs. Or, to put it another way, what we spent on agricultural development assistance was only 4 percent of what we spent in support of domestic agricultural programs.21/

There are exceptions to this general proposition that agricultural development boosts broad-based income growth and thus the demand for imported agricultural products. First, while agricultural production has increased dramatically in China, China has reduced imports of wheat and corn. This is a result both of China's strong policy emphasis on increasing foreign exchange availability and of her lack of a well-integrated, functioning internal market. The Chinese simply decided to increase their exports and reduce their imports, no matter what happened in the mid-1980s. For example, when their corn production fell by 13 percent in 1985, contributing to noticeable feed grain shortages in parts of China in 1986, corn exports were continued to increase foreign exchange availability. If the Chinese can better integrate their internal marketing system and relax their conservative foreign exchange policy, larger agricultural import demands can be expected.22/

Second, India is often cited as a developing country that has begun exporting agricultural commodities--in this case, wheat. This is not because she has met all of her internal food needs, but because of a lack of effective demand and poor performance in the nonagricultural sector. If the millions of poor and undernourished Indians should achieve substantial increases in income, India's current food grain trade posture might be transformed. Also, India imports many agricultural products even though she is a very small net exporter of wheat.

Finally, there are exceptions to this general proposition: the developing countries that export large amounts of oil or minerals and therefore do not necessarily have to develop their agricultural sectors to achieve income increases in the intermediate term.

The Likely Scenario for the Future

Looking ahead to the future, the food gap in developing countries between production and demand will probably increase moderately over the next two decades. A recent study by the International Food Policy Research Institute has indicated that the overall net food deficit, which was 50 million metric tons in 1980, will be about 70 million metric tons by the year 2000.23/

In addition, many developing countries that have had difficult economic times in the past few years will need to improve their foreign exchange positions and income growth records to continue as growing markets for agricultural imports. To accomplish these goals, agricultural development must be an important part of their plans.

At the same time, while LDCs will probably not be the growth market for the next twenty years that they were for agricultural imports from 1973 to 1981, they can be the most important growth market for agricultural exporters. Whether the United States can effectively compete with other developed countries for these developing country markets is another question.

Finally, macroeconomic forces such as interest rates, foreign lending, currency values, LDC export performance, trade barriers to LDC exports, oil prices, and other variables will have major impacts on developing countries involved in importing agricultural products. If LDCs are forced to turn inward by a lack of export opportunities and foreign assistance, and if they adopt import substitution and self-sufficiency policies, they may increase their agricultural imports only slowly. If this happens, it will probably be because of unfavorable macroeconomic forces and poor agricultural development performance rather than because agricultural production grew faster than the demand for many agricultural commodities.

Clearly, one can find examples of certain developing countries that have reduced their imports of certain commodities over a specific time period. But generally speaking, LDCs are the best hope for expanded markets for the world's agricultural exporters. For this hope to be realized, however, these countries will have to generate employment opportunities and achieve income increases for the billions of low-income people they contain, and this will require their successful agricultural development. Effective development assistance in agriculture that improves employment and income in developing countries can benefit vast numbers of poor people as well as American agriculture. Thus, the broader picture is one of mutual benefit for both American agriculture and agricultural development in poor countries.

Footnotes:

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DEVELOPING COUNTRY FARM PRODUCTION AND U.S. FARM EXPORTS:
THE DECISIVE ROLE OF POLICY

Robert L. Paarlberg

How will farm production in the developing world affect U.S. agricultural exports? Some U.S. farm producers worry that every additional bushel of output in the developing world means one less bushel of foreign sales for U.S. agriculture. Acting on this simple belief, they oppose additional international assistance to farmers in these poor countries. But agricultural economists, in growing number, have come to recognize that added farm production in the developing world can actually benefit U.S. agriculture by stimulating broad-based income growth and foreign exchange earnings; this, in turn, gives the poor citizens of the developing world the means they need to upgrade their diets and thus become better customers for U.S. farm products.^{1/}

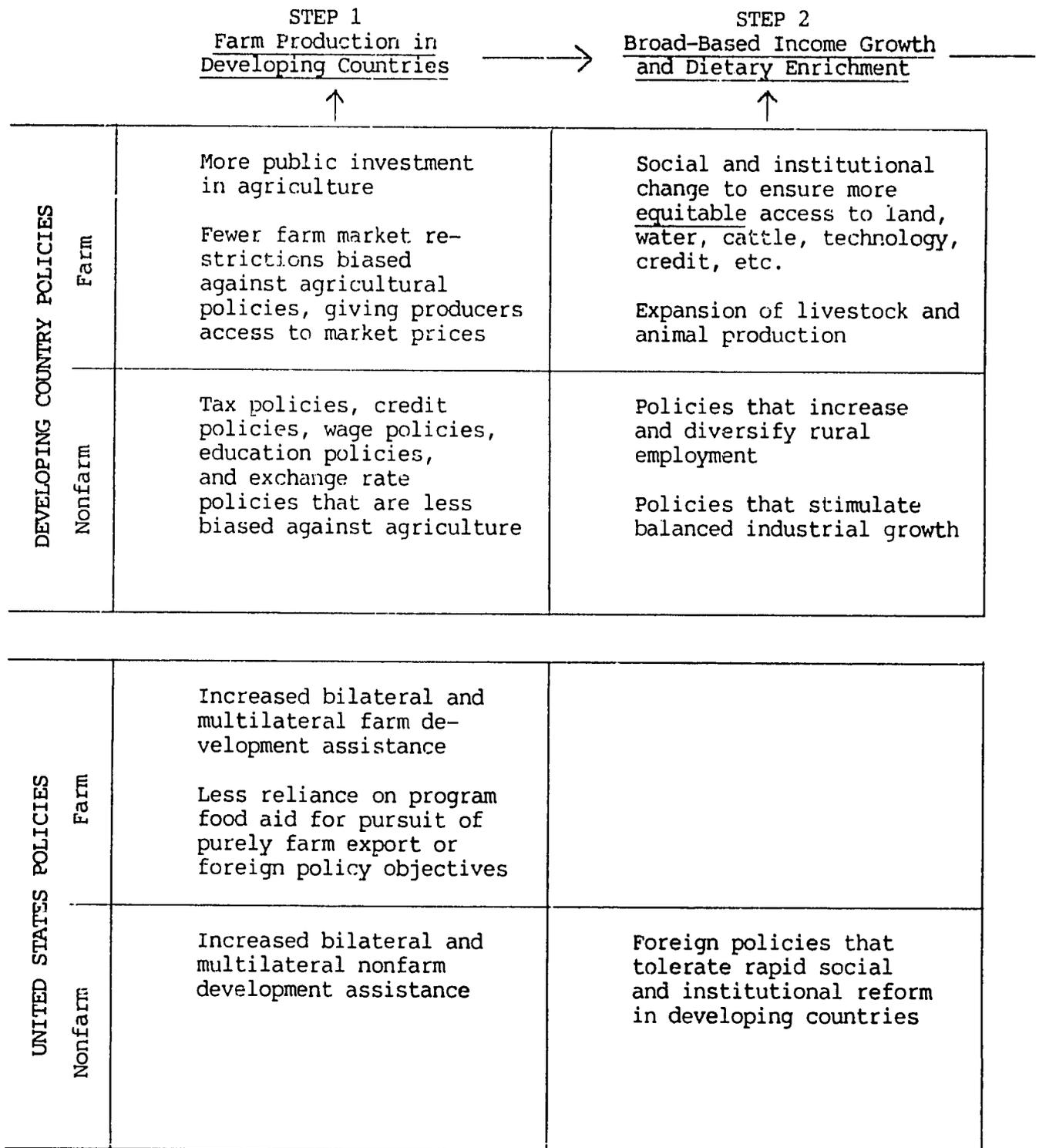
A closer look reveals that there can be no one simple answer to this question. Added farm production in the developing world can be either helpful or harmful to U.S. farm trade, depending largely on the farm and nonfarm policies that happen to be in place at both ends of the relationship.

Government policies are decisive because the economic links between farm production in the developing world and farm trade are actually quite weak and indirect and are therefore susceptible at many points to change through policy action. For added farm production in the developing world to benefit U.S. farm trade, policies must be established to help these weak links form in a strong and positive fashion. Without such policies, these links can fail to form, or they can even form in a negative fashion, in which case added farm production in the developing world can adversely affect U.S. farm trade.

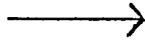
For more farm production in the developing world to lead eventually to more U.S. farm exports, several important intermediate steps must be taken (see Figure 1). First, the structure of farm production in the developing countries must be organized to yield broad-based income gains, leading to broad-based economic growth and dietary enrichment. Second, these agriculturally successful and rapidly growing developing countries must then decide to sustain this enrichment of diets through larger farm imports. And finally, they must then decide to purchase their larger imports from the U.S. rather than from some other foreign supplier. Only

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Figure 1. Policies for Promoting Additional Farm Production and Income Growth in Developing Countries Together with Additional U.S. Farm Exports to Developing Countries



STEP 3
Larger Developing
 Country Farm Imports



STEP 4
Larger U.S. Farm Exports
 to Developing Countries



Development strategies built around openness to trade	

Relaxation of import restrictions on tropical farm products, accompanied by structural adjustments to downsize domestic production	Market-oriented domestic commodity policies to ensure competitive export pricing Trade liberalizing agreements with other developed countries
Industrial trade policies, international debt policies, and domestic macroeconomic policies designed to produce world trade expansion, including expansion of developing country exports	Fiscal policy discipline and international monetary policy coordination to stabilize and reduce dollar exchange rates

through this full sequence of positive steps can farm output growth in the developing world benefit farmers in both the developing world and the United States.

Successful completion of these intermediate steps will depend heavily on government policies--farm and nonfarm--in the developing world as well as in the United States. The kinds of policies that can support these steps are also summarized in Figure 1. Across the top are the four separate steps that must link together to provide mutual benefits to farmers at both ends. The appropriate policy measures needed to ensure that these steps link together properly are discussed below.

While the first step in the process--increased farm production in the developing world--must be supported by a broad mix of policies at both ends of the relationship, the heaviest burden of policy responsibility must be accepted by leaders in the developing world. In the past, too many of these leaders have stifled their own farm production by accepting low levels of public investment in agriculture and by holding in place price-depressing marketing restrictions, overvalued exchange rates, tax policies, credit policies, education policies, and wage policies all biased against the farm sector. Such policies are embraced because they are useful for buying political support from powerful city-based elites in the short run, but they have the unfortunate effect of damaging agricultural production in the long run. Wherever such "urban-biased" policies have been followed--most conspicuously today in sub-Saharan Africa--agricultural production has been set back. Wherever they have been reformed--for example, in India in the 1960s and in China in the late 1970s--governments have been rewarded with strong farm production.

Policymakers in rich countries such as the United States can also help boost developing country farm production by making more foreign aid available to facilitate expensive investments in irrigation, fertilizer production, storage facilities, and rural road construction. Experience shows that development assistance from outside is neither necessary nor sufficient for boosting farm production in poor countries. China did it without foreign aid, and countries like Tanzania and Zaire have failed to do it even with such aid. But generous foreign assistance has played a key role in some of the most spectacular instances of farm production success in the developing world--for example, in South Korea and Taiwan in the 1950s and early 1960s. In the years after 1945, South Korea received \$13 billion in U.S. foreign economic and military aid, and Taiwan received \$5.6 billion. The rapid growth of agricultural and industrial production that followed in both countries has now made them good customers for U.S. farm products. Despite their relatively small population size, they import more wheat and coarse grains every year than all of the poor and "hungry" countries of sub-Saharan Africa combined.

Unfortunately, this kind of generous U.S. foreign assistance is a thing of the past. Among the seventeen major non-Communist nations that offer foreign assistance to the developing world, the United States now ranks a lowly fifteenth in terms of level of effort, giving less than three-tenths of 1 percent of its GNP every year, only half the level of effort that was being maintained twenty years ago.^{2/} And only a limited

part of today's small U.S. assistance budget is actually of direct benefit to farm producers in the poorest countries. For diplomatic and strategic reasons, 40 percent of all U.S. foreign aid is now going to just two (not-so-poor) Middle Eastern client states: Israel and Egypt. All the poor nations of sub-Saharan Africa together get only about one-tenth as much, and a decreasing amount of this small quantity is now being dedicated to agriculture. In 1986, the U.S. Agency for International Development (USAID) budget for agriculture was cut by \$100 million.

One kind of outside "assistance" that is not always well suited to helping poor countries increase their own farm production is food aid, especially "program" food aid, which is given not for the legitimate purpose of short-term famine relief, but instead to pursue foreign policy objectives or simply to reduce U.S. government surplus stocks. Although program food aid does give poor country governments a "resource" they can sell in the local market to keep their own food prices down and to earn budget revenue, these lower food prices can harm local farm producers, and there is usually little reason to believe the revenue earned will be reinvested in the farm sector. As often as not, program food aid gives poor countries more leeway to continue neglecting their own farm production potential.

As for the second step in the process--broad-based income growth and dietary enrichment--the burden of responsible policy action falls even more squarely on the shoulders of leaders in the developing world. These leaders, sometimes against their own political instincts or class interests, will have to embrace social and institutional policies that ensure that a full majority of the rural population will enjoy access to land, water, cattle, credit, education, technology, or whatever else drives the agricultural growth process forward. Without such policies, any income gains that might come from agricultural expansion will go into the pockets of only a narrow elite. Such income will be spent on wasteful luxury goods consumption rather than on increased food imports, or it will simply disappear into foreign bank accounts.

At this point in the process, if equitable access to land in particular is not available, a sudden increase in the production potential of agriculture may even worsen the income situation of the poor rural majority. If agriculture suddenly becomes more profitable, peasants and rural laborers without secure access to land may be pushed off altogether by politically powerful and well-to-do elites, who will move in to dominate the agricultural development process. This problem of insecure peasant access to land is perhaps most pronounced in Latin America, and it is no coincidence that agricultural modernization in that region, while often leading to substantial gains in farm production, does not as often lead to broad-based gains in peasant income, and from there to broad-based commercial demands for dietary enrichment.

At the third step in the process, providing there has been no malfunction so far, agriculturally successful and newly wealthy developing countries must decide to satisfy their growing internal dietary needs by importing more farm products from abroad, rather than by trying to provide for all their needs from local production. Political leaders in these countries must be prepared to recognize the economic

gains that can be captured through international trade. They must be prepared to specialize their own production and to depend on foreign suppliers for some of those farm products--particularly animal feedstuffs--in which they may have no "comparative advantage."

Developing countries that have been willing to capture efficiencies through trade have tended to grow more rapidly than those pursuing quasi-autarkic "import substitution" strategies. But the ability of political leaders in poor countries to make this choice can at times be constrained. If political leaders in wealthy trading countries such as the United States decide to impose trade restrictions that reduce the export opportunities of poor countries, the foreign exchange earnings of those poor countries will be reduced, and their import options--including food import options--will be reduced as well.

In the area of farm trade policy, the United States does not always do its share to allow agriculturally successful developing countries to earn the foreign exchange they need to become better customers for U.S. farm exports. Developing countries that produce and export sugar, for example, now find most of the U.S. market closed to their sales. To protect relatively inefficient but politically powerful U.S. sugar producers, the U.S. Congress has enacted legislation that is now rapidly shrinking the "quota" of sugar poor country exporters are permitted to sell in the United States. Since 1981, the total quantity of sugar that twenty-two poor countries in Latin America and the Caribbean have been able to sell in the United States has shrunk from 3.2 million tons to just 1.1 million tons, reducing their earnings from \$1.4 billion down to \$432 million. In 1987, U.S. sugar quotas are scheduled to be tightened once again, shrinking the projected earnings of these countries to just \$238 million.^{3/}

Protectionist policies for U.S. manufactured trade have also tended to get in the way of the foreign exchange earnings developing countries must have to become good customers for U.S. farm products. How can nations like China be expected to purchase more farm products from the United States so long as their textile exports to the United States are encountering protectionist restrictions? Reacting in part to a tightening of these restrictions in 1983, China reduced her wheat purchases from the United States by \$500 million. And how much longer can South Korea be expected to make unrestricted farm trade purchases from the United States if the United States continues to place restrictions on 45 percent of what South Korea has to sell? Early in 1987, under pressure from protectionist interests in Congress, the United States made things even harder for South Korea by reducing her "duty free" access to the U.S. market by 24 percent. Three other good U.S. farm customers--Taiwan, Mexico, and Brazil--were treated similarly.

Unbalanced and unpredictable U.S. fiscal and monetary policies have also created an environment uncondusive to agricultural trade expansion at this third step in the process. The ability of poor countries to borrow as well as to earn foreign exchange was badly compromised during the first half of the 1980s by a sudden tightening of U.S. monetary policy, which was necessary in part to offset the inflationary consequence of an undisciplined U.S. fiscal policy. Heavily indebted and

export-dependent developing countries--especially in Latin America--were shocked both by the sudden surge in real interest rates and by the world recession and general trade collapse that followed. Unfortunately, a continued lack of discipline in U.S. fiscal policy (indicated most recently by a sequence of annual federal budget deficits in the \$200 billion range) has made it difficult for the U.S. Federal Reserve Board to relax monetary policy without reigniting inflation. These circumstances constrain economic growth and keep interest rates relatively high, all to the continuing disadvantage of the debtor countries.

Even if all the foregoing problems could be remedied, U.S. trade gains in the developing world might still be lost at the fourth and final step in the process. Just because agriculturally successful developing countries may be willing and able to upgrade their diets through expanded farm imports does not guarantee that those imports will come from the United States. If the export price attached to U.S. farm products is relatively high compared with that of the foreign competition--perhaps because of either high U.S. domestic farm price support guarantees or high dollar exchange rates--the trade business may go elsewhere.

Many of the difficulties U.S. farm exporters began experiencing during the first half of the 1980s arose precisely out of noncompetitive export pricing. The 1981 farm bill set U.S. domestic farm price supports at levels that became noncompetitive soon after the onset of the 1982 world recession. This U.S. posture was then badly compounded by a sudden and sharp increase in the exchange rate of the dollar. Foreigners not holding dollars found the price of U.S. farm products suddenly going up for them, even while the dollar price of U.S. farm products was falling at home. The cumulative result was a loss of U.S. export shares in the developing world to more competitive non-U.S. farm producers. The U.S. share of world wheat exports fell from a strong 48 percent in 1981 down to 29 percent by 1985.^{4/}

With dollar exchange rates now adjusting downward and with a considerably lower price support structure built into the 1985 farm bill, export competitiveness has been restored and the U.S. share of farm sales to the developing world can at last begin to recover. But the high "deficiency payment" guarantees still contained in the 1985 farm bill have now resulted in such large budget outlays as to call into question the durability of this more "market-oriented" U.S. pricing policy. If the United States moves to mandatory production controls in a misguided attempt to reduce these budget outlays at the expense of U.S. consumers, the recent gains in competitive export pricing could be quickly lost.

Several generalizations emerge from this brief review of the policies that are needed to ensure that more farm production in poor countries will lead not only to the welfare of those poor countries, but also to farm trade gains for U.S. agriculture. First, in the absence of some of the policies considered here, the positive links described in Figure 1 might turn negative. For example, without the successful completion of step 2--without broad-based income gains and dietary diversification in the developing world--a production success at step 1 might lead to fewer imports rather than to more imports at step 3. The final effect on U.S. farm exports at step 4 could then become negative.

Second, as we move from left to right on Figure 1, away from production and income problems in the developing world and into the realm of international trade, the burden of policy responsibility shifts away from leaders in the developing world and onto the shoulders of policymakers--especially those concerned with trade and macroeconomics--in the United States. All the success we might hope for at steps 1 and 2 can be nullified by unwise manufactured trade policies or unbalanced U.S. macroeconomic policies at steps 3 and 4.

Given these risks, should the odds against securing the positive trade relationship the United States is after be considered too high? No matter how high they seem, quantitative evidence from the recent past has shown that this positive relationship can indeed be formed.^{5/} Further, what choice do U.S. farm exporters have? Since developing country markets will soon be the only growth markets available to them, U.S. farm producers cannot afford to ignore the policies required to promote the mutually beneficial expansion and exploitation of these markets.

Footnotes:

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