

## Foreword

Public concerns about food generally focus on two immediate issues--cost and quality/safety. The food system is complex, encompassing agricultural support service industries providing products such as energy, machinery, and chemicals; the farm sector; the fishing industry; food processors such as slaughterhouses and canners; and the food warehousing, distribution, and transportation systems. Past GAO reports have addressed issues in all these areas.

This staff study presents (1) the results of GAO's periodic assessment of current and emerging food and agriculture concerns at the national and regional levels and (2) the issues that will guide GAO's audit planning in the food, agriculture, and nutrition program areas for the near future. The study may also help others to understand the critical issues facing decisionmakers in the food, agriculture, and nutrition areas. Concerns are grouped into four major areas: (1) the food system as a whole; (2) maintaining and increasing food productivity; (3) the Federal role in the food marketing sector; and (4) human nutrition and Federal nutritional assistance.

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## CHAPTER 1

### INTRODUCTION

Food is the largest U.S. industry. Food and related industries--production, processing, marketing, distribution, and consumption at restaurants or homes--account for one-fourth of the gross national product, employ about 15 million workers, and provide over 10 percent of the agricultural products used by other countries. U.S. consumers spent \$302 billion for food at home or in restaurants in 1979.

The U.S. food and agriculture system has functioned so well that the Federal Government's role is relatively small compared to other areas of national concern, such as defense or income security. Estimated Federal expenditure for fiscal year 1982 food and agriculture programs is \$25.5 billion--mostly for food assistance programs, such as food stamps.

Over 30 departments and agencies administer almost 500 programs that provide for farm income and production stability, ensure that the U.S. food supply is safe and nutritious, perform research and extension to increase agricultural productivity, provide food aid and exports abroad, and provide food assistance.

The underlying goal of our work in the food issue area is to examine whether all Government activities affecting the food system--supplies of inputs, production, marketing and distribution, and consumption--are directed toward feeding Americans well, now and in the future, with the most productive use of resources while meeting our commitments to other countries for food aid and exports. To meet this goal, our audit work focuses upon many interrelated problems and policy issues:

- The basic food-producing resources--land, water, fertilizer--are becoming increasingly scarce and expensive.
- The rate of increase of U.S. agricultural productivity has leveled off.
- Global hunger remains a chronic problem, but the United States is beginning to stress increasing self-reliance in food production among other countries.
- The food marketing bill continues to consume a large portion of every food dollar.
- Rising U.S. commercial agricultural exports could strain U.S. production capability.
- The cost of domestic food assistance programs has skyrocketed, while the programs' effects on nutritional well-being are still largely unknown.

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#### ABBREVIATIONS

AID	Agency for International Development
FDA	Food and Drug Administration
FSIS	Food Safety and Inspection Service
GAO	General Accounting Office
HHS	Department of Health and Human Services
NMFS	National Marine Fisheries Service
RDA	recommended dietary allowance
USDA	U.S. Department of Agriculture

agriculture. Ten GAO regional staffs assessed their regional area's characteristics and problems to pinpoint emerging issues. GAO staff in California contributed a comprehensive list. California, a leading indicator of national concerns, recently issued a report analyzing ideas expressed by more than 200 scientists, Government officials, industry leaders, farmers, environmentalists, and consumer advocates. <sup>1/</sup> The issues identified by this group concern social, economic, and political tensions created by agriculture (1) as a competitor for resources (water, land, energy, labor, and capital), (2) as a supplier of food and generator of economic activity, and (3) as a force helping to shape the physical environment and rural life. These issues could spur important policy changes during the next decade. For most of the issues the greatest problem that faces decisionmakers is the lack of meaningful data and technical research information.

The California report cited the following 10 issues, in order of priority, which must be dealt with during the 1980's.

- Water: A more specific water use policy is needed. Issues concerning water use efficiency and water allocation among agricultural, municipal, industrial, environmental, and recreational users need to be addressed.
- Land: A more clearly defined land use policy is needed. Questions about land as the resource base for the food system economic activity, for homes and recreation, and/or for other uses will have to be resolved.
- Energy: A well-defined energy use policy is needed. Strategies will have to be developed to promote conservation and efficient use and the development of new sources.
- Labor: Agricultural labor needs will have to be dealt with. Are the stresses facing the farm work force different enough from those faced by workers in other industries to merit special treatment?
- Food marketing: Questions need to be addressed concerning market concentration and integration; trade, tax, and antitrust laws; and who benefits and who gets hurt by these forces.
- Food consumption: Concerns about human nutrition, consumption patterns, and levels for food safety and costs of zero-tolerance levels need attention.

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<sup>1/</sup>"Agricultural Policy Challenges for California in the 1980's," University of California.

Included in the issue area's scope are international food and agriculture programs and policies administered by the Department of State, the Agency for International Development, the U.S. Department of Agriculture (USDA), and others. The issue area encompasses the production; processing and distribution; and consumption of U.S. food and fiber, such as grains or cotton.

#### LONG-TERM TRENDS AND THE REGIONAL PERSPECTIVE

Few major issues change quickly in food and agriculture. Problems are chronic, long-term, evolving, and the subject of much debate. Relatively few policy changes are made until crises have become very obvious. During the 1980's agriculture will experience a variety of outside influences and may be the subject of numerous goals that may be mutually exclusive. Economic factors, special interests, world population growth, and political policies could have as much influence on agriculture and the ultimate cost of food as the weather. Some long-term issues we will pay particular attention to in the next 18 months, discussed in detail in later chapters, are:

- The increased emphasis on agricultural research and development to forestall production shortfalls in the future--shortfalls exacerbated by world population growth and declining resources.
- The Reagan administration's proposed opening of the food and agriculture system to free market forces.
- The redefinition of the Federal Government's role, with increased reliance placed on State and local governments.
- The decreased emphasis on government social programs and increased reliance on the private sector.

These few issues alone could call for Government action requiring many critical choices to be made. We feel that a national food policy will continue to be developed, incorporating the goals of the current agricultural, nutritional, food delivery, and international systems. International and domestic interest in the relationship among health, nutrition, and agricultural production will continue to grow as basic resources become more expensive. Appropriate technological breakthroughs, constraints on basic resources, and use of new farming techniques will allow changes in the approach to food production, distribution, and consumption.

#### The perspective from the GAO regions:

Problems in the food and agriculture system that eventually come to national prominence often are noticed first at State and local levels. For this reason, GAO regional staff are in a good position to anticipate emerging issues and trends in food and



farmers allegedly has contributed to increased demand and prices for land as well as increased Federal borrowing.

- What should the Federal Government do to improve transportation systems for moving agricultural products from the farm to the market? Deteriorated rural roads, abandoned railroad and branch lines, railroad bankruptcies, and overburdened waterways are the major concerns expressed in farm periodicals and by many in the agricultural community.

### The West

The western sector includes GAO's Seattle, San Francisco, Los Angeles, and Denver regional offices.

The Seattle region includes Alaska and the Pacific Northwest, important sources of traditional fisheries such as salmon, king crab, and halibut as well as some important farming centers for vegetables, fruits, and grains.

The agricultural industry and food delivery system in California produce more economic returns than that of any other State and, as previously discussed, concerns in that State are leading indicators for the country. California's agricultural industry provides the United States with about 25 percent of its table foods. The industry is struggling to overcome a serious infestation of the Mediterranean fruit fly. Other facts about California's agricultural industry follow.

- Agriculture is the State's largest industry, grossing over \$15 billion in 1980.
- California produces over 250 different agricultural commodities and leads the Nation in production of 44 of them.
- California has about 10 percent of the Nation's population, yet it is the largest net exporter of food.
- Of the total fiscal year 1979 USDA budget (\$25 billion), the second largest percent (7 percent) of USDA funds were spent in California. Almost \$1 billion annually was spent on food assistance programs alone.
- California agriculture uses about 85 percent (31 million acre-feet) of the State's total annual water usage.
- California has approximately 100 million acres of land (40 million acres of forest and 34 million acres of agricultural land). Urban land use occupies from

--Environment: Agriculture contributes in general to the quality of the environment but is also subject to pollution. An issue for the coming decade will be how to divide the costs of environmental protection among those who pollute, those who benefit from control measures, and taxpayers in general.

--Biological resources: Agricultural ecosystems require skilled management. The policy issue here involves the development and use of scientific information.

--Rural and community development: Population growth in farming communities and other rural areas should continue to create policy pressures for new jobs as well as services to cope with problems of urbanization.

--Communication: More and better communication is needed among consumers, government officials, and researchers.

Other regions expressed concerns similar in many instances to those raised in the California study. Regional concerns are discussed below.

#### The Northeast

The northeastern sector of the United States includes GAO's Philadelphia, Washington, Boston, and New York regional offices. The Boston and New York offices analyzed regional issues for the upcoming 18 months and beyond.

New England is very dependent on outsiders for its food supply--85 percent of the food consumed by New Englanders is from outside the region. New England is hindered in many cases from producing its own food because of the high cost of energy. Recent Government actions to deregulate oil prices have compounded the problem. Energy, food availability, and regional farm concerns dominate New England's agenda:

- Because of high energy costs, New England farmers contend they cannot compete with farmers outside New England.
- Out-of-region food costs New Englanders more because of transportation costs.
- New England farms are mostly small, and regional experts see a need for USDA programs to preserve small farms, foster small farm research, or develop better small farm marketing practices.
- New England's large fishing and fish processing industry has problems peculiar to it, such as competition from Canadian fishermen who are subsidized by their government.

The New York region, which includes Puerto Rico, is primarily concerned with domestic food assistance problems, since a large percent of the population in New York and Puerto Rico receives aid. Cutbacks in Federal dollars to programs such as food stamps or aid to families with dependent children will be felt there. Two-thirds of Puerto Rico's population is eligible for food stamps; half the population collects them. Food stamps have become a second currency on the island. The effect of the new Puerto Rico block grant initiative will have to be assessed.

Trends in farm mechanization, such as the design and development of farm machinery; the impact of energy availability on production; and soil fertility may be significant issues in the area covered by the New York region.

### The South

The southern United States includes GAO's Dallas, Atlanta, and Norfolk regional offices. The Dallas region encompasses both prime food production areas and some of the Nation's largest metropolitan centers. Texas, for example, ranks in the top five States in total cash receipts for crops and livestock. It generally leads all States in production of cattle, beef, sheep, lambs and wool, goats and mohair, cotton, grain sorghum, and certain vegetables. Texas and Louisiana have the highest rice production rate in the Nation. They are also ranked high in commercial fishing operations. The Dallas region has a high volume of Federal food-related programs. In fact, 12 percent of USDA's budget is spent for food programs within the region.

The Dallas area is also uniquely sensitive to some food production and distribution functions. The ports and border stations in the region handle a lion's share of the Nation's imported and exported food products. For example, about 60 percent of all U.S. grain exports flow through ports in the region. Imported food products that must be checked for disease, infestation, and contamination are received through Gulf ports and Mexican border stations. The climate and weather extremes in the region also result in heavy Federal expenditures for disaster relief and control of plant and animal diseases and pests.

The remainder of the sector, covered by Norfolk and Atlanta, includes major population and food production centers. Both areas may experience tobacco and peanut industry changes. Atlanta also encompasses fruit and vegetable growing areas and a large aging population with special nutritional needs.

### The northcentral area

The northcentral regions include GAO's Cincinnati, Detroit, Kansas City, and Chicago regional offices.

Overall, the States in the Kansas City region are agricultural and produce a major portion of the Nation's feed and

grain commodities, particularly wheat (39 percent of the national production in 1980). Wheat and feed grain stabilization payments to producers in these States in fiscal year 1979 totaled 35 percent of the \$1.5 billion national outlay. Nebraska and Kansas were in the top six States for price support loans (representing about 16 percent of the total) on 1979 crops--\$3.7 billion nationally at close of fiscal year 1980.

Emerging issues in the Kansas City region include:

- State meat inspection programs, although required to be equal to Federal programs, may be inferior.
- Factors used in grading beef quality are of major concern.
- High cost and scarcity of water, energy, fertilizer, land, and capital are of major concern.
- Declining numbers of farms, and the difficulties faced by new farmers, require attention.
- Price instability caused by world food production and other nations' policies affects farmers' incomes, although farmers do not influence those factors.

GAO's Chicago regional office covers a part of the country well known for its agricultural production capacity. Thirteen major food processing firms listed in "Fortune 500" are in the region. Several are located in Chicago and in Minneapolis/St. Paul. In addition to large food processing firms, several large farm machinery manufacturers are headquartered there.

Emerging high-priority concerns in the Chicago and Detroit regions are:

- What should the Federal Government do to encourage the development of ways to increase agricultural production while reducing agricultural dependence on energy-related inputs such as chemical fertilizers, pesticides, and herbicides? In the past, American agriculture has increased production primarily through increased use of energy-intensive inputs. Food experts say this cannot continue.
- What should the Federal Government do to encourage conservation of agricultural land and soil?
- What should the Federal Government do to influence the structure of American agriculture? Federal agricultural programs such as price supports, tax policies, and credit policies are blamed as the principal factors in the trend to larger farms and inflation in land values.
- Can Federal credit policies be redirected to those who meet credible tests of need? Easy credit for wealthy

and many other issues interact. We must emphasize greater interaction in our own efforts to better assess the total environment.

3. Facilitating development of a comprehensive food policy. The need for a comprehensive food, nutrition, and agricultural policy that provides coherent "rules of the game" is becoming more and more apparent. We will have an important role to play in addressing the options for this policy. We expect to devote more time to applying state-of-the-art techniques (i.e., program evaluation, scenario analysis simulation, and forecasting) and to continue to seek and recommend improvements in program design and feedback.

#### MAJOR CONCERNS IN THE FOOD ISSUE AREA

The next four chapters present four areas that we believe are of major concern:

- Food system: Addressing systemwide concerns offers opportunities for improved efficiency and effectiveness. (See ch. 2.)
- Food production: Maintaining and increasing productivity requires new approaches. (See ch. 3.)
- Food marketing: Government's regulatory role in the costly link between producers and consumers needs better definition. (See ch. 4.)
- Food consumption: Programs must meet nutritional needs at least cost and greatest effect. (See ch. 5.)

Each part of the total food-agriculture-nutrition system contributes to the effective operation of the system as a whole. The food and agriculture system has production, marketing, and consumption subsystems. This classification follows the categories in the Food, Agriculture, and Nutrition Inventory, <sup>1/</sup> so that automated information support can be available for work in the issue area to GAO and other organizations.

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<sup>1/</sup>The Food, Agriculture, and Nutrition Inventory, maintained by USDA, is an online system that can provide a complete listing of all U.S. food and agriculture programs.

5 to 7 percent of California's most productive agricultural land.

--Agricultural production uses 5.1 percent of the State's total energy consumption, mostly for fertilizer and lifting irrigation water.

The Denver region has experienced several problems in the area of food and fiber production. Among these are

- monopolistic rail transportation caused by railroads going out of business;
- depletion of ground water resources for agriculture;
- loss of productive farmland to other uses;
- loss of agricultural labor to energy-production industries; and
- special nutritional problems of specific food assistance target groups, such as Indians.

#### Potential effects on GAO

Agriculture and the production of food affect every person daily through the availability, cost, and quality of food. Food production involves much more than the physical presence of farms, ranches, and food processing plants. The economic and social health of the food delivery system strongly influences the entire country. No other economic sector occupies so much land, produces so many goods and services, and employs so many people.

We see our role relating to the broader food issues as fitting into three areas.

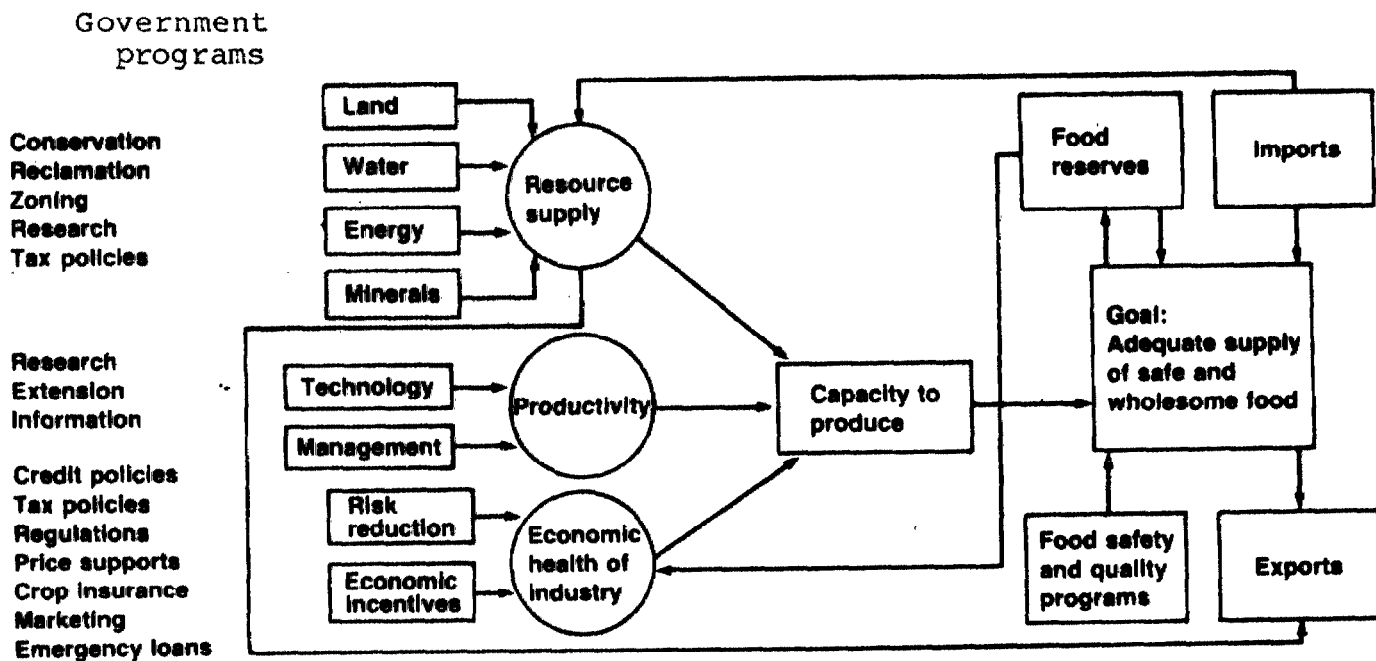
1. Monitoring of crucial factors and trends as they provide indicators of changes in environment. By keeping aware of historical trends of social, economic, and political developments, we can better prepare ourselves for analyzing the problems that the Congress will need to address. Further developing the use of forecasting and change indicators and using available computer models will give us the capability to assess implications of changing patterns and advise the Congress of imminent problems and alternatives to avoid or correct them.
2. Emphasizing cross-issue analyses. Many concerns of the food issue area overlap the concerns of other GAO issue areas. We will have to integrate our work so that we can provide systemwide evaluations. Food, health, energy, water, land,

--Food, nutrition, and agricultural production and support industries account for approximately one-fourth of the gross national product.

THE GOVERNMENT ROLE

The potential impact of Government actions on the operation of the food system is of major concern to the businesses involved in producing and selling the food and to consumers who usually shoulder the burden of Government actions via higher retail food prices or higher taxes. Many opportunities exist for more effective and efficient Government involvement. Figure 1 illustrates the linkages of Government to the food system.

FIGURE 1  
THE FOOD SYSTEM



Source: USDA.

Government programs and policies which unnecessarily constrain one or more of the food and agriculture system links threaten the system's ability to provide consumers with a continuous stream of safe, high-quality, and relatively low-priced food. Constraints can take the form of ineffective or inefficient farm policies that dampen production or innovation by not providing incentives to produce; conflicting and overlapping Federal and State rules and regulations that impede productivity gains and increase costs of food marketing; or policies that threaten the future supply of basic food-producing resources such as land, labor, management, water for irrigation, energy, fertilizer, and money (capital and credit).

## CHAPTER 2

### FOOD SYSTEM: ADDRESSING SYSTEMWIDE CONCERNS

#### OFFERS OPPORTUNITIES FOR

#### IMPROVED EFFICIENCY AND EFFECTIVENESS

### THE FOOD SYSTEM

The food-agriculture-nutrition system is an intricately woven pattern of many disciplines and occupations encompassing far more than farming. It includes (1) the so-called agricultural support service industries which provide products such as energy, machinery, and chemicals used by the farm sector, (2) the farm sector itself, meaning the producers of crops, livestock, and dairy products, and the fishing industry, (3) the food processing sector such as slaughterhouses and meatpackers, grain mills, dairies, canners, packers, and prepared food manufacturers, (4) warehousing, transportation, and distribution, (5) retail food stores and restaurants, and (6) the individual consumer.

We believe it is useful to discuss the food and agriculture system as a whole in this chapter and the sector subsystems-- production, marketing, consumption--in later chapters. Issues such as global hunger, agricultural research and development, and food policy decisionmaking that cut across the entire food system also are discussed in this chapter.

The food system reaches beyond U.S. borders. Agricultural exports have accounted for a growing portion of the Nation's foreign exchange and have played a vital role in reducing the U.S. balance of trade deficit while helping to feed people in other countries.

The food system is one of the Nation's largest industries--employing about 15 million workers. For example:

- Food accounts for one out of every five jobs in the private sector.
- Capital assets of the farm sector alone total \$927 billion, equal to 88 percent of the capital assets of all U.S. manufacturers.
- Over \$40 billion in food and agricultural products was exported in 1980, resulting in a \$23 billion agricultural trade surplus. In fact, since 1971, agricultural trade has created a surplus while nonagricultural trade tallied a huge deficit.



have relatively high food consumption. Meanwhile per capita consumption in South Asia, the Middle East, and the developing countries of Africa will scarcely improve or may actually decline below present inadequate levels. At the same time, real prices for food are expected to double.

The World Bank estimates that more than 1 billion people--one quarter of the human race--suffer from chronic malnutrition. They are underfed or are missing critical nutrients from their cereal-dominated diet, and they likely suffer from nutrient-deficient health problems. They are often young, poor, and live in environments unable to produce sufficient food to feed the surrounding populace. At best, their future is discussed with cautious optimism; at worst, their plight will worsen to the point of massive famine should harsh weather prevail in the absence of international safeguards.

In the years to come as Government resources become more constrained and U.S. domestic concerns become more pressing, the United States will need to decide what its role is to be in alleviating food problems abroad. Many observers believe the major emerging issue of the next decades will not be energy, but food--and no effective measure exists for determining minimum human food requirements.

What can be done to improve the effectiveness and efficiency of U.S. efforts to alleviate food problems in the developing world?

The Food and Agriculture Organization of the United Nations estimates that 450 million people eat less than their minimum energy needs require. Hunger in the developing world persists as a major world problem because of poverty and instability of food supplies.

Food imports, concessionally or commercially, can meet some of the spiraling food needs in the poorer countries, but it is generally recognized that imports are not a viable long-term solution. This view is reflected in the March 1980 report of the Presidential Commission on World Hunger, which states, "If world hunger is to be overcome, unprecedented increases in food production must be achieved in the developing nations themselves, where the need is greatest and current output has the greatest room for further expansion." The report emphasizes that not only must more food be produced in the nations, but it must be produced in a fashion that develops self-reliance for individuals as well as for the nation itself.

Ongoing work in the issue and past GAO reports

Hunger and malnutrition in developing countries is a chronic problem. The questions we intend to address in this issue are:

Questions are now being asked about the efficacy of Federal intervention in food and agriculture, and in other areas, as the administration and the Congress return to a free market philosophy. Much debate centers on the appropriate role for Government in the food system and in regulating the agricultural industry. Each program is being scrutinized for continued need and for demonstrated utility and success of program operations.

#### ENDANGERED PRODUCTION

Issues concerning the U.S. food and agriculture system's continued ability to maintain and increase productivity are receiving national attention. Considerable concern exists about the structure of the farm sector and the capability of the inputs sector of the food system. U.S. industrialized cropping systems rely to a high degree on the availability of energy and specialized farm inputs. These inputs can be constrained by political or economic actions far beyond the farmer's control. Production under the U.S. system depends on a farm sector which is losing natural soil fertility and productive land and which is relying on the use of fertilizer, energy, herbicides, and machinery to maintain production.

Prospects for the 1980's suggest that our fishing and agricultural production may be running close to capacity under currently applied production techniques and that capacity could be severely strained by additional foreign demand. The handling system--storage, transportation, and port facilities--may be severely taxed at times. Reevaluating Federal programs, their impact on the budget, the taxpayer, the economy, and the food system's ability to function may uncover opportunities to increase productivity in food production and marketing.

#### The world will require more food in the future

The world's population is expected to grow from an estimated 4 billion in 1975 to 6.35 billion in 2000, an increase of more than 50 percent. By 2000, 100 million people are to be added each year compared with 75 million in 1975. Ninety percent of this growth is to occur in the poorest countries.

The developing countries' farm sectors are not advanced, yields are very low, and distribution and storage systems are inadequate. Population increases negate virtually any net increase in food output. The Global 2000 Study done at the direction of the Carter administration concluded that world conditions will probably get very bad very quickly in the next quarter century.

While some observers dismiss the Global 2000 Study as "doomsday" prophecy, others sense the need for a hard look at the world's ability to feed itself. World food production is estimated to increase 90 percent between 1970 and 2000, but the bulk of that increase is expected in countries that already

demand for agricultural production in the 1980's. Some USDA analysts argue that by 1985 the world outside the United States will depend on us for 15 percent of its agricultural products, compared with 2 percent in the early 1950's and 11 percent in the late 1970's.

The need to develop technology which can increase food production without serious side effects will continue to be a challenge. Rapid technological advances in the past helped to offset the pressure of inflation and rising costs on farmers. Those advances kept production high and food prices low, freed people for nonfarm jobs, and all but guaranteed ample quantities of food for foreign trade. But no technological breakthroughs appear to be on the immediate horizon that will have an impact on farming comparable to what was experienced in the last 40 years.

Technological breakthroughs from agricultural research provide the underpinning for the entire U.S. food system and its productivity growth. As an illustration, USDA estimates that to achieve our current production with 1916 methods would require 31 million farm workers instead of the 3.7 million workers actually employed in farming in 1980. Yet, Federal funds for research have leveled off since 1965. Reduced funding for agricultural research and extension is a national issue that is just beginning to receive public attention.

The Congress recognizes the importance of agricultural research and is considering increasing funds for it. Budgeted for \$687 million in fiscal year 1980, USDA agricultural research was budgeted \$786 million in fiscal year 1981, an increase of about 14 percent.

Despite the administration's increased emphasis on basic agricultural research and development, experts are pessimistic that the research and development system will be able to meet critical needs.

#### What can be done efficiently to stimulate food and agricultural research and development?

About one-fourth of the growth of U.S. farm productivity-- food output in relation to the amount of land, labor, and energy used--can be attributed directly to agricultural research and development. From 1930 to mid-1965 American farm productivity increased by 3.0 to 3.5 percent annually. Since that time the rate of productivity increase has dropped to 1 to 2 percent yearly. This decline is of concern to agriculture policymakers because of an increasingly limited natural resource base (land, water, and energy) and a steadily increasing demand for U.S. foodstuffs, particularly for export.

Most experts contend that increased emphasis on research and development is the best way to increase food production and

1. What actions can the United States take to assist developing countries achieve food self-sufficiency?
2. Can U.S. efforts be carried out more economically and efficiently?
3. Is the U.S. strategy for combating hunger effective?

Our current work addresses all three questions. We are assessing the Agency for International Development's (AID's) efforts to carry out a congressional mandate to help reduce post-harvest food losses. Meeting this goal would contribute largely to needed food supplies. We also are examining AID's management processes for identifying needs and establishing food, agriculture, and nutrition research priorities; for evaluating and disseminating research results; and for coordinating research activities with other organizations. This has been a major area of interest of the Senate Appropriations Committee, and the House Agriculture Committee has included it on its tentative agenda of hearings.

In the past 18 months, we have issued the following reports which deal with U.S. efforts to alleviate food problems in the developing world:

"Food for Development Program Constrained by Unresolved Management and Policy Questions" (ID-81-32, June 23, 1981.)

"Poor Planning and Management Hamper Effectiveness of AID's Program To Increase Fertilizer Use in Bangladesh" (ID-81-26, Mar. 31, 1981).

"Status Report on U.S. Participation in the International Fund for Agricultural Development" (ID-81-33, Mar. 27, 1981).

"U.S. Assistance to Egyptian Agriculture: Slow Progress After 5 Years" (ID-81-19, Mar. 16, 1981).

"AID Must Consider Social Factors in Establishing Cooperatives in Developing Countries" (ID-80-39, July 16, 1980).

"Cooperation in Agricultural Assistance: An Elusive Goal in Indonesia" (ID-80-29, June 11, 1980).

"Search for Options in the Troubled Food for Peace Program in Zaire" (ID-80-25, Feb. 22, 1980).

#### INCREASING FOOD SYSTEM PRODUCTIVITY REQUIRES BREAKTHROUGHS

Major long-run increases are expected in world food demand due to world population and income growth, putting demands for greater output on the U.S. agricultural system. Conservatives estimate annual growth rates of 2.5 to 2.7 percent in world

"Long-Range Planning Can Improve the Efficiency of Agricultural Research and Development" (CED-81-141, July 24, 1981).

"The Department of Agriculture Can Minimize the Risk of Potential Crop Failures" (CED-81-75, Apr. 10, 1981).

"Agriculture Research and Extension Programs To Aid Small Farmers" (CED-81-18, Oct. 17, 1980).

#### ANTICIPATING CHANGE

World turbulence--famine in developing countries, skyrocketing prices for energy supplies to U.S. agriculture, massive Russian grain purchases, low farm margins, farm "strikes," and persistent inflationary pressure--has led to new questions about U.S. agriculture's ability to maintain adequate food supplies in domestic and world markets in the future. In the past, little more has been done than reacting to crises. For the 1980's, however, policymakers must face the challenge of anticipating future circumstances and problems confronting the food and agriculture system and begin to plan for actions appropriate to the times.

Passing into an era of uncertain food supplies has created a need for food policy which embraces consumer and processor as well as farmer concerns, as opposed to strictly agricultural policy which concentrates on farmer problems. This shift in emphasis is continuing and is recognized by the Congress and the administration in numerous references to the importance of food, agriculture, and nutrition.

Progress has been made toward developing a coherent national food policy, but there is much left to be done. A recent USDA publication entitled "Agricultural-Food Policy Review: Perspectives for the 1980's" stated:

"Essentially, the development of a comprehensive, integrated food and agricultural policy\* \* \* means recognizing that a broad array of food, agricultural, and resource goals are all interrelated and must be treated within a common policy framework and process if their interactions are to be effectively considered."

Historically, food policy has been made on an ad hoc basis as a reaction to crises. Long-range goals have not been set to respond to recurring problems or pervasive issues. In a supply scarcity situation, a more specific set of goals is needed to form the basis for a food policy framework. Figure 2 illustrates policies related to food and agriculture.

food system productivity through better marketing, processing, and transportation.

Ongoing work in the issue  
and past GAO reports

The objective of our work in this issue is to call congressional attention to the ramifications of declining agricultural productivity and its relationship to efforts to improve food and agricultural research and development.

Questions to be addressed are:

1. Does USDA sufficiently plan or account for preservation of our natural resource base as one of the goals of agricultural research?
2. Is the U.S. research and development system prepared to address the major food and agricultural issues of the next 20 years?
3. What is the best method of managing Federal and State agriculture research and development?

In our ongoing review of Federal nutrition research planning and coordination for the chairman of the Subcommittee on Science, Research, and Technology, House Committee on Science and Technology, we are reviewing nutrition research to assess how well title XIV of the Food and Agriculture Act of 1977 is being implemented.

In another review we are evaluating the need for and use of USDA's 152 research facilities.

In a review following up on our report on long-range planning for agricultural research, we are examining the State-Federal interaction for coordination and planning of agricultural research programs.

We issued the following reports during the last 18 months which addressed food and agriculture research and extension issues:

"Lead Agency Responsibilities To Keep Informed Of Personnel Needs In The Food and Agriculture Sciences Are Not Being Fully Met" (CED-82-25, Dec. 28, 1981).

"Better Collection and Maintenance Procedures Needed To Help Protect Agriculture's Germplasm Resources" (CED-82-7, Dec. 4, 1981).

"Cooperative Extension Service's Mission and Federal Role Need Congressional Clarification" (CED-81-119, Aug. 21, 1981).

Federal programs, agencies, or departments. This direction in economy and efficiency work has been productive and will continue to receive priority attention. However, during the course of our work over the last 18 months, we found that our scope needs to include consideration of how agency food programs interface with private efforts to avoid duplication. We also learned that we must find better ways to capitalize on existing knowledge in food and fiber issues so that we are better able to make knowledgeable systemwide evaluations.

Our first step in capitalizing on existing knowledge was carried out in our work on the Food, Agriculture, and Nutrition Inventory (FANI), an automated inventory of 485 Federal programs involved in food, agriculture, or nutrition. <sup>1/</sup> The Federal programs identified in FANI show many areas that could involve overlap and duplication.

Identifying Federal programs in the food area, however, is only a beginning step in describing the structure of the food system and defining the Federal role in its networks. The increasing complexity of the food sector today is making it necessary to use system analysis tools to assess the efficiency of the Federal role in the food system and the food system's role in the total economic environment. USDA is expanding its capabilities to evaluate the interrelationships of food, energy, and the environment. We have made some reviews of system and planning tools in the food area, but more is needed to be able to identify opportunities to improve USDA's overall management capability.

On January 15, 1981, the Administrator of the then Science and Education Administration held a meeting of officials from USDA, the Users Advisory Board, the Senate Appropriations Committee, OMB, and GAO to discuss FANI and other USDA information systems. One outcome of this meeting was the science and education organization staff's acceptance of the responsibility to disseminate FANI through its national data base network and to oversee the annual FANI update. Since the January meeting, we have been working with the staff in making FANI more accessible as well as integrating it with other USDA management tools.

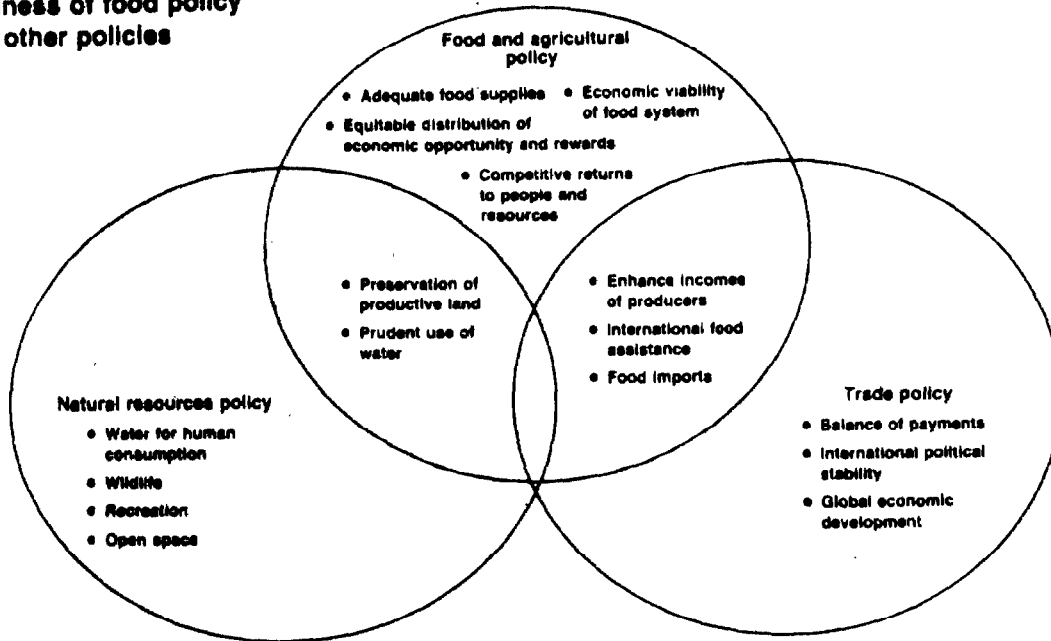
In June 1980, we began an experimental job intended to build a permanent automated file of food and agriculture experts nationwide. The Interest File on the Food System (IFOFS) is a working example of a management information tool that can assist decision-makers in quickly identifying food and agriculture experts according to location, employer, interests, and specific areas of knowledge or expertise. This prototype file contains input from GAO

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<sup>1/</sup>FANI is now maintained and administered by USDA. The inventory contains data on program name, budget, and enabling legislation and classifies programs according to a matrix of four basic characteristics.

FIGURE 2

**Interrelatedness of food policy  
to selected other policies**



Source: USDA.

A policy framework which identifies existing goals, objectives, and interrelationships with other programs could be helpful in food policy decisionmaking. Present policies have no such framework, nor do they subscribe to an integrated set of goals or objectives.

What are the best management and planning tools applicable to the food and agriculture system and how can they be used?

Information and management tools, such as agricultural census data or the domestic information display system, exist within Government and the private sector to measure food and agricultural program impacts and to monitor the condition of the food sector. Manual and computer-based information tools are scattered throughout the 30-plus Federal agencies involved with food programs. For the most part, tools were designed to give decisionmakers a better understanding of how well the programs they manage are working.

These food and agriculture decisionmaking tools need to be assessed for usefulness versus cost, how they relate to one another, and how they can be used in providing feedback on program efficiency. The Reagan administration is relying increasingly upon cost-benefit analyses as a basis for program and policy decisions, and better tools will be needed.

Our current approach has concentrated, for the most part, on identifying and reducing duplication and overlap within single



"Food Bibliography January 1977 to December 1980" (CED-81-73, Apr. 1981).

"Pension Fund Investment in Agricultural Land" (CED-81-86, Mar. 26, 1981).

"Summary of GAO Reports Issued Since 1977 Pertaining to Farm Bill Legislation" (CED-81-43, Jan. 21, 1981).

"Food, Agriculture, and Nutrition Issues for Planning" (CED-80-94, June 11, 1980).

regional and headquarters units and is a repository of easily accessible information that can be used to produce contact lists for basic job analysis, to form expert panels, and to target report distribution to key decisionmakers. The IFOFS file is computer-linked to the FANI file of Federal programs.

Ongoing work in the issue  
and past GAO reports

Our strategy in this issue is to call congressional and agency attention to the opportunity to improve the management of food programs and the vast information resource that exists in food and agriculture.

The 97th Congress expressed a renewed interest in making better use of Government's information resources. The Paperwork Reduction Act of 1980 calls for, among other things, better control and application of the rapidly growing amount of information in all sectors of society and Government.

The Subcommittee on Department Operations, Research, and Foreign Agriculture, House Committee on Agriculture, held a series of hearings and workshops throughout the summer and fall of 1981 on agriculture information, expanding information technologies and natural resource data bases, and how these tools can be used and understood better by decisionmakers.

The questions to be addressed in this issue are:

1. Are the available management tools effective in providing current and necessary information for food program decisions?
2. Do Federal managers and planners effectively use existing management tools to respond to changing conditions?
3. How can we encourage development of criteria for measuring the effectiveness of food programs so that functional coordination among agencies can be measured and improved?

We are working with USDA at the request of the Chairman, Subcommittee on Agriculture, Senate Committee on Appropriations, to find a better, more systematic way to use the many information sources and tools to improve decisionmaking.

In the past 18 months, we issued the following reports addressed to questions about management tools and techniques in the food and agriculture system:

"Department of Agriculture Needs Leadership in Managing Its Information Resources" (CED-81-116, June 19, 1981).

What can the Federal Government do at the least cost to alleviate the effects of scarce food input resources?

In the past, the United States assumed that input resources would be cheap and available and food and farming systems were designed based on those assumptions. However, resource scarcity is forcing reconsideration of input availability. Already, the high price of fossil fuel has caused adjustments in U.S. agriculture and could lead to even more significant changes during the 1980's. Farm organization may undergo modifications as producers seek alternative energy sources or explore new production techniques. Farming's capital requirements undoubtedly will be affected.

Farmers relying more than ever on other sectors for inputs such as fertilizer and equipment have found the cost of farming growing steadily with inflation in other sectors. The higher production costs substantially increase the farmers' breakeven point and the risk associated with price fluctuations in farm production.

The potential exists for USDA to contribute significantly to improved resource management techniques which could reduce farm costs and improve the efficiency of farm resource use. Cutting farm costs could improve farmers' income and alleviate pressure for Federal farm subsidies.

Ongoing work in the issue and past GAO reports

We intend to point out the need for continuing assessment of the ability of the Nation's agricultural structure to maintain production. Such factors as loss of farmland, the depletion of ground water reservoirs, and the loss of labor resources need to be continually tracked and appraised.

Questions to be addressed in this issue are:

1. What is the impact of input constraints on farm production?
2. What Government actions are needed to adjust to scarce inputs?

Ongoing work addresses those questions. We are conducting a comprehensive assessment of whether replacement of exiting farmers is a national concern. For years, about 1,000 to 2,000 farmers a week have been leaving farming, although new data indicates that the number of small parttime farmers is increasing. The study looks at whether inflation and the rising cost of land, equipment, and operation is closing farming as a profession to beginning fulltime farmers.

## CHAPTER 3

### FOOD PRODUCTION: MAINTAINING AND INCREASING PRODUCTIVITY REQUIRES NEW APPROACHES

Economic functions can be divided, at the macro level, into two categories: production and consumption. A third category, marketing, is an ill-defined link between the other two. We will discuss the production category in this chapter and marketing and consumption in later chapters.

#### AGRICULTURAL INPUTS HAVE CHANGED AND ARE FRAGILE

For almost the first two millenia of man's existence as a food cultivator, the inputs required for agriculture remained the same: human labor, draft animals, water, soil, sun, and seeds. Up until about 1930, U.S. agricultural productivity rose because farmers used more of those inputs. Since 1930, new kinds of inputs have been used in agriculture: farm machinery, petroleum-based fertilizer, advanced germplasm (seeds and plants), credit, and highly educated farmers.

A major concern to producers, and thus to the U.S. Government, is the future cost and availability of the basic resources used for producing food. American agriculture is highly dependent on these resources for a high level of output--particularly on fertilizer, which is critical for maintaining high crop yields.

Land, water, and energy resources available for agricultural production are expected to be in short supply in the 1980's. Farmland is now being used for homes, shopping centers, and industrial parks, and decreases in land fertility and topsoil will require more inputs to maintain productivity. Irrigation water is also in short supply in some regions, and losses in water and farmland may lead to lower crop production and still higher food prices. Concern does not stop just with the physical inputs. Uncertainty about capital, management, information, and labor is also increasing.

Agricultural policies will need to adjust to this supply scarcity situation, yet U.S. policies which affect each of these resources are often considered separately, not in conjunction with the total resource requirements for food production. The fossil fuel inputs are of particular concern because of their finite supply, rapidly expanding cost, and competing nonfarm use. Increased food output is expected to come from increased yields rather than bringing more land under cultivation. Energy-based fertilizer and water inputs are of uppermost concern. Their limited supply and higher costs can lead to diminishing returns and a potential leveling of farm output.

What type of agriculture will best fit the United States in the future? Can we rely on the type of industrialized agriculture we now have which depends on expensive or scarce inputs? Some experts predict that in the future the number of small part-time farms will increase, as will large farms, but that moderate-size farms (\$40,000-\$100,000 gross sales) will phase out.

Farmers are also reaching into the manufacturing and processing sector through cooperatives, a trend that will probably accelerate. Thus, the farm sector is becoming integrated vertically as well as horizontally.

#### Programs to support farm productivity need rethinking

Prior to 1972 the Federal Government's principal food concern was managing what seemed to be a perpetual surplus. At the same time, we were concerned with maintaining sufficient farm income levels to ensure adequate food production. The situation is changing, however. Farm income figures suggest that farmers have benefited somewhat from farm productivity gains since per capita farm income has increased. USDA data suggests that farm families' incomes have almost reached comparability with nonfarm families even though margins per acre have fallen.

The debate over Federal programs to support farm productivity has become heated as the Reagan administration targeted cotton, peanuts, and dairy programs for changes to achieve budgetary reductions. The administration proposes to rely on increased market demand resulting from world food shortages to increase U.S. farm productivity, rather than Federal farm program support from target prices and deficiency payments to farmers.

#### How effective and adequate are farm programs directed toward maintaining farm productivity?

Concern is growing that current Federal commodity programs, as well as other programs and policies, are having unintended effects on the structure of agriculture. Even though these programs are aimed at improving the economic viability of farming, they have not addressed concerns about farm income effects on other sectors, rural decay, fertility loss, and decreased farm sector productivity. Farm margins continue to be squeezed and the highly leveraged new farmers are particularly prone to failure. Some observers believe that current farm programs designed to maintain productivity and support farm income, have outlived their usefulness and are not appropriate to the present realities of U.S. agriculture with its large, industrialized farms.

From the end of World War II to the early 1970's, according to Dr. Pierre Crosson, Senior Fellow, Resources For The Future, Inc., the real price of key land-saving inputs--energy, fertilizer,

A second effort we have underway will identify sources of information on agriculture's current and projected capital needs and potential future sources of capital. We will also identify financial analysis measures to assess agriculture's financial viability.

In a third review we are assessing the current combination of policies affecting the nutrient content of the soil and incentives to preserve farmland fertility. The review appraises how the current marketing system affects the recovery of soil depletion costs and alternatives that could be employed.

We published the following reports keyed to this issue during the past 18 months:

"Summary of Major Deficiencies in the Farmers Home Administration's Business and Industrial Loan Program" (CED-81-56, Jan. 31, 1981).

"A Framework and Checklist for Evaluating Soil and Water Conservation Programs" (PAD-80-15, Mar. 31, 1980).

"The Farmers Home Administration's Economic Emergency Loan Program Could Be More Effective" (CED-80-84, Mar. 28, 1980).

"FmHA, ASCS, and Extension Service: The Cooperative Extension Service Should Provide Farmers With More Information on Farm Credit Sources" (CED-80-45, Feb. 27, 1980).

#### AGRICULTURAL STRUCTURE HAS CHANGED

In January 1981 USDA issued a report resulting from its major study of agricultural structure entitled "A Time To Choose." That report concluded that U.S. food and agricultural policy has never had an explicit agricultural structure pattern as a model, although "family farms" were the encouraged mode of farm organization. However, family farms in the United States are beginning to be only a fond memory from the country's past, a tidbit of Americana that, like general stores and home milk delivery, has been pressured to concentrate. The USDA report was intended to demonstrate to farm policymakers that agricultural realities have changed.

Since 1950, U.S. farmers have been going out of business at the rate of more than 2,000 weekly. The number of farms dropped from 8 million in 1935 to 5.7 million in 1950 to 2.34 million in 1974 and was projected to drop to 1.5 million in 1980. Future farms are expected to become larger and require fewer workers as machinery and capital are substituted for human labor. Since 1950 the average farm size has increased about 80 percent. Nearly two-thirds of the Nation's food and fiber is produced by about 13 percent of the farms (200,000) and over one-third by less than 3 percent of the farms (50,000).

Questions to be addressed in this issue are:

1. What production control mechanisms and productivity incentives will best adjust U.S. capacity to current and future demand?
2. What is the impact of low margins on the farm sector and its ability to provide food?
3. What Federal action can be taken to bring farm income in line with risk, potentially reducing Federal program costs?
4. What opportunities exist for administering the farm programs in a more efficient and economical manner?

Our current examination of the Commodity Credit Corporation's commodity storage program is expected to uncover management weaknesses which have led to spoilage.

We are also reviewing the continued need for and effectiveness of USDA support programs for the wool/mohair industry. In spite of USDA programs, production has fallen and no evidence exists that the programs have resulted in better quality wool. Meat demand influences production more than fiber demand.

We issued the following reports during the past 18 months in this issue:

"Information on Peanut Allotment Owners That Lease and Rent Away Rather Than Plant Their Peanut Allotments/Quotas" (CED-81-156, Sept. 21, 1981).

"Storage Cost Data on CCC-Owned Commodities" (CED-81-157, Sept. 18, 1981).

"Analysis of Certain Operations of the Federal Crop Insurance Corporation" (CED-81-148, July 30, 1981).

"Farmer-Owned Grain Reserve Program Needs Modification To Improve Effectiveness" (CED-81-70, June 26, 1981).

"Weak Management in Animal Disease Control Program Results in Large Economic Losses" (CED-81-96, June 24, 1981).

"More Can Be Done To Protect Depositors at Federally Examined Grain Warehouses" (CED-81-112, June 19, 1981).

"Gross and Net Income of Major U.S. Sugar Cane and Beet Producers" (CED-81-113, May 29, 1981).

"Better Data Needed To Determine the Extent to Which Herbicides Should Be Used on Forest Lands" (CED-81-46, Apr. 17, 1981).

and water--fell. <sup>1/</sup> At the same time, Government programs were encouraging farmers to keep land fallow and to use land-saving technologies, resulting in increasing crop yields. After 1972, when prices of energy and fertilizer began to rise, and foreign agricultural sales to increase, farmers began to use more land or to use land more intensively, leading to a decreased rate of increasing crop yield. Unless Government policies change, these trends will likely continue.

Public food and agricultural policies seek to accommodate simultaneously the multiple interests of farmers, consumers, traders, transporters, manufacturers, suppliers, rural communities, and food-deficit countries. Policy objectives include the amount and stability of farm income; equitable treatment of producers of various commodities; and in different regions, food aid, economic viability of rural areas, and the cost of programs to achieve these objectives.

Programs resulting from these policies seek to shift some of the production and price risk from farmers to society and ultimately to maintain and improve farmers' incomes. The U.S. Government has supported prices of major farm crops for many years. Current commodity programs support farm income and prices. Under the Reagan administration, proposals for farm programs and policies have three basic objectives:

- Reduce the role of Government in agriculture, while reorienting food and fiber programs to the marketplace.
- Maintain and increase the growth in agricultural productivity.
- Reduce Government costs to the minimum while maintaining maximum flexibility for timely adjustments.

Ongoing work in the issue  
and past GAO reports

In this issue, we intend to continue to evaluate USDA's ability to track the direction of the farm sector, anticipate changes in the world environment, and have contingency plans available to adjust farm programs accordingly. Our reviews will also reflect the status of the debate on farm income, since the Reagan administration plans to rely increasingly on free market forces rather than Government intervention to influence farm income.

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<sup>1/</sup>Pierre Crosson; "Is There A Crisis In Agricultural Inputs?"; Food In The Future: Proceedings of a Planning Symposium (CED-81-142, 1981).



The National Aquaculture Act was approved on September 26, 1980. It sets forth a national aquaculture policy, requires that a national aquaculture development plan be established and implemented, and encourages aquaculture activities and programs in both the public and private sectors. Aquaculture programs are authorized at \$70 million through 1983 for program activities in the Departments of Commerce, Agriculture, and the Interior.

The American Fisheries Promotion Act (title II of Public Law 96-561, which was approved Dec. 22, 1980) provides a mechanism to help achieve self-sufficiency for U.S. fisheries and to take care of the industry's short- and long-term needs. Major provisions of the legislation provide for accelerating the national fisheries research and development program, expanding the availability of Saltonstall-Kennedy funds to the private sector, extending financial assistance to shoreside fish processing facilities and depressed sectors of the fishing industry, improving access to overseas markets for U.S. fish products, requiring full observer coverage of foreign vessels operating within the U.S. fishery conservation zone, increasing fees charged to foreign fishermen, and increasing the amount of fish that can be harvested by U.S. fishermen.

The Magnuson Fishery Conservation and Management Act provides for U.S. control over all fisheries (except tuna) within 200 miles of our shores. It provides a framework for managing fishery resources on the basis of maximum sustainable biological yields (the balance between the amount of the fishery resource that can be taken and still allow sufficient quantities to permit the fishery resource to renew itself), as modified by relevant social, economic, and ecological factors. U.S. fishermen and processors receive preferential access to fisheries resources within the 200-mile fisheries zone. Foreign harvest is limited to the portion of the allowable catch of each resource which exceeds the U.S. harvesting capacity.

What are the trends in fish productivity and opportunities for improvement?

Concern has increased lately over the plight of U.S. fishermen. Because of the sharply rising costs of fuel and other necessities, fishermen are finding it more and more difficult to compete with Canadian and Mexican fishermen, whose costs are partly subsidized by their governments. Much concern has also been expressed over whether U.S. policy governing foreign fishing in our fishery conservation zone should be modified; for example, to improve our method of determining catch quotas for foreign countries or to make greater use of our fish resources as a bargaining tool in trade negotiations. Japan has recently reduced trade barriers in return for increased fishing rights in U.S. waters. Another issue of growing concern is that certain Federal regulations governing the conservation and management of fisheries may be imposing an unduly onerous burden on the fishing industry.

"An Assessment of Parity As a Tool for Formulating and Evaluating Agricultural Policy" (CED-81-11, Oct. 10, 1980).

"Problems in Collecting and Setting Aside Adequate Knutson-Vandenburg Funds To Do Needed Work" (CED, Aug. 13, 1980).

"Evaluation of Comments Made by the Dairy and Poultry Subcommittee, House Agriculture Committee on GAO's Report Entitled 'Alternatives to Reduce Dairy Surpluses'" (CED-80-88A, Aug. 12, 1980).

"Problems Plagued Department of Agriculture's Grasshopper Control Program in 1979" (CED-80-95, Aug. 11, 1980).

"Nonresident and Nonfarm Operator Ownership of Farmland" (CED-80-125, Aug. 6, 1980).

"Alternatives To Reduce Dairy Surpluses" (CED-80-88, July 21, 1980).

THE FISHING INDUSTRY--  
THE FORGOTTEN SECTOR

The U.S. fishing industry represents an important segment of the Nation's economy. According to the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, in 1980 the fishing industry produced goods and services that contributed approximately \$7 billion to the Nation's gross national product. More than 277,000 individuals are directly employed in this industry, and its products are an important source of protein for U.S. consumers. Although the variety of species in the U.S. catch is great, U.S. fishermen tend to concentrate on a few high-volume species which yield good profits.

The Magnuson Fishery Conservation and Management Act of 1976 (16 U.S.C 1801) sets forth the Nation's basic fisheries goals--conservation and management of resources and development of the U.S. fishing industry--to ensure that our citizens benefit from the employment, food supply, and revenue which can be generated. The act created opportunities for major industry expansion, especially in the area of underutilized species. NMFS estimates that development of six underutilized species, such as whiting or hake, could produce 38,000 new jobs and contribute \$1 billion to the U.S. economy by 1990, while reducing the U.S. trade deficit by at least \$1.5 billion. According to the National Oceanic and Atmospheric Administration, programs and activities authorized by the act were allocated about \$160 million in fiscal year 1981.

Congressional interest in fisheries management and development remains at a high level. Two major laws dealing with U.S. fishery resources were enacted during the 96th Congress--the National Aquaculture Act of 1980 (Public Law 96-362) and the American Fisheries Promotion Act (Public Law 96-561, title II).

"Developing Markets for Fish Not Traditionally Harvested by the United States: the Problems and the Federal Role" (CED-80-73, May 7, 1980).

Ongoing work in the issue  
and past GAO reports

Currently, three reviews are underway which deal with fish productivity issues. In one survey, we are assessing efforts by the Departments of Agriculture, Commerce, and the Interior to establish a National Aquaculture Development Plan as called for by the National Aquaculture Act of 1980. In another effort, we are taking a comprehensive look at the effectiveness of eight regional fishery management councils in carrying out the purposes of the Magnuson Fishery Conservation and Management Act of 1976. Finally, we are assessing the continuing need for financial assistance programs for fishermen, such as the Fisheries Loan Fund.

While we have concentrated on fishery resource management activities, we are now turning our attention to the opportunities legislation has created for the United States to make greater commercial use of its vast fishery resources. The world needs protein, and seafood provides excellent protein without a heavy load of fats and carbohydrates. Yet, the U.S. per capita consumption of fish was estimated at only 13 pounds in 1980. If we are to depend more on marine fish and shellfish for our protein in the future, then we must develop the research and monitoring capabilities needed to manage the harvest of those resources more wisely.

Our work's objective continues to be to encourage agencies to work with industry, State fishery agencies, and economic development officials to maximize fishery resources. During this planning period, we are also encouraging congressional oversight to ensure that fishery resources are developed and managed to achieve maximum public benefit.

Questions to be addressed:

1. What is the potential for harvest of U.S. fishery waters?
2. What Government efforts are needed to effectively manage and fully utilize fishery resources?
3. What would the impact be on the fishing industry, job development, and coastal resources if U.S. waters were fully developed?
4. How has U.S. policy governing foreign fishing in U.S. waters benefited or hurt our Nation?

Two reports were published in this issue during the past 18 months:

"Foreign Investment in U.S. Seafood Processing Industry Difficult To Assess" (CED-81-65, Mar. 30, 1981).

Even though the percentage of disposable income spent on food is relatively modest, consumer attention has focused on the rising cost of food at the supermarket, which has provided the impetus for the growth of a variety of alternative methods of food distribution in recent years. Some consumers have formed buyers' cooperatives in an effort to enjoy the cost benefits of wholesale buying. Retailers themselves have attempted to provide the consumer with low-cost alternatives primarily in the form of "generic" food and limited-assortment discount food stores.

The Government's role in the domestic marketing sector is yet ill-defined, however. USDA, the Food and Drug Administration, and the Federal Trade Commission each intervene in food manufacturing, processing, and distribution, and their efforts overlap one another as well as State and local organization efforts.

### Trends developing in manufacturing and distribution

Events are taking place in the food manufacturing and distribution sectors that some observers believe will have a significant effect on the future U.S. food supply. Merger activity is causing 3 percent of all food manufacturing firms to disappear each year. Since 1975, merger activity has increased thirtyfold among food chains. Vertical integration is increasing as food processors, such as canneries, acquire production facilities. Food retailers and restaurateurs are acquiring their own processing facilities. These events add up to increased concentration in the food industry. Another area of concern is foreign investment in U.S. food retailers.

The Reagan administration is expected to emphasize increased industry deregulation, coupled with free-market, laissez-faire policies. Thus, less, not more, Government intervention is likely in domestic food manufacturing and distribution.

However, some observers believe that the food industry does not lend itself to the sweeping regulatory change the Congress and the previous administration made in other areas, such as transportation. Public concern for food safety and nutritional value will continue the need for Government's role in regulating those food qualities. Further, increasingly limited food supplies and the limited resources to produce food may focus more attention on the efficiency with which the food industry converts resources into goods and services.

### Is Federal action needed to improve efficiency in food marketing?

Food, as the largest U.S. industry, touches in some way practically every other industry and is a major inflationary factor to the consumer. It is important that attention be placed on the efficiency with which the industry converts resources into goods and services. It is also important that attention be placed

## CHAPTER 4

### FOOD MARKETING: GOVERNMENT'S REGULATORY ROLE IN

### THE COSTLY LINK BETWEEN PRODUCERS AND CONSUMERS

#### NEEDS BETTER DEFINITION

The food marketing sector links the farmer and consumer through processing, packaging, and distributing farm products. It includes Federal food quality assurance programs designed to ensure that consumers are provided with safe, nutritious food. It involves not only the domestic movement of food but also exports of U.S.-produced and -processed food as well. The sector accounts for the bulk of food cost.

#### MARKETING COSTS ARE HIGH AND RISING

Many components of the marketing bill, such as labor, packaging, advertising, and transportation, are affected by a wide variety of Government programs, policies, and regulations, ranging from social security taxes to regulations in a host of other areas, as well as by industry practices. In 1980, marketing bill charges on food after it left the farmer were estimated to be about \$182 billion, or almost 70 percent of the \$262 billion spent for food at the consumer retail level. Marketing bill charges in 1980 were approximately 12 percent higher than in 1979. Most of this increase resulted from labor and food packaging costs--major components of the marketing bill.

Rising marketing charges have been blamed frequently for rising food costs. The sharp increases in food prices in this decade--20 percent in 1973, 14 percent in 1974, 9 percent in 1975, 4 to 5 percent in both 1976 and 1977, 10 percent in 1978 and 1979, and about 8 percent in 1980--are of great concern to the Congress and consumers. These price increases are occurring despite fluctuating farm prices; when farm prices fall, there appears to be no proportional downward pressure on prices at the retail level.

However, even with the average 10-percent annual rise in consumer food costs during the 1970's, Americans still spend a relatively low percent (approximately 16.5 percent) of their incomes on food, compared to other countries. Consumers have gained from increases in farm productivity. Since 1930, when agricultural productivity began to increase rapidly, food prices have gone up in dollar terms but food bills have declined as a percent of disposable personal income. 1/

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1/Leo V. Mayer; "Farm Productivity--Balancing Technological, Farm, and Social Goals," Food In The Future: Proceedings of a Planning Symposium (CED-81-142, 1981).

"Grain Fumigation: A Multi-Faceted Issue Needing Coordinated Attention" (CED-81-152, Sept. 10, 1981).

"Emerging Issues from New Product Development in Food Manufacturing Industries" (CED-81-138, Aug. 19, 1981).

"Analysis Of Certain Aspects of the California/Arizona Navel Orange Marketing Order" (CED-81-129, July 2, 1981).

"Federal Role in Developing Grain Subterminals Should Be Coordinated by USDA" (CED-81-101, May 14, 1981).

"U.S. Grain Transportation Network Needs System Perspective To Meet Future World Needs" (CED-81-59, Apr. 8, 1981).

"Comments on Food Advertising Proposals" (CED-81-21, Nov. 7, 1980).

"Direct Farmer-to-Consumer Marketing Program Should Be Continued and Improved" (CED-80-65, July 9, 1980).

"Grain Subterminal Facilities" (CED-80-104, June 5, 1980).

"Comments on Proposed Food Labeling Regulations" (CED-80-89, Apr. 21, 1980).

"Maze of Food Regulations--Need For A Regulation Indexing System" (CED-80-44, Feb. 4, 1980).

#### FOOD PROCESSING: THE GOVERNMENT'S ROLE

U.S. consumers assume not only that the food system will provide enough food but also that the food will meet their nutritional needs, will not be detrimental to health, and will be priced within their budget. The growing complexity of food distribution, consumer income, nutritional needs, and food processing technology has paved the way for Government involvement in assuring food availability and quality since the late 1880's. We now rely on the Government to administer programs dealing with food safety, grading, standards of identity, nutritional information, advertising, research, and monitoring.

Assuring food quality is the result of three different, sometimes separate, inspection procedures: (1) safety inspection, (2) grading inspection, and (3) a combination of safety, grading, and additional criteria under quality assurance inspection. While the Federal Government is intensifying attempts to induce the States and the food industry to share the inspection burden, counterpressures from consumers fearful of industry laxity make it a slow process.

Food grading refers to all the different ways food products can be measured and described, and is a complicated subject. Grading for quality can mean almost anything, from redness,

on the roles played by Government agencies involved in the food marketing sector. These roles, to date, have not always been clearly defined. For example, the Reagan administration recognizes that its emphasis on increased agricultural exports has implications for the U.S. domestic transportation system--roads, bridges, interior waterways, railroads, terminals, docks, and harbors. Yet, currently the Government has no means of approaching systemic analysis of the food transportation network to define potential problems. A large question remains about who is to bear the future cost of maintaining or upgrading the food transportation system.

We believe this issue is important because of the tremendous dollar impact "marketing" has on everyone's food bill. We feel that opportunities exist for economies and efficiencies in this area, and that the Government's role in the marketing function ought to be more closely defined and examined.

#### Ongoing work in the issue and past GAO reports

Much work remains to be done in this issue. Our objectives are to begin to define the appropriate Government role in the marketing sector to use as a benchmark for existing or contemplated Federal efforts as well as to continue to encourage private sector use of non-Federal resources. We also are targeting for review Government marketing and regulatory programs to determine whether the programs are still meeting needs.

Questions to be answered are:

1. What impact do various Government agencies and actions have on the economies and efficiencies of the food marketing system?
2. What can be done by Government agencies to encourage, not impede, a smooth-functioning, economic and efficient marketing system?

We will concentrate on improving institutional arrangements and Government/industry partnership opportunities.

An ongoing review addresses the questions. We are developing information and identifying issues concerning the U.S. grain export marketing system.

During the past 18 months, the following reports were published concerning this issue:

" High Food Prices in the Virgin Islands" (CED-82-23, Dec. 16, 1981).

"The Packers and Stockyards Administration's Regulatory Reform Activities" (CED-82-11, Nov. 16, 1981).



- provision of support services in the fields of chemistry, microbiology, pathology, parasitology, toxicology, and epidemiology; and
- approval of plant and animal facilities and equipment.

#### The FDA food safety role

Efforts to provide and promote food safety are undertaken by FDA. FDA food safety activities include

- food sanitation control;
- insurance of the safety of ingredients added to food;
- prevention of chemical contaminants from entering the food supply;
- control of communicable diseases spread through interstate transportation of food;
- identification and control of mycotoxins and other natural poisons in foods;
- improvements of nutritional quality of foods through nutrient labeling, nutrient composition, and biological availability of nutrients in food;
- improvements in safety and quality of shellfish; and
- insurance of fair packaging and labeling and prevention of adulterated foods from reaching the public.

#### Do food quality assurance programs effectively and efficiently ensure the provision of safe, nutritious food to consumers?

A quality assurance program, in industry, encompasses all the actions taken by the manufacturer, the buyer, or the Government to ensure that the product conforms to requirements, whether standard, regulatory, or contractual specifications. A quality assurance system includes more than product inspection or testing. It includes

- setting product standards or specifications;
- the manufacturer's own system of quality control;
- an audit by a second party, usually the buyer, of the manufacturer's quality procedures, both for manufacturing and for subcontracting;
- product inspection, both while in process and when in final form; and

crispness, inches wide, or "grown-in-Florida," to prime, jumbo, No. 1, AAA, or canner/cutter. Food grading standards and inspection provide a basic food nomenclature for growing, processing, distributing, and using food.

Food grading has long been the exclusive domain of the producers and distributors because it was necessary for commerce. Recently, however, consumers have begun to recognize the economic importance of food grading standards as price-setting specifications. "Choice" beef commands a better price than "canner" beef. Hard red wheat has a different price than soft winter wheat. Presumably, the price has some relationship to the quality standards used for each food, but this is not always the case.

USDA's Federal Grain Inspection Service, Food Safety and Inspection Service (FSIS), and Agricultural Marketing Service are responsible for inspecting and grading numerous products including cotton, dairy products, fruits and vegetables, grain, and meat and poultry products. Staff members in USDA's FSIS conduct 80 percent of the Federal food quality and safety inspection work. The Department of Health and Human Services' (HHS) 2,000 staffers at the Food and Drug Administration (FDA) cover the rest. State and local inspection efforts complement the Federal force.

#### The USDA food safety role

USDA food safety activities are conducted primarily by the Food Safety and Inspection Service and include

- inspection of animals and poultry before and after slaughter;
- inspection of the processing of meat and poultry to ensure that the products are wholesome, produced under sanitary conditions, and not adulterated or mislabeled;
- inspection for harmful pesticides and other chemical and biological residues;
- onsite reviews of foreign inspection systems and plants exporting meat and poultry products to the United States;
- condemnation of meat and poultry products;
- regulation of related industries, including animal food manufacturers, brokers, shippers, and wholesalers, to prevent uninspected or adulterated meat or poultry products from entering human food channels;

The objective of our work is to encourage congressional oversight to ensure that the U.S. food supply remains safe and nutritious at the least cost to the taxpayer.

Our current work concentrates on questions 2, 3, and 4. Our assignment evaluating the management structure of the Animal and Plant Health Inspection Service aims to identify the underlying cause of its management problems and to develop ways to improve program management. Prior work has shown that the Service has management problems which probably result from the management structure. In another ongoing assignment in the Food Safety and Inspection Service, we are evaluating whether the standards governing water and extenders added to meat and poultry products are reasonable and enforceable at minimum cost. In addition, we are assessing the feasibility of consolidating similar grading and contract compliance services now carried out by the Agricultural Marketing Service and the Federal Grain Inspection Service, to reduce costs and increase program effectiveness.

During the past 18 months, we issued many reports addressing this issue:

"Improving Sanitation and Federal Inspection at Slaughter Plants: How To Get Better Results for the Inspection Dollar" (CED-81-118, July 30, 1981).

"Followup on the National Marine Fisheries Service's Efforts To Assess the Quality of U.S.-Produced Seafood" (CED-81-125, June 22, 1981).

"Department of Agriculture Should Have More Authority To Assess User Charges" (CED-81-49, Apr. 16, 1981).

"Increase in Hourly Rate Charged by Department of Agriculture for Resident Inspectors at Egg Processing Plants" (CED-81-82, Mar. 11, 1981).

"Further Federal Action Needed To Detect and Control Environmental Contamination of Food" (CED-81-19, Dec. 31, 1980).

"Need To Assess Quality of U.S. Produced Seafood For Domestic and Foreign Consumption" (CED-81-20, Oct. 15, 1980).

"Procedures for Testing Garbage To Be Fed to Swine Need Strengthening" (CED, Sept. 3, 1980).

"Need for More Effective Regulation of Direct Additives to Food" (HRD-80-90, Aug. 14, 1980).

"Grain Inspection and Weighing Systems in the Interior of the United States--An Evaluation" (CED-80-62, Apr. 14, 1980).

--a feedback system monitoring product performance in actual use and historical records of both the manufacturer's and the product's quality history.

A quality assurance program is designed around the concept, not of risk, but of confidence--achieving maximum product confidence at the minimum cost for the control program itself. Confidence is a matter of perception; no matter how stringent the quality system, 100 percent confidence that the product is good or safe can never be achieved. For that reason, quality assurance systems usually are designed so that the level of control effort matches the confidence required of the end product: its criticality, its complexity, its manufacturing history, and its ultimate end use.

The Federal Government's current involvement in food quality assurance is a patchwork which little resembles the quality assurance system discussed above. Nevertheless, the general public relies on Federal and State food safety, inspection, and grading programs to provide a food quality assurance program. Efforts to improve the safety of food are undertaken under safety inspection programs separately administered by HHS and USDA. The objective of the Federal grading process administered by USDA is ultimately to provide a set of food standards which can describe conveniently the quality of different products for producers, processors, and consumers. Information on the cost of Federal and State programs involved in assuring food quality is not readily available.

Ongoing work in the issue  
and past GAO reports

Quality assurance is the intended result of the various Federal safety, inspection, and grading programs. While we have devoted considerable effort to the quality of grain inspection in the past, we have only briefly touched quality assurance for other commodities.

The questions which must be addressed are:

1. Are the food safety standards and standard-setting procedures effective and reasonable?
2. Are the food grading standards and standard setting procedures effective and reasonable?
3. What does it cost the taxpayers for the current mixture of safety, grading, and quality inspection programs? Are they effective?
4. Is it feasible to develop a coherent Federal food quality assurance system?

high level of export activity to support domestic interests in both farm and nonfarm sectors.

### Hidden export costs

Some observers have forecast that by the end of the 1980's, the United States will have global leverage over agricultural product prices. However, policymakers have been and remain reluctant to take full advantage of America's comparative advantage in agriculture. Critics charge that low U.S. export prices disrupt developing countries' attempts to stimulate their indigenous agriculture, while the American people unwittingly subsidize export prices through soil loss caused by intensified farming. Thus, the United States is selling grain at less than the long-term cost of its production, according to its critics.

- Policy alternatives suggested to deal with this issue include
- using two-tier pricing systems, including export levies;
  - restricting export volume by quotas;
  - creating a national grain marketing board; or
  - stabilizing world grain markets through an international commodity agreement.

### Structure causes concern

The U.S. grain export trade is dominated by four major private trading firms. These firms have expended great energy opening foreign markets for U.S. exports, but some concern has been expressed that those organizations may not act in the best interest of the Nation as a whole.

The private grain traders favor the free market policies of the Reagan administration, which will strongly push for removal of foreign market barriers to U.S. agricultural products. Nearly two-thirds of U.S. exports are subject to foreign market restrictions greater than the United States imposes on imports (45 percent of U.S. imports are duty free). The administration believes that the sooner those barriers are removed, the less expensive the real cost of food for export will be in the next two decades.

Other countries do not share the U.S. free market philosophy. The European Common Market is of particular importance because of its restrictive agriculture policies toward the United States and its sizable market potential. The multilateral trade negotiations have progressed slowly, particularly with respect to agricultural issues. Many developed countries are sensitive about their agricultural policies and are quick to protect their domestic interest against the United States and other food exporters.

## MARKETING FOOD ABROAD

The Federal role in marketing food abroad is much better defined than its domestic marketing role, although Government programs intervene only at the margins of U.S. trade. The Reagan administration is expected to vigorously pursue increased U.S. food exports, opening new markets and training U.S. embassy agricultural attaches and counselors for needed food processing and storage expertise.

Trends which have made the United States the predominant world food exporter will accelerate in the 1980's, according to USDA:

--During the 1970's, the gap between what foreign countries produced and consumed for wheat and coarse grains increased by 7 million tons a year.

--In the 1970's, the United States contributed 51 percent of the world wheat export increase and 89 percent of the coarse grain export increase.

The United States supplies 43 percent of the world wheat exports, about 71 percent of the coarse grain exports, and 84 percent of the soybean exports. Agricultural exports reached a record \$40 billion in 1980. Food exports provide farmers with one-fourth of their income.

Coinciding with the surge in food exports has been the more than 100-percent increase in food prices since 1967 as well as several dramatic market intervention actions by the Federal Government, including imposition of export controls, negotiation of international commodity agreements, and negotiation of a bilateral trade agreement with China. These actions have significantly influenced domestic supply and prices as well as our foreign economic objectives. Critics charge that there is not sufficient appreciation by policymakers of the link between domestic and foreign food and agriculture policy; they offer little hope of the Reagan administration's alleviating the dichotomy.

Despite the well-publicized Russian grain purchases, Asia is the United States' largest customer, followed by Western Europe, Latin America, and Russia. About 40 percent of U.S. grain exports go to developed countries, 30 percent to less developed countries, and 30 percent to centrally planned economies. China has replaced Russia as the United States' most active Communist trade partner.

The United States now accounts for nearly 50 percent of all food in international trade and is one of only five major countries having a net export food balance. Clearly, we are the dominant power in world food trade, and thus we are dependent on a continued

--How does grain trade policy relate to foreign policy?

--How will the United States cope with world grain market instability?

These are complex issues involving political, social, and economic factors.

Ongoing work in the issue  
and past GAO reports

Because of the importance of U.S. agricultural exports to the U.S. balance of payments and to the domestic economy, there is a continuing and critical need to review Government programs which promote U.S. agricultural exports. The questions in this issue are:

1. What are the export opportunities for excess U.S. food production capacity, and which should be pursued?
2. What action is needed to manage exports and to take advantage of these opportunities?
3. Should the Federal Government be concerned about hidden export costs?

No work is ongoing in this issue.

During the past 18 months, the following reports were published relating to this issue:

"Lessons To Be Learned from Offsetting the Impact of the Soviet Grain Sales Suspension" (CED-81-110, July 27, 1981).

"Suspension of Grain Sales to Soviet Union: Monitoring Difficult-- Shortfall Substantially Offset" (C-CED-81-1, Mar. 3, 1981).

"Competition Among Suppliers in the P.L. 480 Concessional Food Sales Program" (ID-81-06, Dec. 19, 1980).

"Promoting Agricultural Exports to Latin America" (ID-81-05, Dec. 11, 1980).

Also, limited attention has been paid to potential exports of finished agricultural products and postharvest or other agricultural technology.

How effective are Federal efforts to maintain strong U.S. agricultural commercial exports?

U.S. agricultural exports have emerged as a major force in the domestic and international marketplace, and further expansion of world markets is conceivable. Expansion would greatly help our overseas balance-of-payments situation and is vital to sustaining U.S. farm income levels. However, rising export volume puts greater strain on U.S. resources such as soil and water.

In view of the Nation's dependence on exports and the world's dependence on U.S. food, it is important to know whether the United States can maintain strong agricultural export sales. The needs of producers and consumers--both foreign and domestic--and the need to conserve the Nation's natural resource base must be considered.

To capitalize on the growing foreign demand for U.S. agricultural products, the Congress in 1978 authorized establishment of 6 to 25 overseas U.S. Agricultural Trade Offices under the Agricultural Trade Act. USDA's Foreign Agriculture Service also has agreements with about 54 U.S. agricultural commodity trade associations and 4 regional groups representing 45 State agriculture departments to develop worldwide markets for U.S. agricultural products.

Questions exist about the effectiveness of USDA's way of determining exportable agricultural surplus. The Foreign Agriculture Service has no system to determine in advance what commodities will be needed or what should be marketed most aggressively. A communication problem exists between the Foreign Agriculture Service, which is organized according to commodity, and the USDA Economic Research Service, which gathers and analyzes production data and which is organized according to country.

Concern has been expressed that the United States gives more than it gets in its international trade, since other nations are protective of their own national interests. U.S. policies in the multilateral trade negotiations, and in other international negotiation forums, such as the United Nations Council on Trade and Development and the Organization for Economic Cooperation and Development, should be monitored for consistency and compatibility with food trade policy in general.

Major issues to be examined during the next several years in U.S. agricultural trade will be:

- What are the implications of rising export volume for U.S. resources and the U.S. economy?



are based on scientific fact or consensus; are specific and useful; are easily understood and effectively communicated; and are generally acceptable to the scientific community, the food industry, and the general public. Publication of the USDA/HHS "Dietary Guidelines For Americans" in 1980 marked the first time since World War II that the Government issued joint dietary guidelines. The lack of an effective baseline on nutritional status of the population severely hampers the usefulness of these kinds of guidelines.

The need for data on diet and consumption patterns will continue to be important in the future because of changes in the food supply, an emerging concern about diet-related health issues, food price increases, foreign market expansion, and Federal food program cutbacks. While the Federal Government has nutrition surveillance systems, some observers question their adequacy to meet information needs.

#### How adequate are Federal nutrition surveillance systems?

The objective of a national nutrition surveillance and monitoring system is to provide timely and useful information on the nutritional health status of the population and its segments. Past GAO reports recommended development of a nutrition surveillance system and provided criteria for its design. These reports, prepared in 1978, provided opportunity for HHS and USDA to integrate existing programs, 1/ leverage program funds, and improve the usefulness and timeliness of information. The agencies have combined program functions to some degree. Some Members of Congress have expressed renewed interest in a surveillance system as a means of better targeting domestic food assistance and nutrition education programs. The possible move toward block grant funding for food and nutrition programs heightens the need for a method to evaluate the health and nutritional impact of the shift.

#### Ongoing work in the issue and past GAO reports

With the emphasis on budget cutting and the need to define the "truly needy," we believe it is imperative that a solid information base be established on the nutritional status of Americans in all age groups and at different economic levels. Most food assistance programs have been justified on the basis that the poor need additional resources for food without clearly defining "poor" or the level of assistance needed. As a result, assistance given by the various programs often overlaps. Although the American people have always been willing to provide assistance to those persons unable to care for themselves, the Congress

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1/Some existing programs include USDA's nationwide food consumption survey, done every 10 years, and HHS' Health and Nutrition Examination Survey. See "Future of the National Nutrition Intelligence System," CED-79-5, Nov. 7, 1978.

## CHAPTER 5

### FOOD CONSUMPTION: PROGRAMS MUST MEET NUTRITIONAL NEEDS AT LEAST COST AND WITH GREATEST EFFECT

The ultimate goal of the U.S. food and agriculture system is feeding Americans well now and in the future, with the most productive use of resources, but not at the expense of our commitments to other nations for aid and exports. The U.S. system meets this goal remarkably well. Americans enjoy a plentiful, safe, nutritious, high-quality diet that is the envy of less fortunate countries. At the same time, we are able to export food to other countries. However, not all Americans are able to avail themselves of an adequate diet and some 13 major Federal programs provide food or food-related assistance to special target groups. These programs have evolved over time to meet nutritional needs of people who, for one reason or another, cannot meet these needs themselves. Meeting nutritional needs, however, is not only the goal of feeding programs, but of all Federal food and agriculture policy.

### NUTRITION: THE GOAL OF FOOD AND AGRICULTURE POLICY

Meeting human nutrition needs requires performing nutrition research and development to determine the nutritional needs of different people and to determine--through surveillance--the nutritional status of the U.S. population. Then policy can be established according to the degree and method of improvement needed in the nutritional status of various population segments.

Current nutrition standards are based primarily on the recommended dietary allowances (RDAs) established by the National Academy of Sciences. The RDAs are the best estimates of the amount of nutrients needed by the healthy human. However, they are not complete; they do not include all the known nutrients; they are not applicable to the nonhealthy individual; they are based on limited data; and they do not address some of the public's nutritional concerns about cholesterol, fat, sodium, and sugar. The scientific community, with Federal support, is conducting the research needed to expand our knowledge of nutrient requirements to improve and expand the RDAs.

In 1977, the Senate Select Committee on Nutrition and Human Needs published "Dietary Goals for the United States." This marked a turning point--a controversial one--in nutrition history because it was the first attempt by the Government to set specific goals and to recommend dietary changes and guidelines for the American public to improve their nutritional health status.

Since then, the Government has been grappling with the difficult task of developing dietary guidelines for Americans that

nutrition or combat hunger; they act as an income security program by supplementing available family income; and they contribute to farm and retail food sales and to reduction of surplus stock. Both the present administration and the Congress are reducing domestic food assistance programs.

The Federal role in food assistance has expanded over the years. In the 1930's and 1940's the Government moved into food coupons, school lunch, and food fortification. This role expanded again in the 1960's with the Food Stamp Program and the addition of other target food programs for children, pregnant women, the elderly, poor, and disabled.

Today, Federal food assistance programs total over \$14 billion, with \$13.8 billion of that spent on food stamps and child feeding programs. In 1980, 21 million persons participated in the Food Stamp Program each month, compared to 4 million each month in 1970. Food bought with food stamps in fiscal year 1978 amounted to about 4.5 percent of all food bought in the United States.

The nutrition program for the elderly, begun in 1975, has climbed from \$1.8 million in fiscal year 1975 to \$54 million in 1979. In addition, HHS administers title VII programs of the Older Americans Act that provide nutritious meals to those over 60 who cannot afford to eat adequately, lack meal preparation skills, have limited mobility, or are lonely. In fiscal year 1980, Federal cash assistance for the program was budgeted for \$254 million.

Another program--Headstart--is designed to give disadvantaged children an opportunity to develop skills before entering school. The program also provides meals to participating children. In fiscal year 1981, this program's budget request was \$825 million to serve 386,000 children--a 10-percent increase in children served since 1977, while program costs have nearly doubled.

Finally, the HHS Office of Community Services administers community food and nutrition programs designed to make Federal, State, and local feeding nutrition programs more accessible to the needy, at an estimated annual cost of \$26.2 million. These programs formerly were administered by the now-defunct Community Services Administration.

#### Feeding programs are complex, fragmented

Federal food assistance programs were developed on a piecemeal basis to address the specific needs of targeted groups. Benefit overlaps and gaps seem to have resulted--some people can receive duplicate food benefits under more than one program while others who are needy receive no benefits. Benefits under the Food Stamp Program are said to go often to those not truly needy. The Congress has cut back on the amount of benefits as well as

needs better information on what amounts of assistance are really needed.

We believe it is time to follow up on our earlier work on nutrition surveillance systems with a goal of ensuring that the Congress has the best data available.

Current nutrition work addresses education and information issues, a line of inquiry we are deemphasizing for the near future because of shifts in political emphasis and agency progress. In one review, we are assessing USDA's nutrition education efforts in elementary and secondary schools to determine if efforts are reasonably planned, or if a clearinghouse exists for educational materials so that States do not duplicate efforts. We are also reviewing HHS, USDA, and Federal Trade Commission labeling, advertising, and educational regulations to determine if they are consistent and result in consistent public information.

Future work will focus on how well the nutrition surveillance system provides answers to four basic questions:

1. What are consumption patterns?
2. What problems result from consumer diets?
3. How should feeding assistance and farm programs be changed based on current diet patterns and problems?
4. How well has the Government informed the public about food?

The answers to these questions determine the needs and identify target groups for feeding assistance and nutrition information and education programs. Nutritional surveillance information is also becoming important as design criteria for farm programs as supply constraints become more pronounced.

The following GAO reports related to nutrition issues were published during the past 18 months:

"GAO Comments On The Impact Of The USDA Reorganization on Nutrition" (CED-81-150, Aug. 17, 1981).

"Areas Needing Improvement in the Adult Expanded Food and Nutrition Education Program" (CED-80-138, Sept. 4, 1980).

"What Foods Should Americans Eat? Better Information Needed on Nutritional Quality of Foods" (CED-80-68, Apr. 30, 1980).

#### FEDERAL FOOD ASSISTANCE

Domestic food assistance programs serve several purposes. They make food available to eligible groups of people to improve

Questions which need to be addressed in the issue are:

1. What can be done to reduce Food Stamp Program fraud, abuse, and waste?
2. How can overissuances be further reduced and program operations and management improved?
3. Can program participation be reduced through recipient work programs?

These concerns are being addressed in three on-going jobs. A current review of accountability and integrity within the Food Stamp Program will ascertain what improvements might be made in food stamp legislation, regulations, and eligibility workers' practices to reduce the number of errors in determining eligibility and benefit levels. Errors occur primarily in determining earned and unearned income, household size and composition, and shelter cost deductions.

Another ongoing review will assess the operating effectiveness of each States' identification, pursuance, and collection of overissued benefits. An important element of this assignment will include evaluating the prevalence of fraud and ways to deter it. We are also following up on our audit of phase I of the Workfare Demonstration Projects.

Ongoing scoping efforts into determinations of eligibility and benefit levels, State and local program administration, and the review of workfare programs are on target. Recent legislation has changed some of the criteria for eligibility and benefit determinations, but the operational problems that plague the program will continue unless corrective actions are initiated.

GAO issued many reports concerning this issue during the past 18 months:

"Insights Gained in Workfare Demonstration Projects" (CED-81-117, July 31, 1981).

"Improved Collections Can Reduce Federal and District Government Food Stamp Program Costs" (GGD-81-31, Apr. 3, 1981).

"Information on Strikers' Participation in the Food Stamp Program" (CED-81-85, Mar. 26, 1981).

"Information on Dine-Out Feature of the Food Stamp Program" (CED-81-72, Feb. 27, 1981).

"Preliminary Information on Food Stamp Workfare Pilot Projects" (CED-80-129, Sept. 30, 1980).

"Reduced Cost and Increased Competition for Printing Food Stamp Coupons" (CED, July 25, 1980).

the targeted population. Questions are being raised about whether the programs are so broad in coverage that middle income groups are being assisted. Charges of excessive fraud, program abuse, and sloppy management are leveled regularly at the programs.

The Reagan administration, as one of its first undertakings, took aim at these multibillion dollar programs to cut their costs dramatically. Some important questions often heard are: "How can the management and operation of these programs be improved?" "How can the programs be better designed to help the truly needy while eliminating abuse?" "How can program expansion be controlled?" Other questions dealing with the broad implications of the number of food assistance programs are: "Are so many programs really needed?" "Is there a common objective to all these programs, and, if so, couldn't these programs be consolidated instead of being so fragmented?" "Can't these programs be integrated into a block grant system?"

In light of the huge amounts budgeted and spent, the current budget reductions, and the administration's and the Congress' desire to seek balanced ways to assist certain targeted groups, domestic food assistance will continue to be highlighted in oversight efforts. Changes in feeding assistance for children can be expected to receive particular attention, since that target group is especially vulnerable.

#### How can the operational efficiency and effectiveness of the Food Stamp Program be improved?

The Food Stamp Program is the primary Federal domestic food assistance program. Instituted on a permanent basis in 1964, the program was designed to help low-income households obtain more nutritionally adequate diets. About 23 million Americans are now served by the Food Stamp Program. Federal support for benefits and program administration will total about \$11 billion in fiscal year 1981, making it one of the largest Federal assistance programs and the largest USDA program. The large and accelerating costs of the program have made it a target of frequent and continuous challenge and change. Even with currently proposed budgetary reductions, dollars committed to the program will increase.

#### Ongoing work in the issue and past GAO reports

The food stamp issue continues to be significant because it focuses on operational efficiency and effectiveness at a time when Federal support is being cut back and program integrity is being questioned. Our planned work will address the problems of Food Stamp Program fraud, abuse, waste, and operational inefficiencies; overissuances of benefits; and recipient work programs--issues of considerable concern to the administration and the 97th Congress. Our objectives are to look for ways to improve program efficiency and effectiveness and program design.

2. Do changing conditions require a different approach-- such as consolidated block grants--to the Federal feeding programs?

In the past, we have concentrated primarily on feeding program operations and on program results. Fiscal constraints are encouraging greater congressional attention to reduce and revise these multibillion dollar programs. It is important that these changes are based on factual analyses of all programs, their operations, and intended results, especially where programs overlap.

Congress is somewhat reluctant to switch from categorical programs to alternative methods. Legislation proposing block grants was introduced in the 95th and 96th Congresses, and each year the concept gains more advocates. The Omnibus Budget Reconciliation Act of 1981 provides a block grant program for Puerto Rico food assistance programs. Some predictions are that the consolidated block grant approach for all food assistance programs may win in the 98th Congress. It would be helpful, therefore, if this alternative were studied to provide useful information for future congressional consideration. No assignments are ongoing at present in this issue. Two reports were published in this issue during the past 18 months:

"More Can Be Done To Improve the Department Of Agriculture's Commodity Donation Program" (CED-81-83, July 9, 1981).

"Public Assistance Benefits Vary Widely from State to State, But Generally Exceed the Poverty Line" (HRD-81-6, Nov. 14, 1980).

#### CHANGES IN CHILD FEEDING PROGRAMS

In May 1980, the Congressional Budget Office reported that during the 1970's Federal expenditures for child nutrition programs--school lunch, school breakfast, special milk, summer feeding, child care food, and special nutrition programs for vulnerable groups and children--grew from \$750 million to over \$4.7 billion. In 1980 the Federal outlays represented nearly 50 percent of total expenditures; State and local sources represented the other 50 percent. The manner in which these programs operate has been described as fragmented, overlapping, and administratively complex.

The largest of these programs is the National School Lunch Program, accounting for \$3.1 of the \$4.7 billion (about 65 percent). The Federal expenditure for the breakfast program was \$280 million in 1980. The administration and the 97th Congress have made budget cuts and changes in eligibility criteria that will lower the Federal expenditures in both the breakfast and lunch programs by about \$1 billion.

What alternative mechanisms are available to provide food to low-income target populations?

Domestic food assistance programs have changed significantly over the years. Some programs were created in the 1930's and 1940's when commodity surpluses were a problem. Others began in the 1960's and 1970's when pressures were being exerted to aid the low-income population. Categorical programs were authorized and developed in response to the specific problems and needs of target groups. The cost of these programs has grown dramatically. Federal support for 10 domestic food assistance programs increased from about \$0.7 billion to about \$14 billion, or about 1,900 percent, between fiscal years 1967 and 1981. These programs may have been appropriate when they were created, but under current conditions--that is budget cuts and limited program eligibility--other mechanisms or perhaps consolidation could be more efficient and effective.

Consolidated block grants are one alternative to the current Federal food assistance programs, and have been adopted for Puerto Rico. The consolidation approach offers simplified administration and flexibility in determining local nutritional needs. Integrating nutrition programs under a single administering agency could result in improved nutrition planning within a State--something that has not always been achievable at the Federal level.

The potential impact of a block grant system within a State would depend, in part, on the State's ability to conduct a meaningful assessment of nutritional needs and to formulate and implement programs addressing those needs. Whether the States can do this assessment and formulate programs can be addressed in this issue.

Ongoing work in the issue  
and past GAO reports

The issue of alternative domestic food assistance mechanisms continues to be significant because it focuses on program efficiency at a time when Federal support for food assistance is being cut. Work planned should be helpful to the administration and to the Congress, as it will point out where program benefits overlap--resulting in duplicate benefits for the same purpose--and should result in useful recommendations that will reduce the administrative cost of unnecessary programs. Also, the Congress is seeking information on alternatives to current programs, especially alternatives that reduce the Federal role and increase the State and local roles.

Questions which need to be addressed are:

1. What is the feasibility of integrating feeding programs and improving results?



3. What changes are needed in program design to improve program operations?
4. Are the results of management evaluation studies being used to improve program design?

No jobs are underway in this issue.

The following GAO reports were published in this issue during the past 18 months:

"Food and Nutrition Service: Efforts To Improve School Lunch Programs--Are They Paying Off?" (CED-81-121, Sept. 9, 1981).

"Observations on Selected Aspects of School Lunch Program Administration" (CED, May 22, 1981).

"Analysis of a Department Of Agriculture Report on Fraud And Abuse in Child Nutrition Programs" (CED-81-81, Mar. 9, 1981).

"Major Factors Inhibit Expansion of the School Breakfast Program" (CED-80-35, June 16, 1980).

"Child Care Food Program: Better Management Will Yield Better Nutrition and Fiscal Integrity" (CED-80-91), June 6, 1980).

"Efforts To Control Fraud, Abuse, and Mismanagement In Domestic Food Assistance Programs: Progress Made--More Needed" (CED-80-33, May 6, 1980).

How can the effectiveness and integrity of child nutrition programs be improved?

The health and nutrition of the Nation's children has long been an issue of public concern. This is reflected in growth of Federal expenditures for child nutrition programs, especially since the early 1970's. As we begin the decade of the 1980's, these programs are receiving increased congressional scrutiny: school lunch program, school breakfast program, child care food, summer feeding program, and the Special Supplemental Feeding Program for Women, Infants, and Children (WIC). The Congress has reduced budget outlays affecting about 17 million current participants.

Our past work dealt with identifying factors inhibiting the expansion of the school breakfast program, assessing whether nutritional needs were met in the school food programs, and effectiveness of the child care food program. This work provided a base for agency action to improve program results. Programs were expanding both in cost and coverage. The Congress is now interested in budgetary restraint. Our strategy is now to concentrate on improving the operations and management of the program by more efficient and effective methods, encouraging agency action to improve program integrity as local, State, and Federal agencies deal with budget cuts.

Ongoing work in the issue  
and past GAO reports

We will continue to stress the need to improve the operations and management of the child nutrition programs. Our planned work will address the problems of abuse caused by recipients; waste caused by State and local agency mismanagement; operational inefficiencies caused by Federal agencies' lack of effective oversight; and wasted Federal funds caused by ineffective management at the local, State, and Federal levels. Particular emphasis will be placed on eliminating these problems in the school feeding programs, the summer feeding program, and WIC. These programs can be effective if management resources--time, energy, or funds--are effectively and efficiently used to maximize the delivery benefits. Eligibility and delivery systems set up to provide program benefits will be reassessed in an effort to streamline and improve program operations without compromising the accuracy, equity, and integrity of program objectives.

The questions that need to be addressed under this issue are:

1. How can program operations and management be improved?
2. Is the integrity of child nutrition programs being jeopardized by inefficient and ineffective operations at the local, State, and Federal levels?

Labor and Human Resources

Agricultural colleges  
 Measures relating to health  
 and public welfare  
 Labor standards and labor  
 statistics  
 Regulation of foreign  
 laborers

Education and Labor

Labor standards and  
 statistics  
 Regulation of foreign  
 laborers  
 Food programs for children  
 in school

Foreign Affairs

Economic policy and trade  
 Export controls  
 International commodity  
 agreements (for other  
 than sugar)  
 Oversight of international  
 fishing agreements

Committees With Indirect Food JurisdictionSenateAppropriations

Appropriation matters on  
 Agriculture and related  
 agencies

Armed Services

Food purchases by military

Banking, Housing, and Urban  
Affairs

Control of commodity  
 prices  
 Export and foreign trade  
 promotion  
 Export controls  
 Financial aid to commerce  
 and industry

Budget

Budgetary matters

HouseAppropriations

Appropriation matters on  
 Agriculture and related  
 agencies

Armed Services

Food purchases by military

Banking, Finance, and Urban  
Affairs

Control of commodity  
 prices  
 Financial aid to commerce  
 and industry

Budget

Budgetary matters

District of Columbia

Adulteration of food and drugs  
 Public health and safety

CONGRESSIONAL COMMITTEES WITH FOOD JURISDICTION

The tables below list the committees having both direct and indirect jurisdiction over policies affecting the food industry.

Committees With Direct Food Jurisdiction

<u>Senate</u>	<u>House</u>
<u>Agriculture, Nutrition, and Forestry</u>	<u>Agriculture</u>
Agriculture - all aspects	Agriculture - all aspects
Agricultural economics and research	Adulteration of seeds, insect pests, and protection of birds and animals in forest reserves
Agricultural extension services and experiment stations	Agricultural and industrial chemistry
Agricultural production, marketing, and stabilization of prices	Agricultural colleges and experiment stations
Agricultural commodities	Agricultural economics and research
Animal industry and diseases	Agricultural education extension services
Crop insurance and soil conservation	Agricultural production, marketing, and stabilization of prices
Farm credit and farm security	Animal industry and diseases
Food from fresh waters	Crop insurance and soil conservation
Food Stamp Program	Dairy industry
Forestry and forest reserves and wilderness areas other than those created from the public domain	Entomology and plant quarantine
Home economics	Farm credit and farm security
Human nutrition	Forestry in general and forest services not in public domain
Inspection of livestock, meat, and agricultural products	Human nutrition and home economics
Pests and pesticides	Inspection of livestock and meat products
Plant industry, soils, and agricultural engineering	Plant industry, soils, and agricultural engineering
Rural development, rural electrification, and watersheds	Rural electrification
School nutrition programs	Commodities exchanges
<u>Foreign Relations</u>	Rural development
Matters relating to food, hunger, and nutrition in foreign countries	

Small Business  
(Select Committee)

Small business assistance  
Economic development,  
marketing, and the  
family farmer

Ways and Means

Reciprocal trade agreements  
Customs administration

Commerce, Science, and  
Transportation

Regulation of interstate  
commerce  
Regulation of consumer  
products and services  
Weather activities  
Marine fisheries

Energy and Natural Resources

Public lands and forests,  
including farming  
Energy research and  
development

Environment and Public  
Works

Environmental policy,  
research, and development  
Environmental protection  
and resource utilization  
Fisheries and wildlife  
Water resources  
Regional economic development

Finance

Reciprocal trade agreements  
Tariffs and import quotas  
Customs administration

Governmental Affairs

Efficiency, economy, and  
effectiveness of Govern-  
ment activities  
Census and collection of  
statistics  
Intergovernmental relations

Judiciary

Protection of trade and  
commerce

Energy and Commerce

Interstate and foreign commerce  
Energy resources  
Railroad regulation  
Consumer protection

Government Operations

Economy and efficiency of  
Government activities  
Intergovernmental relation-  
ships

Interior and Insular Affairs

Land use planning  
Water resources  
Irrigation and reclamation

Judiciary

Protection of trade and  
commerce

Merchant Marine and Fisheries

Fisheries  
International fishing  
agreements

Post Office and Civil Service

Census and collection of  
statistics

Public Works and Transportation

Transportation, except rail-  
roads

Science and Technology

National weather  
Environmental research and  
development

Small Business

Small business assistance

Federal Trade Commission

Enforcement of fair trade  
practices in food industry  
Trade rules affecting food  
labeling and advertising

International Trade Commission

Import/export policy enforce-  
ment

PRINCIPAL FEDERAL AGENCIES WITH MAJOR FOOD INTERESTSCommodity Futures Trading  
Commission

Regulates commodity futures  
trading

Department of Agriculture

Agriculture  
Rural development  
Food and consumer services  
Marketing and transportation  
services  
International affairs and  
commodity programs  
Natural resources and  
environment  
Science and education  
Economics, policy, analysis,  
and budget  
Foreign agricultural attaches

Department of Commerce

Fisheries  
Trade programs and policies

Department of Health and  
Human Services

Food safety  
Nutrition research  
Nutrition education

Department of Interior

Land management  
Water management  
Fisheries

Department of Labor

Worker safety  
Rural and migrant workers

Department of State

Food for peace coordination  
Foreign trade agricultural  
policy

Department of Transportation

Highway and rail regulations  
affecting agricultural  
supply transportation

Treasury Department

International trade policies  
Commodities and natural  
resources in developing  
nations

Environmental Protection Agency

Toxic substance programs  
Water management programs

Export-Import Bank of U.S.

Financing of trade between the  
United States and foreign  
countries

Farm Credit Administration

Farm credit system

Federal Reserve

Influences credit conditions  
Promotes stable prices



Other Organizations

"The Global 2000 Report to the President," The President's Council on Environmental Quality and the Department of State, 1980.

"1981 Agricultural Outlook," Committee on Agriculture, Nutrition, and Forestry, U.S. Senate, January 1981.

"A Time To Choose: Summary Report on the Structure of Agriculture," U.S. Department of Agriculture, January 1981.

"Agricultural - Food Policy Review: Perspectives for the 1980's," Economics and Statistics Service, U.S. Department of Agriculture, April 1981.

"National Agricultural Lands Study," U.S. Department of Agriculture and the President's Council on Environmental Quality, 1981.

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MAJOR STUDIES OF OTHER ORGANIZATIONSCongressional Budget Office

"Food and Agriculture Policy in the 1980s: Major Crops and Milk," Congressional Budget Office, March 1981.

"Indexing With the Consumer Price Index: Problems and Alternatives," Congressional Budget Office, June 1981.

Congressional Research Service

"Impacts of High Interests on Farm Business Failures," Congressional Research Service, August 1980.

"Impacts of Marine Mammals on Sport and Commercial Fishing in the Pacific Northwest," Congressional Research Service, September 1980.

"Regulation of Grain Marketing System by Federal Agencies," Congressional Research Service, November 1980.

"U.S. Agricultural Export Promotion: Current and Proposed Programs and Policies," Congressional Research Service, December 1980.

"The Special Milk Program: History, Legislation, and Issues," Congressional Research Service, March 1981.

"Dairy Price Supports: Current Status and Future Prospects," Congressional Research Service, March 1981.

"Child Nutrition Programs--Issues in the 97th Congress," Congressional Research Service, April 1981.

"Input - Output Analysis of Economic Impact of Decontrol of Oil," Congressional Research Service, May 1981.

"Food Safety Policy Issues," Congressional Research Service, June 1981.

Office of Technology Assessment

"An Assessment of Technology for Local Development," Office of Technology Assessment, January 1981.

"Background Papers for Innovative Biological Technologies for Lesser-Developed Countries: an Office of Technology Assessment Workshop," House Committee on Foreign Affairs, September 1981.





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