

DECLINE IN PRODUCTIVE FARMLAND

I am pleased to be a part of this 34th Annual Forum as you focus on forces affecting the future of free enterprise in farming. Free enterprise is the rock that our Nation's total economy builds upon. Farming, and the land and water it uses, are essential ingredients in that total economy.

The present and future condition of our farmland has concerned me throughout the 38 years I have worked for the Soil Conservation Service. Primary focus of my concern, and of our work in the SCS, is on the problems of the private sector caused by the loss of agricultural productivity due to (1) excessive topsoil erosion, (2) too much or too little water for agriculture, and within the last decade, (3) the growing conversion of agricultural lands to other uses.

The driving forces behind the loss of agricultural productivity are many and they are complex. The National Agricultural Lands Study pointed to a number of factors that apparently dampened productivity growth during the last decade, including:

- the rising costs of fuel, fertilizers, and other energy intensive inputs;
- less fertile agricultural land available for cropland uses;
- lack of reserve supplies of water to sustain past growth rates in irrigated agriculture; and

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Remarks prepared for delivery by Norman A. Berg, Chief, USDA Soil Conservation Service, at the 34th Annual Southern Agribusiness Forum, New Orleans, Louisiana, January 30, 1981.



-- the loss of natural soil fertility due to erosion or salinization.

If the yield per acre growth rate of the 1970s continues through the next two decades, and projected demands materialize, American farmers would have to cultivate an additional 140 million acres of land for production of principal crops, an increase of about 50 percent. If we have a higher rate of growth in yield per acre, one comparable to the 1960s, we would require cultivation of an additional 85 million acres, an increase of 30 percent, to meet the projected demand.

Shifts of land into cultivation of this magnitude are technically possible, but they will require some major adjustments in the U.S. agricultural system. There will have to be large-scale shifts of forage land into crops, for example. Less land would be available for livestock grazing. As a consequence, confinement feeding operations will become more prevalent and the real cost of meat production will probably rise.

Higher real crop production costs are probable as well because potential cropland now coming into cultivation is more costly to till, is subject to more crop failures and yield variability, and produces poorer quality crops than cropland already in cultivation. Moreover, this land is usually more susceptible to erosion, groundwater overdrafts, and other environmental problems.

There are, as you know, wide regional variations in land resources and uses. Major shifts in agricultural land use among regions have occurred in the past, and the factors that may contribute to additional shifts are still underway today.

Agricultural economists look to the productive capability of potential cropland in the South to meet projected demands for food and fiber, while forest economists look to the productive capability of its forests to meet projected demands for lumber and paper. In some cases, they are both looking at the same land.

Existing reserves of land suitable for agricultural use are sizable here compared to acreages in other regions. Partially offsetting the region's climatic advantages and available cropland is its serious problem with soil erosion, caused by the high intensity precipitation common to the area. As in the Corn Belt, expanded cropland usage here requires that additional precautions be taken against soil erosion. The prospects for increased agricultural production in this region are generally good except for certain areas such as Florida (extremely rapid population growth) and the Southern Great Plains (decline of groundwater supplies).

After four decades of agricultural surpluses, U.S. agriculture has moved away from underused production capacity. The principal underlying forces have been a gradual overall decrease in the rate of annual productivity gains and a dramatic increase in foreign demand for U.S. agricultural products.

Over the next 20 years, USDA projects the volume of demand for U.S. agricultural products to increase by 60 to 85 percent over the 1980 level, assuming constant real prices. The three basic components of demand growth are conventional domestic uses, exports, and ethanol production.

The quality of our soil is declining at the same time. Our cropland loses almost (3) billion tons of soil to sheet, rill, and wind erosion annually. Another billion wash away in gully, roadside, streambank, and construction site erosion.

We also know that each year almost 3 million acres of agricultural land are converted to urban, built-up, transportation, and water uses. About 1,000,000 acres are important farmlands (prime).

For example, if present land use trends continue, Florida--producer of half the world's grapefruit and one-fourth of the world's oranges--may lost all of its prime farmland in about 20 years. There will still be farmable land, but it will be of poorer quality than the important farmlands now in agriculture.

A decline in our cropland base puts pressure on the remaining farmland--it must be utilized more intensively.

Other recent trends have also contributed to the decline in productive farmland. There are increasing numbers of people moving to rural areas--not necessarily to farm, but to escape congestion, pollution, and other drawbacks of urban living. This means more roads, sewage needs, schools, and service areas.

It also means a shift in the balance of political power.

In addition, demands for households increase. There are more young adults, more senior citizens, and more single parent families. Many of these households exist on larger plots of land than the typical suburban quarter--or half-acre.

The number of households in nonmetropolitan areas increased by more than 4 million between 1970 and 1977.

Americans also are moving from the crowded and cold North to the warmer and rapidly industrializing South. Between 1970 and 1975, more than 1.5 million people migrated South. This month, a Presidential commission drafting a "natural agenda" for the next decade said that the Federal Government should encourage migration to the Sun Belt States of the South and Southwest. The decline of older, industrialized cities in the North, the report says, "was part of an inexorable process."

We have 127 million acres of potential cropland in reserve, and only 22 million of these are prime acres.

Translated into dollars, America's potential ability to produce corn is reduced each day by almost 6 thousand tons--worth over \$620,000 when it is valued at \$3 a bushel. The land lost in the last 5 years could have produced the 6 to 9 million metric tons of wheat and feed grains this country has agreed to ship to the People's Republic of China for the next 4 years--a transaction worth some \$4 billion.

These are conditions that directly affect the private sector--both the small farmer and the large producer--this affects not only the farmers' gross earnings, but the economy as a whole.

How much additional land will American farmers have to bring into cultivation to supply an average projected demand increase of about three-fourths over 1980 levels?

The answer to this crucial question depends heavily on the growth in yield per acre, a matter of considerable uncertainty. Agricultural experts disagree on how much the land's productivity will increase in the future. During the 1960s, nationally, crop yield per acre increased at an annual average rate of 1.6 percent and was by itself sufficient to meet increases in demand. In the 1970s, however, growth in yield per acre dropped to an average annual rate of 0.76 percent. During this time, about three-quarters of the gain in agricultural production came from newly cultivated acreage; only one-fourth came from increased yield per acre.

But loss of important farmlands is not our country's only natural resource concern. Agriculture is the Nation's biggest user of water, accounting for nearly 83 percent of our total water consumption. Our large ground water resources are being depleted in some areas at a rate of 21 billion gallons a day, with no recharge taking place. In some areas of Arizona, ground water levels are falling 7 to 10 feet a year.

The quality of our water is another problem area. Agriculture is the most widespread cause of nonpoint source pollution. Runoff

increases the levels of sediment, infectious agents, nutrients, and pesticides in our streams. Irrigation return flows generally increase the level of dissolved solids, nutrients, and pesticides. And irrigation also is responsible for increased salinity as water seeps through the soil and picks up salt from the underlying mica shale deposited on ancient sea beds.

Flooding on land adjoining rivers, streams, and lakes is another concern. About 54 million acres of our prime farmlands are in flood-prone areas. Many of you are all too familiar with this fact.

Flood damages to cropland and pastureland, urban land, and other properties were a little over \$1.7 billion in 1975. The estimated figure for the year 2000 is about \$2.3 billion.

These are some of the challenges to America's agricultural land and water today.

The recently completed National Agricultural Lands Study can help us to better understand the whole land use issue. A joint effort of USDA, the Council on Environmental Quality, and 10 other Federal agencies, the study focused on:

- . U.S. agricultural lands as a national and global resource;
- . America's agricultural land base;
- . Competing demands for U.S. agricultural lands;
- . Market allocation of agricultural lands among competing uses;

- . Agricultural land availability and the rural community;
- . State and local actions affecting agricultural land availability; and
- . Impacts of Federal programs and policies on agricultural land availability.

The effects of agricultural land conversion have been felt locally, mainly in communities experiencing rapid growth; some citizens have grown concerned as they have seen their open spaces dwindle and the outlays for sewers, schools, and roads rise. States and local governments are experimenting with different means of keeping good agricultural land in farming.

According to the data analyzed by NALS, the United States at present has approximately 413 million acres of cropland and about 127 million acres of potential cropland for a total of about 540 million acres. In addition, there are some 268 million acres of rural land with low potential for cultivated crops.

From its research, NALS concluded that agricultural land is converted to other uses in an incremental piecy-by-piece fashion. Many of the effects are local but continued conversion of agricultural land at the current rate could have noteworthy national implications. The cumulative loss of cropland, in conjunction with other stresses on the U.S. agricultural system such as the growing demand for exports and rising energy costs, could seriously increase the



economic and environmental costs of producing food and fiber in the United States during the next 20 years.

The study concluded that the Nation should, indeed, protect its important farmlands. Each acre not retained for use in agriculture and each acre exceeding the tolerance value in erosion loss removes flexibility for future decisions and reduces the Nation's options for directing our own destiny.

The study also states that there is no simple, one-shot solution to the problem. An effective solution will require a coordinated effort by local governments, States, and the Federal government. The techniques could include:

-- The Federal Government putting its own house in order. Of the 37 Federal agencies reviewed by NALS whose programs encourage the conversion of productive agricultural land, only USDA and EPA have explicit policies designed to consider the effect of their programs on agricultural lands. And even in these two agencies, some program sub-units have not yet incorporated agricultural land reviews into their regulations and guidelines.

-- Recognition that most successful programs involve citizens in studying the situation and identifying problems and policy alternatives. Among the key ingredients of an effective agricultural land protection effort are farmer participation from the beginning, adequate technical and often financial support, strong local leadership, patience, and good timing; i.e., getting started before

development pressures become too strong. Successful programs make agricultural land protection a part of a comprehensive growth management program, providing room for development on less productive agricultural land. Local programs need active state support because the effects of development often spill over township and county lines.

Federal action could address two separate problems with the estate tax. First, the use valuation provision for agricultural land could be revised so it no longer benefits large estates more than small ones. Secondly, on the administrative side, the Treasury Department could simplify estate tax provisions and clarify instructions and information to farmers, land owners, and tax advisors.

An overall review of the Federal Tax Code could be undertaken by the Departments of Treasury, Commerce, and Agriculture to determine the desirability and feasibility of offering positive incentives for retaining agricultural land in production.

The second major Federal initiative could come in the area of supporting local and State efforts to develop agricultural protection programs by providing them with technical assistance, data, and, where appropriate, financial backing.

All of these tools can be used in varying combinations under differing local situations. The State governments are seen as having a larger role in the process than they have had previously--

both in assisting local governments and in establishing the regional perspective to determine the importance of the problem.

We also continue to plan for the future of soil and water conservation programs. This, of course, entails the work being carried out through the Soil and Water Resources Conservation Act of 1977, or RCA.

Nine USDA agencies and two White House offices have spent over 2 years now evaluating our country's natural resources and the effectiveness of the Department's 34 soil and water conservation programs. Briefly, the proposed RCA program calls for...(will be added)

The success of USDA's soil and water conservation programs very much depends on public acceptance and support of our objectives and approaches.

Another factor to be reckoned with is technology. Already on the horizon are photosynthetic enhancement, genetic improvement, and biregulators. It's too soon to predict how these advances will affect soil and water conservation and land use. But I have no doubt that they will.

We have a body of information that tells what is happening to our farmland, and we have a fair idea of what this country's agricultural needs will be in the next 20 to 50 years. We have techniques and technology to retain and to improve a good bit of this land.

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It's a large and vital endeavor that concerns all of us. It's not "us against them," or free enterprise versus regulation, or the private sector versus the government. It's a matter of personal as well as national interest...it's a matter of leaving productive land to our children and our grandchildren...and it is in the best interest of all of us.