What is the future of agriculture? 2

By William Cochrane special writer

OST AMERICANS today are understand-ably complacent about their food sup-ply. For much of this century, farmers have produced more than Americans could consume. This surplus has kept food prices relatively low and much lower than in most other

relatively low and much lower than in loss char-countries.

But it may be time to do some hard thinking.
Although there is no cause for Americans to worry about going hungry in the next 21 years, there are certain economic developments, particularly on the international scene, that will affect their food sup-ply and their standards of living.

CHANGES IN AMERICAN FARMING

Major changes in the American agricultural industry since the early 1930s have made it more dependent on energy resources and more vulnerable to change in the world market. Fewer and larger farms, using more capital and energy and less labor, are producing ever-increasing amounts of food. Largely through the magic of new technology, the number of people supplied with farm products by each farmworker has risen from 9.8 in 1930 to 57 à in 1979.

67.9 in 1979.
Increases in farm productivity have outstripped population growth. In recent years, much of the resulting surplus has been shipped abroad. By 1979, when one-third of agricultural production was destined for export, the agricultural sector of the economy had become fully integrated into the

world market.

Much of the world was dependent on the United States for food, and the United States was dependent on that foreign market to absorb its agriculturation.

can un an sorigin market to absorb its agricultural surplus. Concurrently, a giant service industry has devel-oped to provide farmers with such nonfarm-pro-duced supplies and equipment as tractors, harvest-ing machinery, fertilizer, fuel, pesticides and mixed feeds. And beyond the farm gate, a giant food and fiber marketing system has developed to assemble, transport, process, package and retail the products of the farm. These two industries now dwarf the national farming operation itself. There is every reason to believe that these trends will continue into the 1990s and on to the year 2000. Should they cause American consumers to worry about a serious food shortage in the nate 20 years? In a strictly physical sense, the answer is no, for a number of reasons. First, domestic supplies could be increased by

an a strictly physical sense, the answer is no, for a number of reasons.

First, domestic supplies could be increased by reducing food exports. Second, domestic supplies could be augmented by reducing our consumption of meat and eating grain directly, as do most of the world's people. Third, although an estimated 3 million acres of potential cropland are lost every year to highways, boxsing developments and other non-farm uses, some 125 million new acres could be brought into production if high farm prices warranted it.

SCARCITY OF RESOURCES

On the other hand, the growing worldwide scarcity of critical resources is cause for concern.

The most important friedling Americans in most important energy crisis—or, more specially the petroleum crisis—in and the oil supply situation for the 180ts appears still more perilous. The worldwide petroleum crisis has several implications for American agriculture. First, it is causing the prices of nonfarm produced necessities, such as pesticides and machinery, to rise rapidly. Second, it is creating balance-of-payment problems for many countries, which will, in turn, give rise to

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The World Food roblem," "Ameri-"Agriclutural Devel opment Planning" and "The Develop-ment of American



food and people

pressures for food self-sufficiency within those

countries.

Third, this development, taken with the possibility of the petroleum crisis inducing a worldwide depression, would reduce significantly the export demand for U.S. grains and cause the domestic price of grains to sag to the level of government price export.

of graums to so, to the support. Fourth, the interruption of oil imports into the United States would play havoc with current production practices in agriculture, with the transport of agricultural products, and ultimately with the location of agricultural production.

location of agricultural production.

RELATED TO the energy crisis is the growing scarcity of available arable land and water in both the developed and less developed countries. There is precious little new land in favorable climates that can be brought into crop production easily and cheaply. And water to irrigate additional cropland is now in very short supply.

More important, the interaction of the growing scarcities of land, water and energy operates as a drag to increase food production. Energy is required in ever-larger amounts to increase total agricultural production where dwinding supplies of water must be pumped long distances to new lands that in turn had to be leveled or diked or drained or cleared to produce crops. And increased application of fertilizers.

The whole process is technically feasible, but increased production can take place only at higher and higher costs, which must result in higher and higher food prices worldwide. This is the meaning of the increased scarcity of conventional resources.

THE INTERNATIONAL MARKET

Resource scarcities, together with political chaos in much of the less developed world, are causing increases in food production to lag behind population growth in most of Africa, much of the Middle East, and parts of Latin America.

East, and parts of Latin America.

This lag in food production is also occuring in countries with central planning, such as Poland, the Soviet Union and perhaps the People's Republic of China. It is causing, and will likely continue to cause, those parts of the world to increase their imports of grain, causing the price of grain in the world market to rise. And since the United States in example, and the state of grain in the United States is likely to rise over the next 20 years.

fully intergrates into an account of the products are "man-grain in the United States is likely to rise over the next 20 years.

Finally, since meat and dairy products are "man-ufactured" out of grain, the price of these products to American consumers is also likely to rise.

In other words, if the conditions outlined above materialize, American consumers will be spending a larger share of their disposable incomes for food in the year 2000 than today.

Furthermore, world grain prices are likely to fluctuate widely, sharply and unpredictably as a result of abnormal weather conditions, wars and changes in the internal economic policies of such countries as the USSR, China and India. Thus, prices received by American farmers are at so likely to fluctuate widely, sharply and unpredictably. Further, farm input prices are likely to rise as a result of soaring energy prices and inflation, leaving American farmers caught in some unpredictable race between rising product prices and rising input prices.

input prices.

Thus, Americans are going to be subjected to some large, but unpredictable, short-run price movements in farm products as well as a general upward trend in prices.

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DOMESTIC POLITICS

Given the above scenario, we can expect con-sumers to petition the government to assist them to hold down the price of food by operating a grain reserve, restricting food exports, expanding domes-tic food programs (for example, food stamps), and perhaps imposing price controls. Farmers, on the other hand, are likely to petition the government to refrain from doing most of these things and instead to maintain effective price sup-ports for farm products and to assist them to ex-nand exports.

pand exports.

It thus seems likely that there will be some intense political struggles over domestic food and agricultural policy in the next 20 years. But both consumers and producers of food should agree on the

ricultural policy in the next 20 years. But both con-sumers and producers of food should agree on the desirability of increased research and development in the areas of energy and of food production and distribution.

In the short run, there will be some difficult, but not monumental, problems for Americans in the food and agricultural sector. But the development food and agricultural sectors in the con-traction to increasing world food production, Americans can avoid any serious reduction in Unique standards, and villagers in Africa and South Asia can avoid starva-tion.

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Next week: Reporter Dan Morgan of the Washington Post discusses "The Politics of Food."



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