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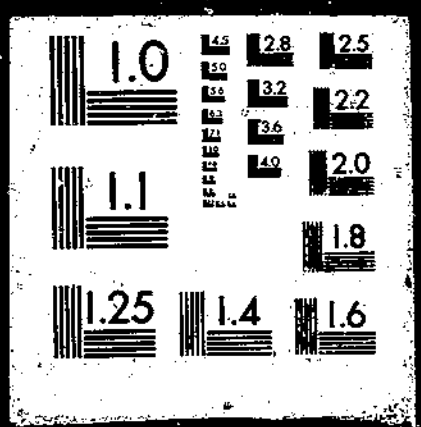

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# FOOD AID AND AGRICULTURAL DEVELOPMENT

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# FOOD AID AND AGRICULTURAL DEVELOPMENT

by

Frank D. Barlow, Jr. and Susan A. Libbin 1/

## INTRODUCTION

The less developed countries received $17.5 billion worth of agricultural commodities from the United States under aid programs during 1955-66, nearly all of it under P.L. 480. 2/ Agricultural production in these countries has increased considerably over the past decade, but in many cases not enough to meet the demands resulting from rising populations and increased per capita incomes (fig. 1).

Much of the same situation is in prospect for the next decade or so in many of the developing countries (70, pp. 75-9; 18; 19, pp. 3-4). 3/ Population is expected to increase 2 to 3 percent or more per year and increasing incomes will boost demand further. In some countries, supplies will have to rise 4 to 5 percent a year to meet economic requirements. Some developing countries will continue to need food aid in the foreseeable future to help meet deficits and to support national economic growth. It will take time to develop their agricultural resources and their ability to import on a commercial basis will continue to be limited by a shortage of foreign exchange and by competing demands for capital imports. However, food needs will be so large that the bulk of them must come from increased production by the countries themselves. 4/

Another important element in the future situation is the change in the U.S. policy under the Food for Peace Act of 1966. The Act states that the United States will use food aid:

> . . . to encourage economic development in the developing countries, with particular emphasis on assistance to those countries that are determined to improve their own agricultural production . . . 5/

---

1/ Assistant to the Director, and International Economist, respectively, Foreign Development and Trade Division, Economic Research Service.

2/ Includes $15 billion under P.L. 480, almost $2 billion under the U.S. Mutual Security Program, about $200 million under bilateral food aid programs from donors other than the United States, and $100 million under the United Nations World Food Program.

3/ Underscored numbers in parentheses refer to items in the Bibliography, pp. 80-85.

4/ Bachman, Kenneth L., "Can we produce enough food," speech delivered at the American Society of Agronomy, Kansas City, Mo., Nov. 17, 1964.

5/ Public Law 89-808, p. 1.

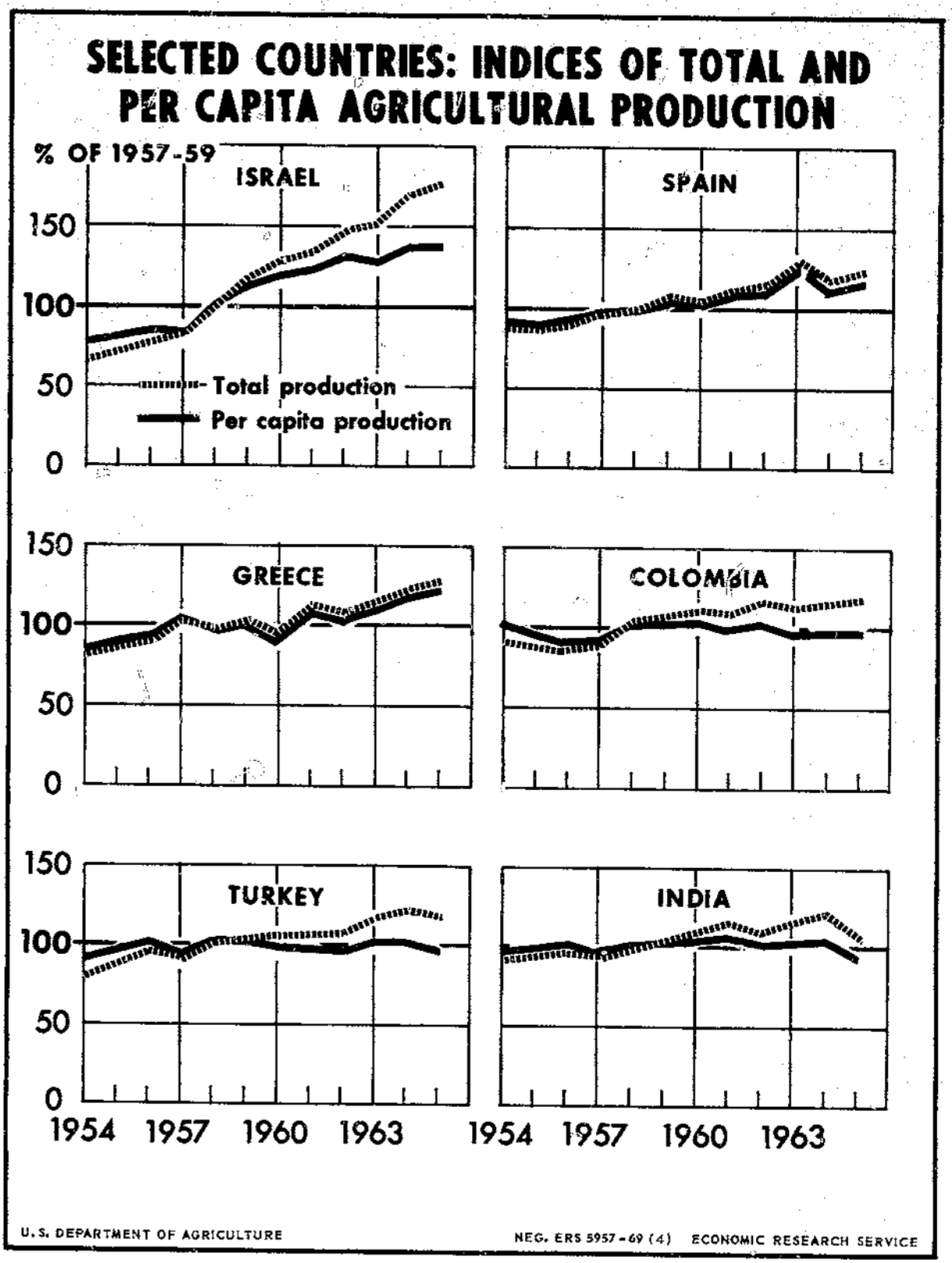
SELECTED COUNTRIES: INDICES OF TOTAL AND PER CAPITA AGRICULTURAL PRODUCTION
% OF 1957-59
ISRAEL
SPAIN
GREECE
COLOMBIA
TURKEY
INDIA
150
100
50
0
Total production
Per capita production
1954
1957
1960
1963
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5957-69 (4)
ECONOMIC RESEARCH SERVICE

Figure 1

The new law requires that before entering into P.L. 480 agreements, the United States consider the extent to which recipient countries are undertaking self-help measures, including (1) development of marketing, storage, and distribution facilities; (2) development of farm supply industries; (3) expansion of educational and research activities; (4) implementation of Government policies favorable to the expansion of agricultural production; and (5) allocation of land resources to the production of needed food crops rather than nonfood crops, especially nonfood crops in world surplus.

India was the first country to sign an agreement under the new program. This agreement, reached in February 1967, emphasizes India's proposed self-help efforts as required under the new Act. By December 1967, some 10 countries had signed agreements in which specific self-help objectives had been spelled out in considerable detail.

In general, the emphasis has been placed upon national policy objectives to give high priority to agricultural development by encouraging the following: providing adequate credit, including private foreign investment; establishing price support levels to encourage greater production; developing national food distribution policies, including improvement of marketing and distribution infrastructure; and accelerating domestic production, procurement, and distribution of fertilizer, insecticides, improved seeds, and other agricultural inputs. On the whole, the response of recipient governments has been favorable to the clarification of policies designed to help them increase food production.

Because of the change in U.S. policy and the prospects for continuing need for food aid, the experience of 1955-66 concerning the effect of P.L. 480 programs on agricultural production in recipient countries offers valuable lessons for the future. Equally relevant are the steps taken to protect prices of domestic farm products, and the manner in which past food aid programs have operated to avoid conflict with national food policy objectives and to encourage economic development.

The U.S. Department of Agriculture has been active in conducting research on the effects of the P.L. 480 program, and special contract studies have been completed for six recipient countries (Israel, India, Turkey, Greece, Colombia, and Spain). These studies analyzed the effects of P.L. 480 on economic growth, consumption, prices, and trade, and gave major attention to the program's impact on agricultural production. In addition, the Economic Commission for Asia and the Far East (ECAFE), Food and Agriculture Organization of the United Nations (FAO), and a number of private institutions have supported research to analyze the impact of agricultural commodity aid programs.

The economic effects of food aid in developing nations--Turkey, Greece, Spain, Colombia, Israel, and India--have been studied in considerable detail and the results are summarized in this report. These six countries received approximately 43 percent of the commodities shipped under the P.L. 480 Title I program during this period. The principal Title I commodities shipped to these countries in relation to total imports of the same commodities also are summarized in table 1.

Table 1.--Total imports and imports under Title I of P.L. 480, all agricultural commodities and selected commodities, six recipient countries, calendar years, 1955-64 1/

| Country | All agricultural commodities | | Wheat | | Feed grains 2/ | |
|---|---|---|---|---|---|---|
| | Total imports | Title I imports | Total imports | Title I imports | Total imports | Title I imports |
| | Million dollars | | | | | |
| India 3/ | 5,432.5 | 2,477.3 | 2,408.0 | 1,888.2 | 46.7 | 40.4 |
| Spain | 3,039.0 | 467.0 | 185.0 | 18.3 | 122.0 | 40.3 |
| Turkey | 715.8 | 448.2 | 259.1 | 252.1 | 21.4 | 19.1 |
| Israel | 1,131.8 | 279.4 | 219.5 | 96.2 | 174.3 | 99.9 |
| Greece | 1,158.8 | 118.8 | 100.3 | 35.8 | 58.0 | 52.0 |
| Colombia | 625.2 | 60.1 | 92.8 | 33.6 | 8.2 | 2.6 |
| Total | 12,103.1 | 3,850.8 | 3,264.7 | 2,324.2 | 430.6 | 254.3 |

| | Rice | | Vegetable oils 4/ | | Cotton | |
|---|---|---|---|---|---|---|
| | Total imports | Title I imports | Total imports | Title I imports | Total imports | Title I imports |
| | Million dollars | | | | | |
| India 3/ | 421.0 | 217.2 | 23.9 | 19.8 | 1,076.0 | 269.3 |
| Spain | --- | --- | 505.0 | 240.5 | 412.0 | 118.6 |
| Turkey | 4.1 | 3.5 | 134.9 | 129.3 | --- | --- |
| Israel | 13.7 | --- | 26.3 | 34.8 | 47.1 | 5.5 |
| Greece | 11.5 | --- | 34.5 | 26.2 | 14.3 | --- |
| Colombia | --- | --- | 35.4 | 9.5 | 37.6 | 11.9 |
| Total | 450.3 | 220.7 | 760.0 | 460.1 | 1,587.0 | 405.3 |

1/ Title I data are on an export shipment basis and are not available on an import basis.
2/ Includes barley, corn, and for Israel, also grain sorghum.
3/ 1956 data from (55).
4/ Soybean and cottonseed oils.

Sources: Except as indicated, (24; 69).

## SUMMARY

Food aid imports under Public Law 480, as well as those under Sections 402 and 550 of the Mutual Security Program, have been aggregated to arrive at total concessional imports. Under both of these programs, commodities have been imported, priced, and distributed through the regular marketing channels within the respective countries. However, since the bulk of the commodities made available under special government programs moved under P.L. 480 Title I, major emphasis has been given to this program in the individual country studies.

During the 1955-64 period, P.L. 480 Title I commodities accounted for nearly one-third of the total agricultural commodities imported by the six countries covered in this study (table 1). Most of the Title I commodities consisted of grains, which accounted for nearly two-thirds of the total grains imported. It is significant to note that commercial imports were quite sizable in each of these countries.

### Production Trends, 1955-64

During the period of food aid imports, the six recipient countries included in this report made considerable progress in increasing agricultural output, averaging about 3.4 percent annually. The rate of progress in expanding output over the period 1955-63 in these major recipients of P.L. 480 imports is greater than in many other underdeveloped countries. The fairly sizable increases in production for countries such as India, Colombia, and Turkey were largely offset by high population growth (table 2). Despite the rapid population growth in Israel, partly due to immigration, the country experienced one of the highest per capita gains in agricultural output of 2.1 percent annually, the same as in Spain, the country with the lowest rate of population growth.

Table 2.--Annual percentage rates of change in crop output, six countries, 1955-63

| Country | Annual compound change in total crop output | Current population growth rate | Annual compound change in crop output per capita |
|---|---|---|---|
| | Percent | | |
| India ..... | 3.0 | 2.4 | 0.6 |
| Spain ..... | 2.9 | 0.8 | 2.1 |
| Turkey ..... | 3.1 | 2.9 | 0.2 |
| Israel ..... | 5.7 | 3.5 | 2.1 |
| Greece ..... | 1.7 | 0.9 | 0.8 |
| Colombia ... | 4.3 | 2.9 | 1.4 |
| Average..... | 3.4 | 2.2 | 1.2 |

Source: (19), p. 6.

Israel, the highest per capita recipient of food aid also had the highest rate of growth in agricultural output. Food aid to this country played a vital role in the country's economic growth, benefiting practically all sectors. Although India was by far the largest recipient of food aid, per capita value was among the lowest of food aid recipients. In the case of India, however, food aid flows, which were substantial during the famine of 1957-58 and rose to higher levels after 1962, played a major role in permitting the government to continue its overall planned development objectives. The availability of food aid during the years of scarcity made it possible for the country to import the capital items necessary to meet overall development objectives set forth in the second, third and fourth 5-year plans.

Food aid to Greece, Spain, and Turkey came at a crucial period, when each country had reached a stage in development where the availability of food aid served as a powerful stimulant to further growth. Soon after the termination of the Title I program in Greece and Spain, these countries shifted to important commercial purchases of U.S. agricultural products--feed grains in Greece; and feed grains, vegetable oils, and later oilseeds in Spain. Although Turkey has not become a major commercial purchaser of U.S. agricultural products, the country has greatly strengthened its economic position. Israel, with development, also became an important commercial purchaser of oilseeds, grains, and many other agricultural products.

To illustrate the importance of food aid during a period of transition and development, the U.S. stands to recoup a very large share of the value of the commodities shipped to Greece, Spain, and Israel under P.L. 480 as local currency loans are liquidated. It is possible that the United States will utilize up to 75 percent of the value of the Title I shipments to Greece, Spain, and Turkey to cover current and future U.S. expenditures in these countries. Current expenditures there are considerable.

Title I imports generally were programmed to meet food import needs after shortfalls in production occurred. Major recipient countries encouraged expansion of agricultural production through increasing use of improved seeds and fertilizers, expanding agricultural research, extending irrigated areas, and increasing the supply of farm credit. In Turkey and India, a larger share of public investment was allocated to the agricultural sector in the 5-year plans for the 1960's than during the early and middle 1950's. Failure of some countries to meet the increasing demands for foodstuffs and feeds through greater increases in acreage and yields has been due primarily to physical, economic, institutional, and structural factors in farm organization that existed long before the Title I program.

In Turkey, Spain, Greece, Israel, and Colombia, the availability of Title I commodities provided opportunity for greater flexibility in planning for more efficient use of agricultural resources.

In Turkey, for instance, the availability of wheat under P.L. 480 avoided the pressure to resort to short term self-sufficiency measures to increase wheat output at the expense of more profitable crops such as cotton, tobacco, and olive oil in the coastal areas.

In Greece, the procurement of feed grains under P.L. 480 stimulated the development of livestock and poultry enterprises. The growth of these industries helped develop markets for local feed grain production. It also contributed to better utilization of domestic fodder and roughage availabilities.

In Spain, the importation of cotton under aid programs contributed to the recovery and expansion of the textile industry, which later became the primary outlet for domestic cotton production as it expanded. Feed grain imports contributed to development and expansion of livestock and poultry industries. In turn, this growth, encouraged by the stability made possible through P.L. 480 imports, has provided more viable markets for domestic feed and roughage production. Vegetable oils and later vegetable oilseeds provided the basis for more efficient utilization of vegetable oils which permits the higher valued olive oil to move into market outlets that maximize the returns from this industry.

Of particular importance in Colombia was the use of P.L. 480 local currency loans and grants to facilitate investments in agricultural development and related service industries. Investment to support water and land development in the Cauca Valley, fertilizer production, and various commodity development programs were especially helpful in stimulating overall development activities in agriculture as well as other sectors of the economy.

The availability of wheat and feed grains under the aid programs permitted the Israeli Government to push full scale in the development and use of its meager land resources in the production of intensive high value crops such as fruits, vegetables, and cotton in the irrigated valleys. Also, the importation of feed grains and oilseeds provided the basis for developing commercial poultry and livestock enterprises that have now become a viable part of the country's agriculture.

In India, there appears to be less flexibility in shifting resources among the major crops--rice, wheat, cotton, and peanuts--because of physical, economic, and population factors. However, there probably is opportunity for greater specialization of crop production in subsistence agriculture, but as yet the conditions under which such shifts can be constructively made have not been adequately defined.

## Price Effects of Food Aid

Most of the governments of the six countries adopted various measures to reduce the impact of food aid imports on prices of domestically produced farm products. For example, Turkey, Colombia, Greece, and Spain sold imports of food grains and vegetable oils at the higher level of domestic market prices. Profits from these markups were used to cover marketing costs and to help finance domestic agricultural programs.

In contrast, Title I imports in a few cases were sold below domestic prices. For example, Greece, Israel, and Spain sold Title I imports of feed grains at prices below domestic farm prices in some years to encourage livestock production and stabilize prices for domestic feeds. The Indian Government sold Title I imports of wheat to consumers through "fair price" shops at prices below domestic wholesale levels to combat inflation and stabilize food prices.

It was the policy of most of the six governments to stabilize food prices within the overall national policy objectives. Without the Title I imports, they would have relied more on consumer rationing and price controls to prevent prices of agricultural products from rising to exorbitant levels. However, prices of grains and vegetables in the recipient countries would have been higher and more unstable without food aid because of the inflationary pressures of increasing demand, recurring shortages of domestic supplies, and the lack of funds to purchase commercial imports.

Wide fluctuations in prices from year to year tend to impede expansion of commercial agricultural production. The use of food aid imports to promote price stability and reduce inflationary pressures was a major contribution to more effective use of agricultural resources. This was particularly true in Turkey, Colombia, Israel, and India.

Changes in production and acreage in response to price movements depend to a large extent on the degree to which the commodity is produced for the market. Consequently, use of Title I imports to affect prices had the most impact on commercial producers of cash crops such as cotton, tobacco, and grain. Changes in prices affect the production decisions of such producers, but price per se is only one of many factors affecting agricultural development. Producers also respond to changes in price-cost relationships in the use of yield-increasing inputs, such as improved seeds, fertilizer, and insecticides.

A majority of the producers in the developing countries are subsistence farmers who grow primarily grains. They generally sell only small quantities in the market to meet cash obligations. Their production decisions tend to be influenced much less by price changes than by such factors as climate, marketing, transportation and credit facilities, amount of land irrigated, the availability of fertilizer and improved seeds, and the extent to which the producer is trained in modern farming methods.

During 1955-64, Turkey was the fifth largest recipient of Title I commodities, importing $448 million. Grains (mostly wheat) accounted for two-thirds and vegetable oils almost one-third of these imports.

Aid imports were small, compared with domestic production, except for oilseeds, which averaged 21 percent of output over a 6-year period (table 3). Wheat imports averaged 6 percent, while the percentages for imports of feed grains and rice were even smaller.

The Turkish Government maintained strict control over imports, both concessional and commercial, to protect producers' prices. Farm prices of commodities produced in Turkey were far above the prices of the imported commodities in most years. If there had been no restrictions on imports or their internal distribution, prices received by domestic producers probably would have declined.

## Agricultural Trade and Marketing Policies

Import controls have been administered by two semiofficial agencies which regulate the production, marketing, and pricing of farm products. 6/ These agencies also have a monopoly on the procurement and distribution of imports.

The Soil Products Office, (TMO), began operations in 1938. Its main functions are the following: (1) setting guaranteed floor prices for wheat, feed grains, and rice; (2) purchasing these grains at support prices whenever they are offered by farmers; (3) selling its stocks of grain to municipalities, millers, bakers, hospitals, schools, and other institutions; (4) setting extraction and mixing rates for flour; (5) selling wheat at consumption centers to prevent excessive increases in consumer prices; and (6) subsidizing consumer prices by selling bread grains below the purchase price in deficit or disaster areas.

Turkey's Meat and Fish Corporation (EBK) was organized in 1952 to regulate the production, trade, and manufacturing of meat and fish. Unlike TMO, it does not guarantee support prices of its commodities, nor does it engage in as extensive nationwide operations. Its main domestic activities include improving animal husbandry, purchasing and selling slaughter animals and fish, and establishing and operating slaughterhouses.

The import policies of these agencies are designed to promote the interests of producers in Turkey. These agencies have a monopoly on the procurement and distribution of all imports, both concessional and commercial. TMO handles all grain imports and small quantities of oils, and EBK imports most of the oils, dairy products, poultry, and meat. TMO and EBK sell imports to wholesalers at prices corresponding to current wholesale market prices of indigenous products.

The private trade handles the bulk of the products produced domestically and has an actual role in both pricing and marketing. However, the semiofficial agencies TMO and EBK are effective in stabilization operations in accordance with their mandate in carrying out national food and pricing policies. This is done by entering the market aggressively when producer prices decline to support

6/ This section is based on Chapter 4 of (5).

Table 3.--Turkey: Principal P.L. 480 imports compared with domestic production, 1954-64

| Commodity and year 1/ | Domestic production | P.L. 480 imports 2/ | P.L. 480 imports as percentage of production |
|---|---|---|---|
| | 1,000 metric tons | | Percent |
| Wheat: | | | |
| 1954 | 4,900 | 171 | 3 |
| 1955 | 6,260 | 248 | 4 |
| 1956 | 5,851 | 615 | 10 |
| 1957 | 6,800 | 292 | 4 |
| 1958 | 6,300 | 17 | 3/ |
| 1959 | 5,800 | 315 | 5 |
| 1960 | 7,076 | 448 | 6 |
| 1961 | 6,123 | 1,404 | 23 |
| 1962 | 6,750 | 392 | 6 |
| 1963 | 7,950 | 176 | 2 |
| 1964 | 7,000 | 328 | 5 |
| Average | 6,437 | 401 | 6 |
| Corn: | | | |
| 1955 | 855 | 2 | 3/ |
| 1956 | 857 | 49 | 6 |
| 1957 | 750 | 41 | 6 |
| 1959 | 800 | 26 | 3 |
| 1961 | 1,001 | 10 | 1 |
| 1962 | 650 | 15 | 2 |
| 1963 | 826 | 21 | 2 |
| Average | 820 | 23 | 3 |
| Barley: | | | |
| 1954 | 2,400 | 83 | 3 |
| 1955 | 2,939 | 63 | 2 |
| 1956 | 2,830 | 28 | 1 |
| 1957 | 3,484 | 10 | 3/ |
| 1964 | 2,780 | 11 | 3/ |
| Average | 2,887 | 39 | 1 |
| Rice: | | | |
| 1955 | 92 | 3/ | 0 |
| 1956 | 138 | 10 | 7 |
| 1958 | 138 | 5 | 4 |
| 1959 | 136 | 1 | 1 |
| 1960 | 138 | 11 | 8 |
| Average | 128 | 5 | 4 |
| Oilseeds 4/: | | | |
| 1955 | 198 | 12 | 6 |
| 1957 | 186 | 18 | 10 |
| 1958 | 226 | 70 | 30 |
| 1959 | 244 | 84 | 34 |
| 1960 | 252 | 20 | 8 |
| 1962 | 150 | 50 | 33 |
| 1963 | 193 | 90 | 47 |
| 1964 | 304 | 34 | 11 |
| Average | 219 | 47 | 21 |

1/ Each year shown is beginning of crop year for production figures and of fiscal year for trade figures. 2/ P.L. 480 data are on an export shipment basis and are not available on an import basis. Mostly Title I imports, except for small amounts imported in various years under Title II and Title III (donations). Wheat imports include the following amounts in 1,000 metric tons under the Mutual Security Program: 1954, 69; and 1955, 95. 3/ Less than 0.5 percent. 4/ Production includes sunflower seed, sesame seed, soybeans, and olive oil; imports include cottonseed and soybean oil equivalent.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

levels and by releasing stocks through the normal channels of trade to prevent consumer food prices from rising to exorbitant levels during periods of scarcity. In a way, these agencies operate similarly to the U.S. Commodity Credit Corporation, but with possibly broader authority to actually influence the market and the marketing system.

In most years, the agencies' wholesale prices of Title I imports were far above import purchase prices (table 4). Commercial imports were priced and distributed in a manner similar to Title I imports. During 1955-62, the gross markup--the difference between import prices of Title I commodities and the semi-official agencies' internal sale prices of these commodities--was 464 million Turkish lira ($52 million) (table 5). 7/ The only year when there was no markup on the aggregate of Title I imports was 1960. Most of the total markup was made on Title I imports of food grains and edible oils. Markups were small on imports of feed grains and dairy products. There was no markup on meat and poultry imports. During 1955-62, the percentage of gross markups or losses on individual Title I commodities was as follows:

| Title I commodity | Percentage of markup or loss |
|---|---|
| Rice | 454 |
| Barley | 36 |
| Corn | 9 |
| Wheat | 7 |
| All grains | 14 |
| Soybeans | 34 |
| Cottonseed | 15 |
| All oilseeds | 29 |
| Other (includes dairy products, meat, and poultry | 1/-9 |
| All Title I imports (average) | 17 |

1/ Sold at prices below import cost.

TMO received about 56 percent of the total gross markup of 464 million lira and EBK the remainder. Actual profits to these agencies were somewhat less, due to handling, transportation, and other distribution costs. A large part of the net profits made on imports were used to cover part of the costs of financing domestic pricing and investment programs. During 1955-62, TMO incurred net operating losses of 162 million lira, while EBK sustained even higher losses. Such losses, which are made up from government appropriations, would have been much larger had there been no profits from P.L. 480 imports. It is reasonable to conclude the gross product from handling Title I, as well as commercial, imports contributed significantly to the financial ability of these agencies to promote consumer and producer interests.

7/ Converted at 9 lira = $1.

Table 4.--Turkey: Title I import prices compared with average domestic prices, 1955-62

| Commodity and crop year | Title I import price | Sales price of Title I imports | Price of domestic crop 1/ |
|---|---|---|---|
| | Kurus/kilogram | | |
| Wheat: | | | |
| 1955 | 22 | 35 | 30 |
| 1956 | 24 | 30 | 30 |
| 1957 | 30 | 37 | 40 |
| 1958 | 38 | 43 | 44 |
| 1960 | 66 | 55 | 56 |
| 1961 | 62 | 62 | 68 |
| 1962 | 66 | 73 | 74 |
| Corn: | | | |
| 1956 | 25 | 21 | 39 |
| 1957 | 22 | 30 | 48 |
| 1958 | 30 | 33 | 40 |
| 1960 | 57 | 48 | 51 |
| 1961 | 54 | 66 | 58 |
| Barley: | | | |
| 1955 | 20 | 26 | 26 |
| 1957 | 18 | 28 | 30 |
| Oats: | | | |
| 1955 | 22 | 26 | 2/n.a. |
| Rice: | | | |
| 1956 | 46 | 160 | 187 |
| 1959 | 141 | 190 | 198 |
| 1961 | 136 | 275 | 254 |
| Cottonseed oil: | | | |
| 1955 | 95 | 188 | 226 |
| 1957 | 212 | 240 | 307 |
| 1958 | 244 | 297 | 317 |
| 1959 | 353 | 391 | 390 |
| 1962 | 350 | 370 | n.a. |
| Soybean oil: | | | |
| 1958 | 216 | 322 | 317 |
| 1959 | 294 | 391 | 390 |
| 1960 | 275 | 380 | n.a. |
| 1962 | 299 | 353 | n.a. |
| Tallow: | | | |
| 1957 | 87 | 240 | n.a. |
| 1962 | 187 | 275 | n.a. |
| Beef: | | | |
| 1957 | 247 | 225 | 345 |
| Poultry: | | | |
| 1959 | 762 | 613 | n.a. |
| Butter: | | | |
| 1959 | 865 | 1,100 | 1,198 |
| Cheese: | | | |
| 1959 | 573 | 508 | n.a. |
| Milk: | | | |
| Milk fat | | | |
| 1959 | n.a. | 1,085 | n.a. |
| Powdered milk | | | |
| 1959 | 239 | 358 | n.a. |

1/ Average wholesale price of several exchanges used for wheat and corn; farm price used for the other grains; wholesale price of margarine in Istanbul used for the oilseeds; average retail price of mutton used for meat; average retail price of butter used for that product.

2/ n.a. = not available.

Source: (5).

Table 5.--Turkey: Gross markups or losses on Title I imports, 1955-62

| Commodity | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1955-62 |
|---|---|---|---|---|---|---|---|---|---|
| | Million lira 1/ | | | | | | | | |
| **All grains:** | | | | | | | | | |
| Costs | 61 | 33 | 217 | 109 | 14 | 221 | 604 | 622 | 1,881 |
| Returns | 82 | 51 | 272 | 122 | 110 | 184 | 623 | 694 | 2,138 |
| Markup | 21 | 18 | 55 | 13 | 96 | 2/-37 | 19 | 72 | 257 |
| **All oilseeds:** | | | | | | | | | |
| Costs | 12 | --- | 56 | 158 | 278 | 54 | --- | 184 | 742 |
| Returns | 23 | --- | 92 | 218 | 327 | 75 | --- | 219 | 954 |
| Markup | 11 | --- | 36 | 60 | 49 | 21 | --- | 35 | 212 |
| **Meat:** | | | | | | | | | |
| Costs | --- | --- | 16 | --- | --- | --- | --- | --- | 16 |
| Returns | --- | --- | 14 | --- | --- | --- | --- | --- | 14 |
| Markup | --- | --- | 2/-2 | --- | --- | --- | --- | --- | 2/-2 |
| **Poultry:** | | | | | | | | | |
| Costs | --- | --- | --- | --- | 24 | --- | --- | --- | 24 |
| Returns | --- | --- | --- | --- | 19 | --- | --- | --- | 19 |
| Markup | --- | --- | --- | --- | 2/-5 | --- | --- | --- | 2/-5 |
| **Dairy products:** | | | | | | | | | |
| Costs | --- | --- | --- | --- | 19 | --- | --- | --- | 19 |
| Returns | --- | --- | --- | --- | 21 | --- | --- | --- | 21 |
| Markup | --- | --- | --- | --- | 2 | --- | --- | --- | 2 |
| **Total Title I:** | | | | | | | | | |
| Costs | 73 | 33 | 289 | 267 | 335 | 275 | 604 | 806 | 2,682 |
| Gross returns | 105 | 51 | 378 | 340 | 477 | 259 | 623 | 913 | 3,146 |
| Gross markup | 32 | 18 | 89 | 73 | 142 | -16 | 19 | 107 | 464 |

1/ 9 lira = $1.
2/ Sold below cost.

Source: (5).

## Agricultural Price and Production Policies

Prices of most farm commodities rose during most of 1950-62 due to increasing inflation and to devaluation of the lira in 1958 (table 6). However, farm prices deflated by the general price level showed no or only moderate increases each year. With the exception of cotton, they did not reach or surpass 1950-54 relationships until the early 1960's. Throughout most of the 12-year period prices of all major commodities, except oilseeds, declined relative to the general price level. Wheat prices fell more than those of other grains. Cotton prices lagged behind most other commodity prices, while oilseed prices rose relative to other farm prices and the general wholesale level.

Title I imports helped moderate the inflationary pressures on farm prices, particularly wheat, resulting from the rising cost of living, increasing food and fiber needs, inadequate domestic supplies, and insufficient foreign exchange reserves to purchase commercially the essential agricultural imports (5, pp. 184, 215, 482, 497). To this extent, it appears that the availability of Title I wheat prevented the prices of wheat from rising to higher levels. However, since it was the policy of the government to check inflation, the government probably would have resorted to more rigorous consumer marketing and price controls in the absence of the program rather than permit rapid price increases (5, pp. 10, 176, 178-9, 212, 406, 492).

Total agricultural production rose 46 percent between 1954 and 1965 but population rose at about the same rate (table 7). Thus, output per capita changed little.

Most of the increase in aggregate output was accounted for by substantial increases in cotton and fresh fruit. Production of oilseeds also rose, while output and acreage of food and feed grains increased until about 1957 and then leveled off (table 8, fig. 2).

Since Title I wheat played an important role in the government's effort to stabilize prices, the important question arises as to whether such imports depressed prices to domestic producers and adversely affected agricultural output.

Price changes have more effect on acreage and production response of commercial producers than on subsistence producers. In less developed countries, such as Turkey, there is a large proportion of the farmers who have small, fragmented holdings and produce staple foods primarily for home use.

Three-fourths of the farmers in Turkey have holdings averaging about 7 acres. The proportion of total grain production in Turkey that is consumed on the farms where it is produced is 55 to 65 percent for wheat, 60 to 80 percent for barley, 65 to 75 percent for corn, 40 to 50 percent for oats, and 5 to 10 percent for rice (5, p. 128). To obtain cash to pay their debts, subsistence producers may sell small quantities of their crop. In most cases, these sales are made soon after harvest when farm prices tend to be the lowest. A relatively large part of the grain that enters the commercial market is purchased by TMO.

The effect of price incentives on production of subsistence and cash crops in Turkey was studied by analyzing prices and area planted to grains and cotton--

Table 6.--Turkey: Indices of current and deflated farm prices compared with general wholesale prices, 1950-62

(1950-54=100)

| Crop year | Farm prices | | | | | | | | | Wholesale prices | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wheat | Corn | Barley | Oats | Rice | Sesame seed | Sunflower-seed | Cotton | Tobacco | Cereals | Vegetable raw material | General |
| | Current prices | | | | | | | | | | | |
| 1950 | 95 | 93 | 88 | 87 | 106 | 87 | 82 | 83 | 105 | 97 | 87 | 89 |
| 1951 | 95 | 91 | 87 | 92 | 100 | 98 | 105 | 129 | 90 | 95 | 110 | 100 |
| 1952 | 98 | 95 | 94 | 97 | 102 | 104 | 102 | 111 | 93 | 93 | 100 | 99 |
| 1953 | 102 | 104 | 106 | 104 | 100 | 103 | 93 | 84 | 106 | 99 | 94 | 100 |
| 1954 | 109 | 118 | 125 | 121 | 93 | 108 | 117 | 94 | 106 | 115 | 108 | 112 |
| 1955 | 112 | 124 | 129 | 126 | 100 | 114 | 123 | 111 | 125 | 123 | 129 | 128 |
| 1956 | 120 | 140 | 147 | 144 | 181 | 140 | 160 | 125 | 130 | 160 | 143 | 148 |
| 1957 | 151 | 194 | 183 | 174 | 206 | 209 | 216 | 149 | 135 | 186 | 200 | 174 |
| 1958 | 152 | 193 | 178 | 176 | 192 | 252 | 285 | 162 | 153 | 172 | 1/n.a. | 208 |
| 1959 | 175 | 218 | 212 | 206 | 217 | 241 | 279 | 183 | 201 | 206 | 269 | 256 |
| 1960 | 200 | 243 | 238 | 232 | 255 | 241 | 303 | 193 | 224 | 223 | 308 | 260 |
| 1961 | 246 | 278 | 263 | 238 | 304 | 238 | 300 | 202 | 220 | 264 | 273 | 261 |
| 1962 | 279 | 313 | 289 | 277 | 297 | 274 | 330 | 205 | 288 | 276 | 278 | 269 |
| | Deflated prices | | | | | | | | | | | |
| 1950 | 108 | 105 | 99 | 98 | 119 | 98 | 93 | 93 | 118 | 109 | 98 | 100 |
| 1951 | 95 | 91 | 87 | 92 | 100 | 98 | 105 | 129 | 90 | 95 | 110 | 100 |
| 1952 | 99 | 96 | 94 | 98 | 103 | 105 | 103 | 112 | 94 | 94 | 101 | 100 |
| 1953 | 102 | 104 | 106 | 104 | 100 | 103 | 93 | 84 | 106 | 99 | 94 | 100 |
| 1954 | 97 | 105 | 117 | 108 | 83 | 96 | 104 | 84 | 94 | 103 | 96 | 100 |
| 1955 | 88 | 97 | 101 | 99 | 78 | 90 | 96 | 87 | 98 | 96 | 101 | 100 |
| 1956 | 81 | 94 | 99 | 97 | 122 | 95 | 108 | 84 | 87 | 108 | 97 | 100 |
| 1957 | 87 | 111 | 105 | 100 | 118 | 120 | 124 | 86 | 78 | 107 | 115 | 100 |
| 1958 | 73 | 93 | 85 | 84 | 92 | 121 | 137 | 78 | 73 | 83 | n.a. | 100 |
| 1959 | 68 | 85 | 83 | 80 | 85 | 94 | 109 | 71 | 78 | 80 | 105 | 100 |
| 1960 | 77 | 93 | 91 | 89 | 98 | 93 | 117 | 74 | 86 | 86 | 118 | 100 |
| 1961 | 94 | 106 | 101 | 91 | 116 | 91 | 115 | 77 | 84 | 101 | 104 | 100 |
| 1962 | 104 | 117 | 108 | 103 | 110 | 102 | 123 | 76 | 107 | 103 | 103 | 100 |

1/ n.a. = not available.

Source: (5).

Table 7.--Turkey: Indices of production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | Total agricultural production (1957-59=100) 2/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | Yield | | | Food | Total | Per capita | |
| | Wheat | Oilseeds 1/ | Cotton | Tobacco | Wheat | Cotton | Tobacco | | | Food | Total |
| 1950 ..... | 67 | 75 | 87 | 89 | 95 | 114 | 94 | 3/n.a. | n.a. | n.a. | n.a. |
| 1951 ..... | 97 | 91 | 97 | 94 | 113 | 88 | 103 | n.a. | n.a. | n.a. | n.a. |
| 1952 ..... | 112 | 97 | 111 | 96 | 118 | 95 | 99 | n.a. | n.a. | n.a. | n.a. |
| 1953 ..... | 139 | 96 | 104 | 119 | 100 | 98 | 116 | n.a. | n.a. | n.a. | n.a. |
| 1954 ..... | 85 | 140 | 101 | 103 | 75 | 104 | 88 | 81 | 81 | 90 | 90 |
| 1955 ..... | 109 | 104 | 94 | 120 | 97 | 107 | 104 | 87 | 88 | 95 | 96 |
| 1956 ..... | 102 | 120 | 104 | 121 | 79 | 105 | 93 | 96 | 96 | 101 | 101 |
| 1957 ..... | 118 | 97 | 86 | 126 | 93 | 90 | 98 | 94 | 93 | 97 | 95 |
| 1958 ..... | 109 | 118 | 128 | 109 | 99 | 118 | 91 | 102 | 102 | 102 | 102 |
| 1959 ..... | 101 | 128 | 132 | 128 | 91 | 127 | 103 | 104 | 104 | 101 | 101 |
| 1960 ..... | 123 | 132 | 121 | 142 | 110 | 117 | 101 | 105 | 105 | 99 | 99 |
| 1961 ..... | 106 | 115 | 148 | 107 | 96 | 136 | 102 | 105 | 105 | 96 | 96 |
| 1962 ..... | 117 | 78 | 164 | 95 | 104 | 148 | 79 | 107 | 107 | 96 | 96 |
| 1963 ..... | 138 | 101 | 178 | 139 | 110 | 171 | 79 | 116 | 117 | 101 | 102 |
| 1964 ..... | 121 | 159 | 233 | 184 | 97 | 206 | 91 | 116 | 120 | 99 | 102 |
| 1965 ..... | 128 | 131 | 233 | 130 | 103 | 205 | 78 | 116 | 118 | 97 | 98 |

1/ Includes sunflowerseed, sesameseed, soybeans, and olive oil.
2/ From U.S. Department of Agriculture, Economic Research Service.
3/ n.a. = not available.

Source: Except as indicated, U.S. Department of Agriculture, Foreign Agricultural Service.

Table 8.--Turkey: Production, acreage, and yield of selected agricultural commodities, 1950-65

| Crop year | Grains | | | | | Cotton | Tobacco | Oilseeds 1/ |
|---|---|---|---|---|---|---|---|---|
| | Wheat | Corn | Barley | Oats | Rice | | | |
| | PRODUCTION | | | | | | | |
| | 1,000 metric tons | | | | | | | |
| 1950 | 4,082 | 628 | 2,047 | 316 | 77 | 122 | 85 | 144 |
| 1951 | 5,600 | 850 | 2,700 | 350 | 97 | 136 | 89 | 174 |
| 1952 | 6,500 | 837 | 3,189 | 405 | 143 | 156 | 91 | 186 |
| 1953 | 8,000 | 760 | 3,640 | 416 | 162 | 145 | 113 | 184 |
| 1954 | 4,900 | 914 | 2,400 | 325 | 165 | 142 | 98 | 267 |
| 1955 | 6,260 | 855 | 2,939 | 356 | 92 | 131 | 114 | 198 |
| 1956 | 5,851 | 857 | 2,830 | 363 | 138 | 146 | 115 | 230 |
| 1957 | 6,800 | 750 | 3,484 | 435 | 173 | 120 | 120 | 186 |
| 1958 | 6,300 | 635 | 2,830 | 290 | 138 | 180 | 104 | 226 |
| 1959 | 5,800 | 800 | 3,048 | 399 | 136 | 185 | 122 | 244 |
| 1960 | 7,076 | 749 | 3,092 | 501 | 138 | 169 | 135 | 252 |
| 1961 | 6,123 | 1,001 | 3,103 | 401 | 135 | 207 | 102 | 219 |
| 1962 | 6,750 | 650 | 3,200 | 450 | 173 | 229 | 90 | 150 |
| 1963 | 7,950 | 826 | 3,899 | 475 | 180 | 250 | 132 | 193 |
| 1964 | 7,000 | 1,000 | 2,780 | 425 | 135 | 326 | 175 | 304 |
| 1965 | 7,430 | 800 | 3,100 | 450 | 165 | 326 | 124 | 251 |
| | ACREAGE | | | | | | | |
| | 1,000 acres | | | | | | | |
| 1950 | 10,500 | 1,466 | 4,700 | 750 | 60 | 1,100 | 317 | |
| 1951 | 12,000 | 1,540 | 5,089 | 762 | 74 | 1,586 | 300 | |
| 1952 | 13,400 | 1,586 | 5,713 | 880 | 121 | 1,669 | 320 | |
| 1953 | 15,840 | 1,534 | 6,002 | 790 | 123 | 1,445 | 340 | |
| 1954 | 15,830 | 1,779 | 6,175 | 860 | 115 | 1,440 | 386 | |
| 1955 | 17,445 | 1,745 | 6,523 | 912 | 71 | 1,547 | 382 | |
| 1956 | 18,125 | 1,782 | 6,454 | 919 | 104 | 1,575 | 432 | |
| 1957 | 17,878 | 1,752 | 6,500 | 949 | 173 | 1,520 | 428 | |
| 1958 | 16,000 | 1,678 | 5,500 | 650 | 146 | 1,559 | 396 | |
| 1959 | 15,500 | 1,730 | 6,500 | 900 | 111 | 1,542 | 416 | |
| 1960 | 15,600 | 1,717 | 6,400 | 976 | 105 | 1,534 | 465 | |
| 1961 | 15,500 | 1,742 | 6,400 | 949 | 100 | 1,604 | 347 | |
| 1962 | 16,000 | 1,648 | 6,350 | 1,013 | 170 | 1,631 | 369 | |
| 1963 | 17,500 | 1,656 | 7,042 | 1,000 | 136 | 1,553 | 583 | |
| 1964 | 17,600 | 1,680 | 6,795 | 1,013 | 86 | 1,680 | 672 | |
| 1965 | 17,600 | 1,606 | 6,845 | 988 | 124 | 1,690 | 549 | |
| | YIELD PER ACRE | | | | | | | |
| | Bushels | | | | | Pounds | | |
| 1950 | 14.3 | 16.9 | 20.0 | 29.0 | 62.9 | 237 | 591 | |
| 1951 | 17.1 | 21.7 | 24.4 | 31.6 | 64.2 | 182 | 651 | |
| 1952 | 17.8 | 20.8 | 25.6 | 31.7 | 57.7 | 198 | 627 | |
| 1953 | 15.1 | 19.5 | 27.8 | 36.3 | 64.7 | 205 | 733 | |
| 1954 | 11.4 | 20.2 | 17.9 | 26.0 | 70.3 | 217 | 556 | |
| 1955 | 14.7 | 19.3 | 21.0 | 26.9 | 63.2 | 223 | 656 | |
| 1956 | 11.9 | 18.9 | 20.1 | 27.2 | 65.1 | 219 | 587 | |
| 1957 | 14.0 | 16.9 | 24.6 | 31.6 | 48.9 | 187 | 618 | |
| 1958 | 15.0 | 14.9 | 23.6 | 30.8 | 46.4 | 246 | 577 | |
| 1959 | 13.7 | 18.2 | 21.5 | 30.6 | 60.1 | 265 | 649 | |
| 1960 | 16.7 | 17.2 | 22.2 | 35.3 | 64.5 | 243 | 641 | |
| 1961 | 14.5 | 16.1 | 22.3 | 29.1 | 67.6 | 284 | 648 | |
| 1962 | 15.7 | 15.5 | 23.1 | 30.6 | 49.8 | 309 | 498 | |
| 1963 | 16.6 | 19.6 | 25.4 | 32.7 | 63.1 | 355 | 498 | |
| 1964 | 14.6 | 23.4 | 18.9 | 28.9 | 76.8 | 429 | 574 | |
| 1965 | 15.6 | 19.6 | 20.8 | 31.4 | 64.5 | 426 | 496 | |

1/ Includes sunflowerseed, sesameseed, soybeans, and olive oil.
Source: U.S. Department of Agriculture, Foreign Agricultural Service.

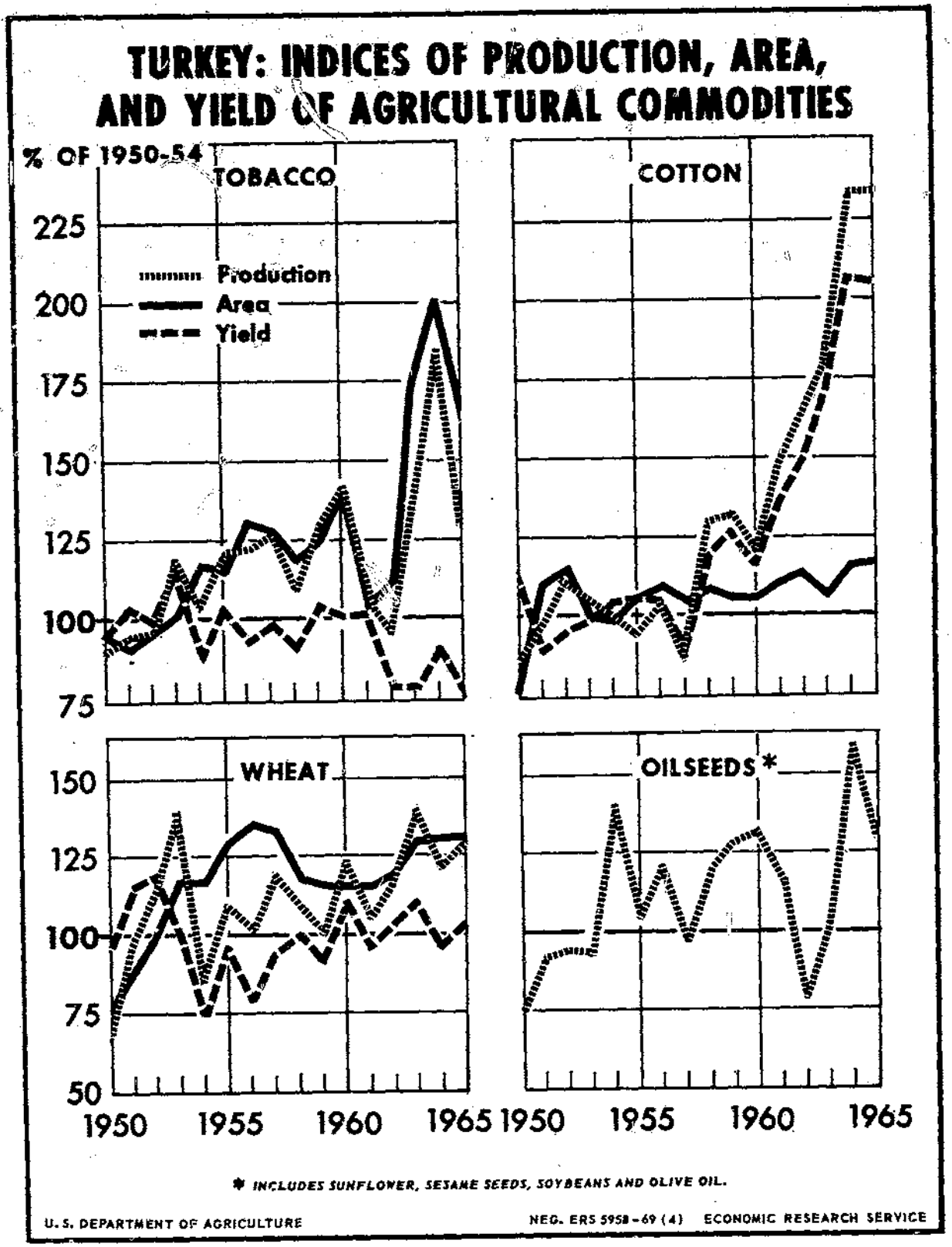
TURKEY: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
TOBACCO
COTTON
WHEAT
OILSEEDS*
Production
Area
Yield
225
200
175
150
125
100
75
150
125
100
75
50
1950
1955
1960
1965
1950
1955
1960
1965
* INCLUDES SUNFLOWER, SESAME SEEDS, SOYBEANS AND OLIVE OIL.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5958-69 (4) ECONOMIC RESEARCH SERVICE

Figure 2

a cash crop (5, pp. 155-60). The relationships between deflated farm prices and area planted during 1950-62 were negative for all grains, except corn, and positive for cotton. In other words, except for corn and cotton, there was no significant correlation between changes in deflated prices and area planted. During the same period, "while farm prices of barley were increasing in relation to wheat prices (during the 1950-62 period), the area planted to barley was diminishing and there were no shifts of land from wheat to barley" (5, p. 161). The study concluded that price incentives were relatively unimportant in encouraging increased production of grains produced mainly for home use, while price changes did influence the production of cash crops, such as cotton.

The study also pointed out that: "Price stability often is more important than a higher level of unstable and uncertain prices" (5, p. 488). The price stabilizing effect of aid imports helped provide a favorable climate for increasing grain production. The additional resources provided by P.L. 480 commodities helped sustain a faster rate of economic growth than would have been possible without those commodities. Over the longer run, this tended to increase the demand for food and strengthened grain and other food prices.

## Agricultural Development Policies

The Government of Turkey undertook major efforts to promote agricultural development long before the initiation of a concessional food aid program. Soon after World War II ended, steps were taken to increase grain and cotton production. Significant progress was made in the early 1950's in the mechanization of the main wheat growing areas (56). Other measures to speed up agricultural progress during the last 15 years include: (1) Increasing aggregate domestic investment in agriculture between 1955 and 1963 by more than fourfold (table 9); (2) improving the quality of seeds; (3) increasing the land cultivated by tractors; (4) developing water resources and raising the percentage of irrigated land; (5) expanding the operations of the agricultural research and extension service; (6) increasing the credit provided to farmers; (7) improving transportation links between rural and urban areas; (8) increasing plant and animal pest controls; (9) distributing land to farmers; and (10) giving greater priority to agricultural development in the second 5-year plan (1968-72) than in the first 5-year plan (1963-67) (5; 50).

The underlying environmental, structural, institutional, cultural, and economic conditions that have existed in Turkey for many decades has limited the effectiveness of policies to encourage increased production. In appraising these policies, the report states that for Turkey to have met its deficits through increased production;

> . . . the framework of real events from 1954 to 1962 would have required a reshaping of economic philosophy, political attitudes, and administrative operations and the economic and cultural environment in which farmers were making decisions affecting intensification, the use of new practices and expanding production (5, p. 487).

Table 9.--Turkey: Government investments in agriculture compared with total government investments for economic development, average 1950-54 and annual 1955-60 and 1963

| Year | Agriculture | | Percent of total government budget invested in economic development |
|---|---|---|---|
| | Government investment | Percent in total government investments | |
| | Million lira | Percent | |
| Av. 1950-54 | 76,822 | 21.3 | 18.3 |
| 1955 | 182,149 | 24.9 | 24.0 |
| 1956 | 241,360 | 29.1 | 24.0 |
| 1957 | 382,108 | 34.7 | 26.5 |
| 1958 | 427,947 | 33.3 | 27.7 |
| 1959 | 531,014 | 30.7 | 27.9 |
| 1960 | 578,684 | 25.0 | 32.1 |
| 1963 | 827,000 | n.a. | n.a. |

Sources: (5, p. 171; 50 for 1963 data).

Such adjustments take time to evolve. The report concludes:

> The major part of the actual changes and increases in output would begin only four or five years after the improvements in the institutional structure; and the total of the resource adjustments . . . would take a decade of effort (5, p. 489).

The Turkish study also pointed out that "crash" measures to achieve greater self-sufficiency in grain production would have increased inflationary pressures and production costs and have led to uneconomic use of the country's resources.

Title I imports helped protect Turkey against periodic deficits in basic food items such as grains and vegetable oils. In 1954, for example, unfavorable weather, following 3 good years, led to poor harvests and grain stocks were exhausted. However, Title I imports prevented a serious food deficit.

Title I imports during periods of short-term deficiencies enabled the government to achieve greater stability in food prices and more flexibility in working toward its long-range objective of economic development. The program

". . . was of considerable benefit in alleviating the need for pushing uneconomic self-sufficiency objectives and permitting . . . greater flexibility in the development of farming systems and production patterns that would maximize the country's agricultural resource potential" (5, p. 182).

The Title I program also helped stimulate development in the margarine and soap industries (5, pp. 92-3, 270, 356, 400, 493). During 1955-62, the markets for margarine and cooking oils expanded by 10 to 20 percent annually, but domestic production of oilseeds failed to keep pace with increasing demands. Approximately half of the domestic production of vegetable oils comes from olive oil, which is priced too high to be an economic raw material for the margarine and soap industries, but is an important source of foreign exchange earnings. The availability of low-priced, good quality Title I imports eliminated the need for using the more costly oil for soap production, thus increasing the supply of edible olive oil available for export. Also, the soap and margarine industries were encouraged to develop faster and with less uncertainty by the availability of a continuous supply of raw materials under the Title I program. By making possible the rapid expansion of the soap and margarine industries and increased total consumption of vegetable oils, the Title I program " . . . directly contributed to a higher standard of living, changed the consumption pattern, and indirectly freed foreign exchange for other commercial imports" (5, p. 401).

Conclusions - Turkey

Imported agricultural commodities are distributed by two semigovernment agencies. Lower priced imports are sold within the framework of national food and pricing policies at the higher level of domestic prices. Consequently, domestic producers are insulated against competition of lower priced imports whether they are imported under P.L. 480 or commercially.

The availability of food aid served to reduce fluctuations in domestic food prices by reducing inflationary price increases during periods of scarcity. Also, Title I imports alleviated the need for stricter price and rationing controls.

Agricultural output has increased rapidly since 1954, but grain production, the principal food item, did not increase significantly after 1957. Environmental, structural, institutional, and economic factors have hindered the expansion of grain production to meet increasing food requirements. These factors appear to be more important than changes in price in affecting the response of producers. Regression analyses showed that the relationships between deflated farm prices and the area planted during 1950-62 were negative for all grains, except corn, where they were not significant; and positive for cotton.

Since Title I commodities were imported only as a result of shortfalls in production, it appears that the P.L. 480 program contributed to greater flexibility in planning the efficient use of agricultural resources as short range uneconomic self-sufficiency measures that might have been instituted to meet shortfalls in production were avoided.

The large imports of vegetable oils contributed significantly to the development and expansion of the margarine and soap industries. In addition, the net profits made on the handling of P.L. 480 imports by the two semiofficial import agencies were available to help finance the improvement and expansion of storage and marketing facilities and to help cover the administrative costs of agricultural price stabilization programs.

## COLOMBIA

Colombia, the third largest recipient of Title I commodities in Latin America, imported $60 million during 1955-65. Wheat accounted for 57 percent; cotton, 20; vegetable oils, 17; and feed grains, tobacco, and milk, 6 percent.

P.L. 480 imports of wheat, cotton, and vegetable oils were relatively large compared with domestic production of these commodities (table 10). These imports were equivalent to 40 percent of the wheat during 1955-64, 22 percent of the cotton in 1955-57, and one-third of the vegetable oils in 1955-60.

Table 10.--Colombia: Principal P.L. 480 imports compared with domestic production, 1955-64

| Commodity and year 1/ | Domestic production | P.L. 480 imports 2/ | P.L. 480 imports as percentage of production |
|---|---|---|---|
| | 1,000 metric tons | | Percent |
| Wheat | | | |
| 1955 | 147 | 6 | 4 |
| 1956 | 139 | 14 | 10 |
| 1957 | 110 | 59 | 49 |
| 1958 | 140 | 101 | 65 |
| 1959 | 145 | 63 | 45 |
| 1960 | 142 | 55 | 38 |
| 1961 | 142 | 96 | 68 |
| 1962 | 162 | 42 | 26 |
| 1963 | 90 | 50 | 56 |
| 1964 | 85 | 40 | 47 |
| Average | 130 | 52 | 40 |
| Cotton | | | |
| 1955 | 23 | 6 | 26 |
| 1956 | 24 | 3 | 12 |
| 1957 | 21 | 7 | 33 |
| Average | 23 | 5 | 22 |
| Oilseeds 3/ | | | |
| 1955 | 11 | 3 | 27 |
| 1956 | 11 | 4 | 36 |
| 1957 | 12 | 2 | 17 |
| 1959 | 24 | 17 | 71 |
| 1960 | 30 | 4 | 13 |
| Average | 18 | 6 | 33 |

1/ Each year shown is beginning of crop year for production and of fiscal year for imports. 2/ P.L. 480 data are on an export shipment basis and are not available on an import basis. Mostly Title I imports; small amounts under Title III donations, and Title IV long-term dollar credit sales. 3/ Domestic production includes soybean, cottonseed, and sesame oils (2, p. 309). Imports include soybean and cottonseed oils.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

## Agricultural Trade and Marketing Policies

As in Turkey, the Colombian Government controlled marketing and pricing of imports far above import costs to maintain producer prices at higher levels. The distribution and pricing of imported commodities are done through the following semiofficial agencies: (1) Instituto de Fomento Algodonero (IFA), which regulates the production, marketing, and pricing of cotton and oil crops; (2) Instituto Nacional de Fomento Tabacalero, which conducts a tobacco development program and engages in the marketing and pricing of domestic crop; (3) Instituto de Cereales (ICE), which operates development programs for wheat and barley; and (4) Instituto Nacional de Abastecimientos (INA), which exercises a monopoly over all imports of grains and vegetable oils 8/; supports the prices of rice, wheat, corn, and beans through domestic purchase; handles storage and resale operations; and maintains ceiling prices on many food products.

Farm prices of grains and oilseeds in Colombia were far above the cost of imported commodities, both concessional and commercial. For example, in 1962 domestic farm prices exceeded import prices or cost by the following percentages: wheat, 47; corn, 12; and soybeans, 11 (2, p. 40). To protect domestic producers INA sold imports at the much higher domestic prices. During 1955-60, the gross markup on Title I imports averaged 13 million pesos annually. Similar markups were made on concurrent commercial imports (table 11).

Table 11.--Colombia: Prices of selected Title I imports, domestic sales prices, and gross markup

| Commodity | Import price | INA sales price | Gross markup |
|---|---|---|---|
| | Pesos | | |
| Wheat (1955-60 av.) | 702 | 914 | 212 |
| Wheat flour (1955-60 av.) | 824 | 1,306 | 482 |
| Edible oils (1959) | 2,100 | 3,200 | 1,100 |

Source: (2, p. 110).

The net profit from these markups provided financing for INA's domestic operations, such as price support, development projects of Caja Agraria (acting as an agent for INA), and construction of additional storage facilities. During 1957-60, one-half of INA's expenditures were financed by income made from the markup of Title I imports (2, p. 111).

8/ Beginning in 1966, private traders were permitted to import wheat and vegetable oils, subject to licensing requirements and duties. INA collects the duties from the private importer and uses them to help finance domestic programs. In October 1967, wheat imports were again placed under government monopoly.

## Agricultural Prices

Prices of most farm commodities rose more rapidly during 1957-64 than in 1952-56 (table 12). This reflected serious inflationary pressures resulting from increasing domestic demand for foodstuffs, inadequate domestic supplies, and limited foreign exchange. On a deflated basis, prices of wheat, barley, and rice rose at the same or a faster rate than the cost of living until the late 1950's and then fell below the general price index. Prices of corn, sesame, and cotton increased faster than the general price level during most of 1952-64. Wheat prices lagged behind those of the other grains, primarily because of a Title I provision that limited the markup on Title I wheat and flour imports after 1957. These commodities were sold to wholesalers for less than the domestic sales prices of commercial imports.

## Trends in Farm Production

During 1954-65, total agricultural production increased (table 13, fig. 3). Output and acreage of the major commodities, rose during most of the period of Title I imports except for wheat production which remained rather constant between 1952 and 1962, and then declined (table 14). Barley showed the most significant increase among the grains. Cotton production rose to the point where the country became self-sufficient in 1959.

For many decades, Colombia has produced about half of its wheat requirements. Despite a vigorous effort to expand production over the last 15 years, the gap between demand and domestic supplies has increased. The failure of wheat production to expand was mainly due to (3; 2, pp. 169-75, 204; 4, 32-6):

(1) The area available for wheat production is limited and the crop competes with other cool-climate products, such as barley and potatoes, which are usually more profitable. The most profitable alternatives to wheat are in the best wheat areas.

(2) The climate is more favorable for barley.

(3) Many wheat producers operate largely subsistence farms, averaging less than 10 acres. These farmers follow traditional patterns and therefore have not changed their production practices rapidly in response to price changes, technical changes, or other incentives.

(4) Wheat is not an important source of income for most Colombian producers, since few of them depend exclusively upon this crop and there are close food substitutes in corn, rice, yuca, and potatoes.

Due to these and other environmental, institutional, and social factors, Colombia prefers to rely on imported wheat and concentrate on producing more profitable crops. Some experts believe that the country will never be able to provide much more than half its wheat needs, and will have to depend increasingly upon imports (3). Between 1961 and 1965, Colombia imported more wheat than it produced. In 1964, the country produced only one-third of its domestic consumption.

Table 12.--Colombia: Indices of current and deflated support and farm prices compared with the cost of living, 1952-64

(1958=100)

| Crop year | Wheat | | Barley | | Corn | | Rice support | Sesame | | Cotton support | Cost of living |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Farm | Support | Farm | Support | Farm | Support | | Farm 1/ | Support | | |
| | Current prices | | | | | | | | | | |
| 1952 | 72 | 2/n.a. | 71 | n.a. | 53 | n.a. | n.a. | n.a. | --- | n.a. | 62 |
| 1953 | 72 | n.a. | 67 | n.a. | 62 | n.a. | n.a. | n.a. | --- | n.a. | 66 |
| 1954 | 82 | n.a. | 66 | n.a. | 86 | n.a. | n.a. | 45 | --- | 61 | 72 |
| 1955 | 75 | 71 | 69 | 56 | 78 | 56 | n.a. | 53 | --- | 61 | 71 |
| 1956 | 78 | 71 | 73 | 56 | 91 | 56 | n.a. | n.a. | --- | 75 | 76 |
| 1957 | 87 | 93 | 83 | 88 | 112 | 100 | 95 | n.a. | 100 | 100 | 87 |
| 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | n.a. | 100 | 100 | 100 |
| 1959 | 108 | 100 | 109 | 105 | 117 | 100 | 100 | 100 | 115 | 118 | 107 |
| 1960 | 101 | 100 | 108 | 88 | 123 | 100 | 120 | 109 | 115 | 116 | 111 |
| 1961 | 112 | 100 | 110 | 93 | 163 | 127 | 120 | 132 | 115 | 116 | 121 |
| 1962 | 111 | 100 | 109 | 93 | 166 | 127 | 120 | 179 | 155 | 130 | 124 |
| 1963 | 3/129 | 119 | 3/152 | 103 | 3/208 | 171 | 152 | n.a. | 170 | 155 | 164 |
| 1964 | n.a. | 119 | n.a. | 103 | n.a. | 193 | 152 | 225 | 170 | 155 | 192 |
| | Deflated prices | | | | | | | | | | |
| 1952 | 116 | n.a. | 114 | n.a. | 85 | n.a. | n.a. | n.a. | --- | n.a. | 100 |
| 1953 | 109 | n.a. | 102 | n.a. | 94 | n.a. | n.a. | n.a. | --- | n.a. | 100 |
| 1954 | 114 | n.a. | 92 | n.a. | 119 | n.a. | n.a. | 62 | --- | 85 | 100 |
| 1955 | 106 | 100 | 97 | 79 | 110 | 79 | n.a. | 75 | --- | 86 | 100 |
| 1956 | 103 | 93 | 96 | 74 | 120 | 74 | n.a. | n.a. | --- | 99 | 100 |
| 1957 | 100 | 107 | 95 | 101 | 129 | 115 | 109 | n.a. | 115 | 115 | 100 |
| 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | n.a. | 100 | 100 | 100 |
| 1959 | 101 | 93 | 102 | 98 | 109 | 93 | 93 | 93 | 107 | 110 | 100 |
| 1960 | 91 | 90 | 97 | 79 | 111 | 90 | 90 | 98 | 104 | 104 | 100 |
| 1961 | 93 | 83 | 91 | 77 | 135 | 105 | 99 | 109 | 95 | 96 | 100 |
| 1962 | 90 | 81 | 88 | 75 | 134 | 102 | 97 | 144 | 125 | 105 | 100 |
| 1963 | 79 | 72 | 93 | 63 | 127 | 104 | 92 | n.a. | 104 | 94 | 100 |
| 1964 | n.a. | 62 | n.a. | 54 | n.a. | 100 | 79 | 117 | 88 | 81 | 100 |

1/ 1959=100 index used.
2/ n.a. = not available.
3/ October average farm price.
Source: (2) for 1952-62 farm price and U.S. Dept. Agr., Foreign Agr. Serv. for 1963-64.

Table 13.--Colombia: Indices of production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | | | Total agricultural production (1957-59=100) 2/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | Yield | | | | | | Per capita | |
| | Wheat | Barley | Oilseeds 1/ | Cotton | Tobacco | Wheat | Barley | Cotton | Tobacco | Food | Total | Food | Total |
| 1950 .... | 76 | 81 | 75 | 46 | 92 | 94 | 96 | 82 | 90 | 3/n.a. | n.a. | n.a. | n.a. |
| 1951 .... | 98 | 90 | 118 | 63 | 92 | 99 | 100 | 86 | 92 | n.a. | n.a. | n.a. | n.a. |
| 1952 .... | 107 | 98 | 98 | 106 | 100 | 99 | 100 | 83 | 103 | n.a. | n.a. | n.a. | n.a. |
| 1953 .... | 107 | 127 | 98 | 125 | 115 | 109 | 103 | 115 | 117 | n.a. | n.a. | n.a. | n.a. |
| 1954 .... | 110 | 105 | 110 | 159 | 101 | 99 | 103 | 133 | 99 | 90 | 90 | 101 | 101 |
| 1955 .... | 110 | 84 | 88 | 137 | 130 | 107 | 101 | 156 | 122 | 91 | 88 | 99 | 96 |
| 1956 .... | 104 | 113 | 178 | 143 | 166 | 109 | 109 | 156 | 156 | 94 | 87 | 100 | 92 |
| 1957 .... | 83 | 97 | 204 | 124 | 170 | 82 | 104 | 184 | 160 | 95 | 90 | 98 | 93 |
| 1958 .... | 105 | 121 | 302 | 195 | 172 | 116 | 149 | 159 | 156 | 100 | 102 | 100 | 102 |
| 1959 .... | 109 | 163 | 314 | 384 | 176 | 120 | 151 | 202 | 151 | 106 | 107 | 103 | 104 |
| 1960 .... | 107 | 171 | 383 | 400 | 113 | 116 | 158 | 214 | 168 | 109 | 110 | 103 | 104 |
| 1961 .... | 107 | 163 | 415 | 456 | 127 | 121 | 153 | 224 | 189 | 107 | 109 | 98 | 100 |
| 1962 .... | 122 | 174 | 426 | 489 | 174 | 127 | 161 | 208 | 186 | 117 | 116 | 104 | 103 |
| 1963 .... | 68 | 190 | 657 | 437 | 189 | 105 | 170 | 209 | 176 | 115 | 113 | 100 | 98 |
| 1964 .... | 64 | 177 | 1,020 | 382 | 186 | 112 | 158 | 192 | 176 | 118 | 117 | 99 | 99 |
| 1965 .... | 83 | 155 | 1,050 | 382 | 182 | 112 | 190 | 183 | 148 | 125 | 119 | 102 | 97 |

1/ Sesame and soybeans from 1952-64.
2/ From U.S. Dept. Agr., Econ. Res. Serv.
3/ n.a. = not available.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

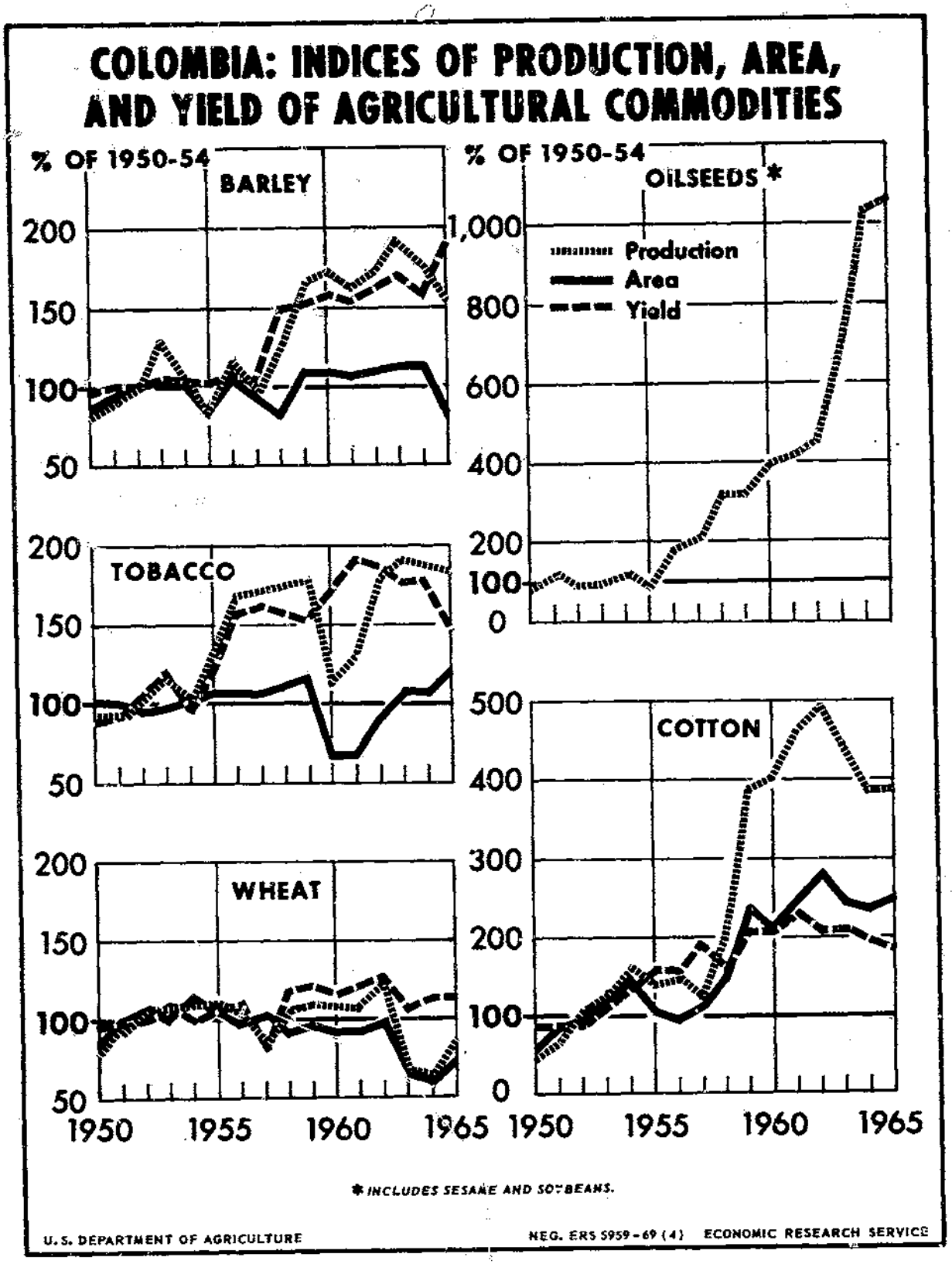
COLOMBIA: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
BARLEY
OILSEEDS *
Production
Area
Yield
TOBACCO
COTTON
WHEAT
200
150
100
50
1,000
800
600
400
0
500
300
1950
1955
1960
1965
* INCLUDES SESAME AND SOYBEANS.
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5959-69 (4) ECONOMIC RESEARCH SERVICE

Figure 3

Table 14.--Colombia: Production, acreage, and yield of selected agricultural commodities, 1950-65

| Crop year | Grains | | | | Cotton | Tobacco | Oilseeds 1/ |
|---|---|---|---|---|---|---|---|
| | Wheat | Corn | Barley | Rice | | | |
| | PRODUCTION | | | | | | |
| | 1,000 metric tons | | | | | | |
| 1950 | 101 | 620 | 50 | 241 | 8 | 20 | 8 |
| 1951 | 131 | 845 | 56 | 259 | 11 | 20 | 12 |
| 1952 | 142 | 927 | 61 | 266 | 18 | 22 | 10 |
| 1953 | 142 | 770 | 79 | 272 | 21 | 26 | 10 |
| 1954 | 147 | 750 | 65 | 294 | 27 | 22 | 11 |
| 1955 | 147 | 770 | 52 | 318 | 23 | 29 | 9 |
| 1956 | 139 | 790 | 70 | 340 | 24 | 37 | 18 |
| 1957 | 110 | 720 | 60 | 349 | 21 | 38 | 21 |
| 1958 | 140 | 851 | 75 | 390 | 33 | 38 | 31 |
| 1959 | 145 | 701 | 101 | 415 | 64 | 39 | 32 |
| 1960 | 142 | 864 | 106 | 450 | 67 | 25 | 39 |
| 1961 | 142 | 733 | 101 | 474 | 76 | 28 | 42 |
| 1962 | 162 | 754 | 108 | 585 | 82 | 38 | 44 |
| 1963 | 90 | 782 | 118 | 550 | 73 | 42 | 67 |
| 1964 | 85 | 899 | 110 | 600 | 65 | 41 | 95 |
| 1965 | 110 | 871 | 96 | 672 | 65 | 40 | 105 |
| | ACREAGE | | | | | | |
| | 1,000 acres | | | | | | |
| 1950 | 356 | 1,610 | 109 | 350 | 103 | 52 | |
| 1951 | 430 | 1,898 | 116 | 400 | 136 | 51 | |
| 1952 | 464 | 1,730 | 126 | 408 | 150 | 49 | |
| 1953 | 432 | 1,730 | 130 | 420 | 200 | 50 | |
| 1954 | 482 | 2,060 | 131 | 450 | 230 | 52 | |
| 1955 | 450 | 2,059 | 106 | 465 | 170 | 54 | |
| 1956 | 420 | 1,673 | 133 | 490 | 155 | 54 | |
| 1957 | 440 | 1,395 | 119 | 500 | 178 | 54 | |
| 1958 | 395 | 1,742 | 104 | 486 | 235 | 56 | |
| 1959 | 410 | 1,631 | 138 | 509 | 380 | 59 | |
| 1960 | 393 | 1,767 | 138 | 562 | 359 | 34 | |
| 1961 | 395 | 1,757 | 136 | 586 | 398 | 34 | |
| 1962 | 420 | 1,720 | 138 | 691 | 450 | 47 | |
| 1963 | 279 | 1,809 | 143 | 628 | 400 | 54 | |
| 1964 | 262 | 2,026 | 143 | 747 | 389 | 54 | |
| 1965 | 314 | 1,977 | 104 | 926 | 410 | 62 | |
| | YIELD PER ACRE | | | | | | |
| | Bushels | | | | Pounds | | |
| 1950 | 10.5 | 15.2 | 21.3 | 33.7 | 158 | 865 | |
| 1951 | 11.1 | 17.5 | 22.2 | 31.9 | 166 | 882 | |
| 1952 | 11.1 | 17.5 | 22.2 | 31.9 | 160 | 990 | |
| 1953 | 12.2 | 17.5 | 23.0 | 31.8 | 221 | 1,124 | |
| 1954 | 11.1 | 17.5 | 22.9 | 32.1 | 255 | 950 | |
| 1955 | 12.0 | 18.0 | 22.6 | 33.5 | 299 | 1,174 | |
| 1956 | 12.2 | 18.6 | 24.2 | 34.0 | 300 | 1,498 | |
| 1957 | 9.2 | 21.4 | 23.2 | 34.2 | 353 | 1,535 | |
| 1958 | 13.0 | 19.2 | 33.2 | 38.4 | 306 | 1,496 | |
| 1959 | 13.4 | 15.7 | 33.6 | 39.9 | 388 | 1,450 | |
| 1960 | 13.0 | 19.2 | 35.3 | 38.4 | 410 | 1,614 | |
| 1961 | 13.5 | 17.1 | 34.1 | 39.6 | 431 | 1,816 | |
| 1962 | 14.2 | 17.2 | 35.9 | 41.5 | 400 | 1,790 | |
| 1963 | 11.9 | 17.0 | 37.9 | 38.9 | 402 | 1,698 | |
| 1964 | 11.9 | 17.5 | 35.3 | 41.7 | 370 | 1,697 | |
| 1965 | 12.9 | 17.3 | 42.4 | 35.2 | 351 | 1,422 | |

1/ Sesame and soybeans.
Source: U.S. Dept. Agr., Foreign Agr. Serv.

In the mid-fifties, government policy shifted from reliance upon cotton imports to promotion of cotton production to meet domestic requirements, despite the favorable sales terms of Title I agreements. In 1957, the government required textile mills to use specific quantities of domestic cotton, thus insuring a market for the higher priced domestic crop, even though it was often lower in quality. Also, depreciation of the peso made imported cotton more expensive.

Favorable domestic prices, improved seeds, expansion of marketing facilities and technical aid, and increased responsiveness of commercial farmers to price changes led to an expansion of cotton production. In 1960, the country became an exporter of cotton (2, pp. 108, 121, 287).

Although Title I feed grain imports were small, they apparently assisted the livestock industry in meeting temporary grain shortages.

Agricultural Development

The Colombian study outlined 3 main areas in which the Title I program contributed to development (2, p. 363):

(a) by the use of Title I pesos to support development of agricultural resources, of fertilizer production, of industries using farm products, and of such institutions as the CVC 9/;

(b) by the commodity development programs conducted with the promotional revenues derived from INA's operations; and

(c) by the greater stability of prices, which may be assumed to be generally conducive to new private investment and development activities in agriculture.

The Title I program provided the government with three important sources of income to finance agricultural development: (1) Revenue derived from the markup of Title I imports, (2) promotional taxes levied on P.L. 480 imports, and (3) local currency accumulated by the United States from the sale of Title I commodities and then loaned to the government.

Promotional taxes levied on Title I imports of wheat and flour, cotton, and cigarettes were the most important sources of funds available to the respective semiofficial commodity agencies to finance their campaigns to encourage increased production. Between 1955 and 1960, these levies averaged nearly 6 million pesos annually, equivalent to three-fourths of the budget of the Ministry of Agriculture which averaged only 8 million pesos. In 1958, 65 percent of the income of the Instituto de Fomento Tabacalero came from promotional taxes. These taxes helped to finance research to improve seed varieties, to establish experimental farms, and to study domestic and foreign market conditions. The 20 million pesos derived from the tax on Title I flour imports was used in the seed improvement campaign, and thereby helped to promote the wheat industry.

9/ The Cauca Valley Corporation, an autonomous regional development agency similar to the Tennessee Valley Authority.

As of June 1964, almost 200 million pesos accruing from the sale of Title I commodities had been loaned by the United States to the Colombian Government and used in the agricultural sector. Since the P.L. 480 law forbids local currency loans for the specific development of agricultural enterprises which might be competitive with U.S. agriculture, these loans were used for the development of industries servicing agriculture and for the improvement of marketing facilities (2, pp. 130-6). The largest loan was made by the government bank to the CVC which used it to finance land reclamation, water control, and electrification. The latter was the first total area electrification scheme in Latin America. By making feasible the use of electrical irrigation equipment, the project aided agricultural development and reduced the impact of the dry season. The reclamation project, which included flood control and drainage, helped to increase the cropland area, as well as to raise agricultural productivity.

The CVC development program was considered a part of Colombian agrarian reform. The reclamation projects and intensified land use provided increased employment for that part of the rural population which could not easily be assimilated into the industrial labor force. Other principal loans helped finance a large fertilizer plant, the development of storage facilities, livestock improvements, agricultural access roads, and reforestation.

Title I sales proceeds also were loaned to private enterprises in Colombia. Approximately 8 million pesos--or about 14 percent of the total Title I loans to the private sector through June 1964--were to firms processing agricultural products. One of the main firms was a corn processing plant.

The income derived from the Title I program facilitated investments in agriculture which probably would not have been made in the absence of the program. During 1955-60, the Ministry of Agriculture received only about 3 percent of the national budget (3, pp. 163, 350, 354).

Recently, the Colombian Government has given greater priority to agricultural development. In 1967, public investment in agriculture accounted for 25 percent of total government investments compared with less than 15 percent in earlier years.

Conclusions - Colombia

The government, by controlling the marketing, pricing, and distribution of imported agricultural commodities through semiofficial agencies, was successful in insulating domestic producers from external competition. This was done by pricing commodity imports for domestic distribution at prices much higher than import costs and in line with domestic price levels.

Analysis of the Colombian situation indicates that wheat prices might have been higher than they were had there been no P.L. 480 program, but it appears that physical, structural, and other economic factors (particularly more profitable alternative crops) were probably more important than price per se in causing the production of wheat to decline.

During the 1955-65 period, output and acreage of the major commodities, with the exception of wheat, rose about in line with increases in population. Oilseed and feed grain production rose substantially and in the case of cotton,

the country became an exporter in 1960 despite fairly large imports from the United States and Peru during the 1950's.

The Title I program provided the government with supplemental revenue which helped finance increased investments in agricultural development and related service industries. Of particular importance was the additional support through P.L. 480 Title I loans and grants to support land and water development through the Cauca Valley Corporation, increased fertilizer production, and various commodity development programs. Also, the stabilizing effects of agricultural imports appear to have been conducive to new private investment and overall development activities in agriculture as well as other sectors of the economy.

## GREECE

Greece imported $119 million of Title I commodities during 1955-64, and was one of the largest recipients on a per capita basis. Feed grains accounted for 43 percent of these imports; wheat, almost one-third; vegetable oils, 22 percent; and dairy products, the remainder. In 1964, Greece shifted from a P.L. 480 Title I program to a Title IV program of long-term dollar credit sales. In recent years, Greece has increased its commercial imports of grain.

Concessional imports of wheat were relatively high in relation to domestic production until 1957 when the country became self-sufficient in this grain. Thereafter, only small quantities were imported for special uses. Feed grain imports under P.L. 480 were a significant percentage of output throughout the period (table 15).

### Agricultural Price and Trade Policies

Domestic prices in Greece exceeded the prices of most imported agricultural commodities, both commercial and concessional. And, as in Turkey and Colombia, the government regulated the distribution and internal pricing of imports. Internal pricing of wheat, feed grains, and oilseeds is done in such a way as to promote agricultural development and protect producer interests.

Since the 1930's the government has encouraged wheat production through regulations affecting production, prices, and marketing of indigenous and imported wheat. Its policies include: (1) Procurement of wheat at guaranteed support prices, (2) requiring millers to use a specified percentage of wheat from government stocks and the commercial market, (3) regulating the wholesale market prices of wheat, (4) subsidizing the flour mills, (5) fixing ceiling prices for different types of bread, and (6) exerting monopoly control over all wheat imports and their internal distribution. The large role played by the government in the wheat market is illustrated by the fact that in 1962 producers made four-fifths of their total sales to the government.

Domestic prices for wheat have exceeded the prices of imported wheat. During 1956-63, farm prices averaged $98 per ton, the support $87, while import prices averaged $77.

The Greek Government sold lower priced wheat imports at the higher level of domestic prices. Sales prices for imported wheat were based on the domestic prices of bread, wheat on the wholesale market, and the support price, all of which were regulated by the government. Sales prices of imported wheat exceeded import prices each year from 1955 through 1961 but were a little lower in 1962 (table 16).

The net profits (after deduction of handling and transportation costs) from concessional wheat imports helped finance the government's domestic grain programs. During the 1955-57 period of substantial concessional wheat imports, the revenue derived from high markups enabled the government to satisfy two conflicting aims without undue strain on the national budget: maintenance of high price supports to producers, and stable bread prices to consumers. During 1955-58, subsidization of bread prices cost the government about 100 million

Table 15.--Greece: P.L. 480 compared with domestic production, 1954-64

| Category 1/ | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | Average 2/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,000 tons | | | | | | | | | | | |
| **Wheat** | | | | | | | | | | | | |
| Production | 1,219 | 1,334 | 1,245 | 1,727 | 1,785 | 1,769 | 1,692 | 1,594 | 1,770 | 1,388 | 2,170 | 1,608 |
| P.L. 480 imports 3/ | 214 | 359 | 333 | 115 | 82 | 54 | 126 | 102 | 68 | 106 | 21 | 144 |
| Ratio (percent) | 16 | 29 | 31 | 6 | 5 | 3 | 8 | 6 | 5 | 8 | 1 | 9 |
| **Corn** | | | | | | | | | | | | |
| Production | 255 | 285 | 239 | 266 | 224 | 291 | 281 | 270 | 266 | 312 | 290 | 272 |
| P.L. 480 imports 4/ | --- | 41 | 76 | 56 | 92 | 59 | 110 | 96 | 130 | 153 | 175 | 99 |
| Ratio (percent) | --- | 14 | 32 | 21 | 32 | 20 | 39 | 36 | 49 | 49 | 60 | 36 |
| **Barley** | | | | | | | | | | | | |
| Production | 233 | 224 | 229 | 254 | 267 | 218 | 235 | 235 | 252 | 242 | 278 | 245 |
| Title I imports | --- | --- | 19 | 20 | 10 | 21 | 49 | 98 | --- | 62 | 34 | 39 |
| Ratio (percent) | --- | --- | 8 | 8 | 4 | 10 | 21 | 42 | --- | 26 | 12 | 16 |
| **Oats** | | | | | | | | | | | | |
| Production | 150 | 157 | 147 | 186 | 168 | 139 | 150 | 153 | 155 | 136 | 155 | 164 |
| Title I imports | --- | 19 | 13 | 10 | 5/14 | --- | --- | --- | --- | --- | --- | 14 |
| Ratio (percent) | --- | 9 | 18 | 12 | 8 | --- | --- | --- | --- | --- | --- | 8 |
| **Total feed grains** | | | | | | | | | | | | |
| Production | 638 | 666 | 615 | 706 | 659 | 6/648 | 6/666 | 658 | 6/673 | 690 | 6/724 | 671 |
| Title I imports | --- | 41 | 108 | 86 | 116 | 6/82 | 6/163 | 194 | 6/146 | 215 | 6/224 | 138 |
| Ratio (percent) | --- | 9 | 18 | 12 | 18 | 16 | 31 | 38 | 55 | 39 | 31 | 20 |
| **Oilseeds** | | | | | | | | | | | | |
| Production 7/ | 113 | 104 | 144 | 164 | 93 | 160 | 79 | 228 | 56 | 210 | 130 | 137 |
| Title I imports 8/ | --- | 6 | 30 | --- | --- | --- | 15 | 6 | --- | --- | 20 | 15 |
| Ratio (percent) | --- | 6 | 21 | --- | --- | --- | 19 | 3 | --- | --- | 15 | 11 |

1/ Each year shown is beginning of crop year for production figures and of fiscal year for trade figures. P.L. 480 data are on an export shipment basis and are not available on an import basis. 2/ Production averaged only for years of imports. 3/ Imports include Title I shipments, small amounts imported under Title II and Title III donations, Title IV exports in 1964 and the following amounts under the Mutual Security Program: 1954, 214,000 metric tons; 1955, 252,000 metric tons; 1956, 284,000 metric tons; and 1960, 3,400 metric tons. 4/ Includes P.L. 480 Title I, Title IV in 1964, and the following amounts under the Mutual Security Program: 1955, 14,100 tons; 1956, 55,000 tons; 1957, 12,000 tons; 1958, 8,600 tons; 1959, 18,700 tons; and 1962, 10,300 tons. 5/ Includes 8,600 tons imported under the Mutual Security Program. 6/ Includes grain sorghum. 7/ Olive oil only. 8/ Soybean oil only.

Source: U.S. Dept. Agr., Foreign Agr. Serv.

Table 16.--Greece: Domestic prices for wheat compared with import prices, 1954-63

| Crop year | Average price of imported wheat | Government sales price of imports | Farm price 1/ | Minimum support price 2/ |
|---|---|---|---|---|
| | Dollars/metric ton | | | |
| 1954 .... | 77 | 3/n.a. | 85 | 88 |
| 1955 .... | 83 | 100 | 90 | n.a. |
| 1956 .... | 78 | 90 | 103 | 90 |
| 1957 .... | 81 | 90 | 100 | 90 |
| 1958 .... | 72 | 80 | 100 | 90 |
| 1959 .... | 71 | 80 | 91 | 77 |
| 1960 .... | 75 | 87 | 90 | 77 |
| 1961 .... | 81 | 87 | 101 | 90 |
| 1962 .... | 85 | 83 | 99 | 90 |
| 1963 .... | 70 | n.a. | 105 | 90 |

1/ Weighted average of price sold to government and on the free market.
2/ Higher "privileged" prices are paid to small farmers and others growing a specified amount.
3/ n.a. = not available.

Source: (14).

drachmas ($3.3 million) annually. 10/ Without the revenue from Title I wheat, "this deficit would have been at least double" (14, p. 88). It would have become extremely difficult for the government to continue to set high price supports and, at the same time maintain low bread prices. Because of a shortage of foreign exchange reserves and competing demand for capital imports, in the absence of an aid program the government probably would not have imported commercially as much as it did.

The government's price policies for wheat changed after 1957 because of the achievement of self-sufficiency in wheat production, the buildup of surplus wheat stocks, a reduction of wheat imports, lower revenues from markups, and the beginning of policies to discourage further increases in wheat production. As the upward trend of support prices ended, bread prices increased continuously during 1958-60.

Feed grain imports were handled by private traders, but the government controlled internal pricing in such a way as to promote livestock production and to stimulate demands for the relatively high yield fodder crops, corn, barley, and oats.

The Agricultural Bank, a government agent, purchased P.L. 480 imports of feed from private traders and distributed them to farmers and feed mixing plants.

10/ One drachma equals $30.00.

After 1957, the Bank has distributed corn imports at prices higher than import costs. In most years from 1954 to 1964, however, corn imports were sold below the farm prices of indigenous corn (table 17). There were no support prices for feed grains until 1965. The Bank sold Title I barley imports at prices higher than import costs from 1958 to 1964. The Bank's prices were at about the same level as domestic farm prices until 1960 but lower since. The sales below domestic prices since 1960 were a means of subsidizing livestock producers. They also helped to stabilize the level of domestic grain prices which had fluctuated widely before the Title I program.

The government also used Title I imports of soybean oil to help maintain high support prices to producers and stable prices to consumers. Support prices of olive oil in years of bumper crops were fixed at low levels. In years of poor crops, they were increased and exports of olive oil were prohibited. During poor crop years, soybean oil imported under Title I was mixed with domestic olive oil, increasing the supply of edible oils as a means of stabilizing retail prices at a lower level than would have been possible in the absence of the program.

Table 17.--Greece: Import prices of corn and barley compared with domestic prices, 1954-64

| Crop year | Corn | | | Barley | | |
|---|---|---|---|---|---|---|
| | Import price | Farm price | Sales price of P.L. 480 imports | Import price | Farm price | Sales price of P.L. 480 imports |
| | Dollars/metric ton | | | | | |
| 1954 | 81.3 | 73.0 | 71.7 | 72.0 | 69.0 | 71.7 |
| 1955 | 76.7 | 70.0 | 71.7 | --- | 75.0 | --- |
| 1956 | 77.3 | 81.7 | 71.7 | --- | 82.0 | --- |
| 1957 | 80.3 | 81.3 | 71.7 | --- | 81.7 | --- |
| 1958 | 60.3 | 72.0 | 71.7 | 47.3 | 66.7 | 71.7 |
| 1959 | 67.0 | 68.7 | 71.7 | 59.3 | 69.0 | 71.7 |
| 1960 | 67.3 | 68.7 | 71.7 | 67.3 | 71.7 | 71.7 |
| 1961 | 61.0 | 68.7 | 71.7 | 56.7 | 72.0 | 71.7 |
| 1962 | 63.3 | 70.7 | 71.7 | 67.7 | 72.7 | 71.7 |
| 1963 | 1/63.2 | 73.7 | 2/71.7 | 1/70.0 | 77.0 | 2/71.7 |
| 1964 | 1/66.2 | 79.3 | 2/71.7 | 1/68.4 | 77.7 | 2/71.7 |

1/ Food and Agriculture Organization of the United Nations, Trade Yearbook.
2/ Estimated.

Source: (14).

During most of 1950-57, farm prices of Title I commodities (wheat, feed grains, and oils) as well as other farm prices rose at the same or a faster rate than general wholesale prices (table 18). Between 1958 and 1964, prices of most farm commodities were stabilized at a lower level and lagged behind the rise in the general price level.

In summary, it appears that Title I imports of grains and oilseeds were distributed and priced within the framework of the government's domestic agricultural price and food policies. These policies included maintaining high prices to wheat producers and high support prices to olive oil growers during years of scarcity, reducing extreme fluctuations in feed grain prices, and maintaining stability in consumer prices.

## Trends in Farm Production

Total agricultural output on a per capita basis increased significantly during 1954-65, with steady gains over most of the period (table 19). Growth was most rapid for cotton, wheat, tobacco, olive oil, and wheat (table 20, fig. 4). In the case of livestock production, there was an increase of 60 percent during 1954-63 (14, pp. 93, 97).

The concessional wheat imports under P.L. 480 met the urgent need of consumers during the recovery period of the middle 1950's until domestic production rose to the level of consumption (14, Chapter 4 and pp. 261-2). After self-sufficiency was achieved in 1957, Title I imports were limited to small quantities of hard wheat needed for special baking purposes. By enabling the government to maintain high support prices during 1955-57, without undue financial strain the program indirectly stimulated production for the commercial market.

Production of feed grains has not increased enough since the early 1950's to satisfy Greece's increasing needs. Most of the country's output of corn, barley, and oats is consumed on the farms where it is produced. Marketable quantities have been limited and fluctuated considerably from year to year.

Prior to P.L. 480 imports, prices of these grains were often too high and too unstable for the expansion of commercial livestock enterprises. Furthermore, technical, economic, and structural factors limited feed grain production and discouraged shifts of land resources to feed grain cultivation from other crops. The production subsidy on feeds that began in 1959 had only limited success. Consequently, the government concluded that the maintenance of a higher level of feed grain production was difficult, even under a system of subsidies (14, pp. 91, 94-5, 98, 262).

P.L. 480 imports filled the gap between domestic demand for, and supply of, feed grains. By making an adequate quantity of high quality livestock feeds (corn, barley, and oats) available at reasonable and stable prices, the program also made improvement in the livestock and poultry industry possible. During the quality and the quantity period of the Title I imports, the bulk of indigenous feeds sold commercially was insufficient for the development of efficient livestock production. Therefore, it appears that the beneficial effects of the P.L. 480 program on the development of livestock industries and the long-run

Table 18.--Greece: Indices of current and deflated farm prices of selected commodities, 1950-64

(1954=100)

| Year | Wheat | Corn | Barley | Oats | Cotton 1/ | Tobacco 1/ | Crop products | Industrial crops 2/ | Livestock products | General wholesale |
|---|---|---|---|---|---|---|---|---|---|---|
| | Current prices | | | | | | | | | |
| 1950 | 69 | 63 | 61 | 64 | 3/n.a. | n.a. | 68 | 54 | 89 | 70 |
| 1951 | 76 | 70 | 76 | 77 | n.a. | n.a. | 70 | 55 | 98 | 73 |
| 1952 | 79 | 66 | 75 | 74 | n.a. | n.a. | 76 | 62 | 94 | 78 |
| 1953 | 99 | 87 | 94 | 91 | n.a. | n.a. | 73 | 96 | 96 | 78 |
| 1954 | 100 | 100 | 100 | 100 | n.a. | n.a. | 100 | 100 | 100 | 100 |
| 1955 | 106 | 96 | 102 | 108 | n.a. | n.a. | 103 | 85 | 106 | 104 |
| 1956 | 121 | 111 | 117 | 118 | 100 | 100 | 121 | 99 | 109 | 118 |
| 1957 | 118 | 111 | 118 | 118 | 95 | 80 | 112 | 89 | 111 | 112 |
| 1958 | 118 | 99 | 95 | 96 | 83 | 82 | 114 | 80 | 112 | 114 |
| 1959 | 107 | 94 | 97 | 99 | 98 | 74 | 108 | 147 | 116 | 110 |
| 1960 | 106 | 94 | 114 | 103 | 103 | 109 | 116 | 164 | 116 | 116 |
| 1961 | 119 | 94 | 111 | 104 | 101 | 149 | 118 | 166 | 116 | 118 |
| 1962 | 117 | 97 | 104 | 105 | 97 | 149 | 124 | 151 | 116 | 122 |
| 1963 | 124 | 101 | 110 | 121 | 95 | 134 | n.a. | n.a. | n.a. | 127 |
| 1964 | 127 | 106 | 113 | 128 | 108 | 125 | n.a. | n.a. | n.a. | 132 |
| | Deflated prices | | | | | | | | | |
| 1950 | 98 | 90 | 87 | 91 | n.a. | n.a. | 97 | 77 | 127 | 100 |
| 1951 | 104 | 96 | 104 | 105 | n.a. | n.a. | 96 | 75 | 134 | 100 |
| 1952 | 101 | 85 | 96 | 95 | n.a. | n.a. | 98 | 79 | 120 | 100 |
| 1953 | 127 | 112 | 120 | 117 | n.a. | n.a. | 94 | 123 | 123 | 100 |
| 1954 | 100 | 100 | 100 | 100 | n.a. | n.a. | 100 | 100 | 100 | 100 |
| 1955 | 102 | 92 | 98 | 104 | n.a. | n.a. | 99 | 82 | 102 | 100 |
| 1956 | 102 | 94 | 99 | 100 | 100 | 100 | 102 | 84 | 92 | 100 |
| 1957 | 105 | 99 | 105 | 105 | 100 | 84 | 100 | 80 | 99 | 100 |
| 1958 | 104 | 87 | 83 | 84 | 89 | 88 | 100 | 70 | 98 | 100 |
| 1959 | 97 | 81 | 88 | 90 | 100 | 76 | 98 | 134 | 105 | 100 |
| 1960 | 91 | 85 | 98 | 89 | 105 | 111 | 100 | 141 | 100 | 100 |
| 1961 | 101 | 80 | 94 | 88 | 101 | 149 | 100 | 141 | 98 | 100 |
| 1962 | 96 | 80 | 85 | 86 | 94 | 145 | 102 | 124 | 97 | 100 |
| 1963 | 98 | 80 | 87 | 95 | 88 | 124 | n.a. | n.a. | n.a. | 100 |
| 1964 | 96 | 80 | 86 | 97 | 96 | 112 | n.a. | n.a. | n.a. | 100 |

1/ 1956=100.
2/ Includes tobacco, cotton, sesame, hemp, flax, peanuts, sunflower, mastic, anise seeds, red pepper, and sorghum.
3/ n.a. = not available.

Source: (14) for years 1950-62, and U.S. Dept. Agr., Foreign Agr. Serv.

Table 19.--Greece: Indices of production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | | | | | Total agricultural production (1957-59=100) 1/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | | Yield | | | | | Food | Total | Per capita | |
| | Wheat | Corn | Barley | Olive oil | Cotton | Tobacco | Wheat | Corn | Barley | Cotton | Tobacco | | | Food | Total |
| 1950 | 78 | 79 | 88 | 37 | 86 | 101 | 88 | 81 | 90 | 99 | 98 | 2/n.a. | n.a. | n.a. | n.a. |
| 1951 | 85 | 101 | 101 | 135 | 96 | 108 | 88 | 103 | 103 | 98 | 105 | n.a. | n.a. | n.a. | n.a. |
| 1952 | 96 | 93 | 94 | 67 | 82 | 68 | 98 | 94 | 93 | 88 | 83 | n.a. | n.a. | n.a. | n.a. |
| 1953 | 128 | 125 | 114 | 152 | 102 | 106 | 121 | 119 | 113 | 102 | 112 | n.a. | n.a. | n.a. | n.a. |
| 1954 | 112 | 103 | 103 | 109 | 134 | 117 | 104 | 103 | 102 | 113 | 103 | 81 | 80 | 84 | 83 |
| 1955 | 122 | 115 | 99 | 100 | 196 | 176 | 116 | 128 | 100 | 110 | 126 | 84 | 86 | 86 | 88 |
| 1956 | 114 | 96 | 101 | 138 | 165 | 143 | 105 | 106 | 105 | 95 | 112 | 89 | 89 | 91 | 91 |
| 1957 | 158 | 107 | 112 | 157 | 204 | 191 | 142 | 128 | 118 | 121 | 145 | 100 | 102 | 101 | 103 |
| 1958 | 164 | 90 | 118 | 89 | 202 | 146 | 145 | 112 | 128 | 114 | 121 | 97 | 97 | 97 | 97 |
| 1959 | 162 | 117 | 96 | 153 | 184 | 139 | 137 | 140 | 110 | 130 | 125 | 102 | 101 | 101 | 100 |
| 1960 | 155 | 113 | 104 | 76 | 203 | 113 | 134 | 138 | 120 | 113 | 115 | 96 | 94 | 94 | 92 |
| 1961 | 146 | 109 | 104 | 238 | 316 | 128 | 135 | 144 | 120 | 142 | 116 | 112 | 112 | 109 | 109 |
| 1962 | 162 | 107 | 111 | 54 | 289 | 163 | 146 | 155 | 127 | 130 | 122 | 106 | 108 | 103 | 104 |
| 1963 | 127 | 126 | 107 | 202 | 303 | 223 | 133 | 167 | 124 | 121 | 141 | 110 | 114 | 106 | 110 |
| 1964 | 199 | 116 | 122 | 125 | 218 | 234 | 162 | 192 | 138 | 143 | 151 | 122 | 123 | 117 | 118 |
| 1965 | 183 | 112 | 181 | 184 | 239 | 214 | 161 | 197 | 166 | 163 | 155 | 127 | 127 | 122 | 122 |

1/ U.S. Dept. Agr., Econ. Res. Serv.
2/ n.a. = not available.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

Table 20.--Greece: Production, acreage, and yield of selected agricultural commodities, 1950-65

| Crop year | Grains | | | | Cotton | Tobacco | Olive oil |
|---|---|---|---|---|---|---|---|
| | Wheat | Corn | Barley | Oats | | | |
| | PRODUCTION | | | | | | |
| | 1,000 metric tons | | | | | | |
| 1950 | 850 | 195 | 200 | 120 | 26 | 58 | 38 |
| 1951 | 931 | 250 | 230 | 140 | 30 | 62 | 141 |
| 1952 | 1,050 | 230 | 213 | 117 | 25 | 39 | 70 |
| 1953 | 1,399 | 309 | 258 | 167 | 32 | 61 | 158 |
| 1954 | 1,219 | 255 | 233 | 150 | 41 | 68 | 113 |
| 1955 | 1,334 | 285 | 224 | 157 | 61 | 101 | 104 |
| 1956 | 1,245 | 239 | 229 | 147 | 51 | 82 | 144 |
| 1957 | 1,727 | 266 | 254 | 186 | 63 | 110 | 164 |
| 1958 | 1,785 | 224 | 267 | 168 | 62 | 84 | 93 |
| 1959 | 1,769 | 291 | 218 | 139 | 57 | 80 | 160 |
| 1960 | 1,692 | 281 | 235 | 150 | 63 | 65 | 79 |
| 1961 | 1,594 | 270 | 235 | 153 | 98 | 74 | 248 |
| 1962 | 1,770 | 266 | 252 | 155 | 89 | 94 | 56 |
| 1963 | 1,387 | 312 | 243 | 136 | 94 | 129 | 210 |
| 1964 | 2,170 | 290 | 278 | 155 | 68 | 136 | 130 |
| 1965 | 1,999 | 279 | 412 | 177 | 74 | 124 | 191 |
| | ACREAGE | | | | | | |
| | 1,000 acres | | | | | | |
| 1950 | 2,142 | 614 | 510 | 363 | 191 | 236 | |
| 1951 | 2,357 | 624 | 516 | 377 | 213 | 236 | |
| 1952 | 2,382 | 625 | 531 | 377 | 203 | 189 | |
| 1953 | 2,581 | 664 | 530 | 368 | 220 | 217 | |
| 1954 | 2,581 | 631 | 528 | 345 | 270 | 262 | |
| 1955 | 2,569 | 570 | 518 | 365 | 410 | 319 | |
| 1956 | 2,622 | 574 | 509 | 364 | 395 | 391 | |
| 1957 | 2,691 | 534 | 496 | 373 | 385 | 301 | |
| 1958 | 2,750 | 511 | 483 | 356 | 402 | 278 | |
| 1959 | 2,875 | 513 | 456 | 319 | 325 | 253 | |
| 1960 | 2,820 | 522 | 448 | 315 | 409 | 226 | |
| 1961 | 2,636 | 481 | 454 | 324 | 510 | 254 | |
| 1962 | 2,697 | 440 | 459 | 326 | 508 | 306 | |
| 1963 | 2,311 | 478 | 451 | 289 | 570 | 362 | |
| 1964 | 2,984 | 389 | 464 | 299 | 350 | 357 | |
| 1965 | 2,766 | 362 | 572 | 310 | 335 | 319 | |
| | YIELD PER ACRE | | | | | | |
| | Bushels | | | | Pounds | | |
| 1950 | 14.6 | 12.5 | 18.0 | 22.8 | 294 | 542 | |
| 1951 | 14.5 | 15.8 | 20.5 | 25.6 | 293 | 581 | |
| 1952 | 16.2 | 14.5 | 18.5 | 21.3 | 262 | 460 | |
| 1953 | 19.9 | 18.3 | 22.4 | 31.3 | 303 | 620 | |
| 1954 | 17.2 | 15.9 | 20.3 | 29.9 | 338 | 568 | |
| 1955 | 19.1 | 19.7 | 19.9 | 29.6 | 327 | 699 | |
| 1956 | 17.4 | 16.4 | 20.8 | 27.7 | 284 | 623 | |
| 1957 | 23.4 | 19.7 | 23.5 | 34.3 | 362 | 804 | |
| 1958 | 23.9 | 17.3 | 25.4 | 32.6 | 341 | 669 | |
| 1959 | 22.6 | 21.5 | 21.9 | 30.1 | 387 | 695 | |
| 1960 | 22.1 | 21.2 | 23.9 | 32.7 | 338 | 637 | |
| 1961 | 22.2 | 22.1 | 23.8 | 32.6 | 422 | 640 | |
| 1962 | 24.1 | 23.8 | 25.2 | 32.7 | 387 | 674 | |
| 1963 | 22.0 | 25.7 | 24.7 | 32.2 | 362 | 782 | |
| 1964 | 26.7 | 29.6 | 27.5 | 35.7 | 425 | 837 | |
| 1965 | 26.5 | 30.3 | 33.0 | 39.3 | 487 | 860 | |

Source: U.S. Dept. Agr., Foreign Agr. Serv.

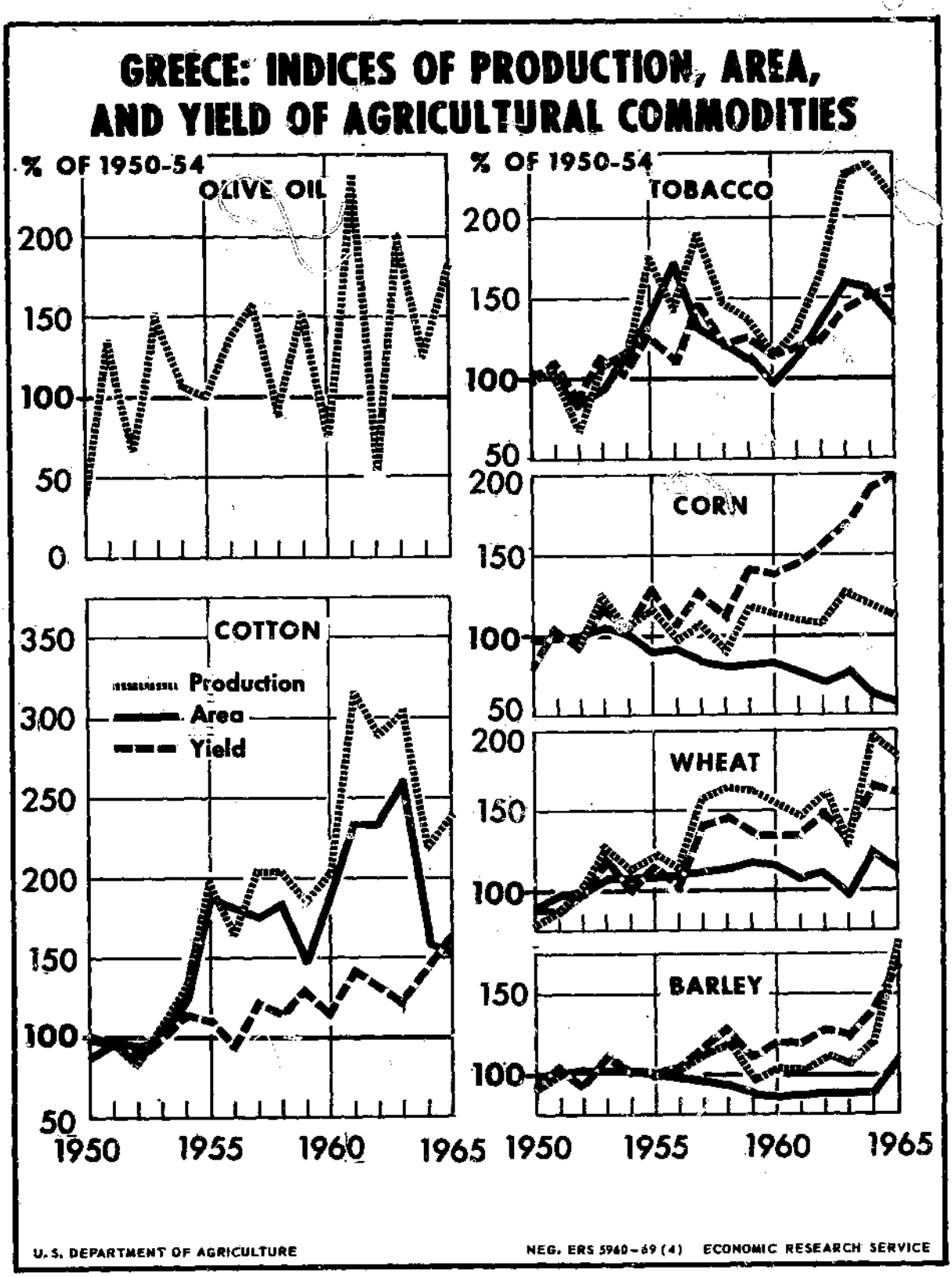
GREECE: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
OLIVE OIL
TOBACCO
CORN
COTTON
WHEAT
BARLEY
Production
Area
Yield
1950
1955
1960
1965
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5960-69 (4)
ECONOMIC RESEARCH SERVICE

Figure 4

expansion of domestic demand for indigenous feed grains more than offset any unfavorable influences that imports might have had on domestic production in any particular year.

Feed Grain Imports and Development of Livestock Industries

The Greek study cited the following contributions of the Title I program to the development of commercial livestock and poultry industries:

(1) Provided the government with considerable reserve stocks of high quality feed grains at reasonable prices. Livestock producers were freed of the need for maintaining stocks, and were thus enabled to economize on costs.

(2) Satisfied the needs of commercial livestock producers near the principal commercial centers who could not easily procure the necessary quantities from domestic producers in the free market.

(3) Maintained the prices of domestic corn and barley at reasonable levels, for both feed grain and livestock producers.

(4) Stimulated the long-run demand and market for corn, barley, and other feeds.

Conclusions - Greece

The government policy of selling the lower-cost concessional imports of wheat and vegetable oils at the higher levels of domestic prices resulted in significant revenues to the government. These revenues were available for use to help finance domestic price support programs and to help maintain stable consumer prices.

During the 1954-65 period, aggregate agricultural output in Greece increased nearly 50 percent. P.L. 480 imports of grains and oils were used to supplement domestic production rather than displace it.

Environmental, structural, and economic conditions were major factors limiting the shifting of resources to increased production of feed grains. The availability of Title I feed grains was credited with reducing fluctuations in feed grain prices and thus encouraging the development of poultry and livestock production adjacent to the major population centers. The general concensus is that the stabilizing effects of P.L. 480 feed grain exports in stimulating livestock industries contributed to increased potential demand for domestic and imported feed grains as well as other livestock feeds.

## SPAIN

Spain imported some $467 million of P.L. 480 Title I commodities during the 7 years before the program was terminated in 1962. Spain was one of the principal early recipients of U.S. agricultural commodity assistance. Edible vegetable oils accounted for 53 percent of these imports; cotton, 25 percent; feed grains, 8 percent; and wheat, tobacco, meat, and poultry the remaining 16 percent. In 1962, Spain shifted to an important commercial purchaser of U.S. agricultural commodities.

P.L. 480 imports of wheat, feed grains, and tobacco averaged only 5 to 8 percent of Spain's domestic production (table 21). In contrast, the Title I imports of soybean and cottonseed oils exceeded domestic production by an annual average of 123,000 metric tons during the period, but these imports were distributed in such a way as to avoid conflict with domestic olive oil producers. In fact, these lower priced vegetable oils were blended with olive oil to encourage consumer acceptability and made it possible for Spain to maintain exports of the higher valued olive oil. This contributed significantly to increased foreign exchange earnings and hastened the country's economic recovery. Although cotton imports averaged two-thirds of domestic output over the 8-year period of concessional cotton imports, the country practically achieved self-sufficiency by the time the aid program was terminated in 1962.

Import costs or prices of U.S. commodities imported under P.L. 480, the Mutual Security Program, or commercially, averaged about 30 percent below the domestic prices of similar agricultural commodities produced in Spain (6, p. 305). As in Turkey, Colombia, and Greece, prices of domestically produced commodities were maintained above world prices through government protection and controls.

### Agricultural Price and Trade Policies

Production, consumption, prices, and trading of principal agricultural commodities in Spain have been regulated or controlled by the government since 1940. These measures have been relaxed some since the mid-1950's. In general, the objectives have been (1) to keep consumer prices reasonably stable; (2) to encourage maximum self-sufficiency in production, particularly in food grains and cotton; and (3) to stimulate production for export. Principal agricultural imports, including U.S. aid imports, were handled within the framework of national food and pricing policies in a way designed to promote those policy objectives.

The principal controls, regulations and agencies affecting (wheat, feed grains, vegetable oils, cotton, and tobacco) during the last decade were as follows (56; 67; 6):

(1) Grains - The National Wheat Service (NWS), fixes the minimum area that growers must devote to wheat production and the proportion of wheat land that is fallowed. Since 1958, the NWS has allowed wheat to be replaced by feed grains, other feed crops, or meadows in marginal wheat lands. Producers are required to sell to the NWS, at the support price, all wheat produced in excess of their needs for food, feed, and seed, NWS has monopoly control over all distribution of wheat to flour mills, regulates the mills' activities, and controls bread prices. Since 1956, cultivation of feed grains has been compulsory on a specified acreage on farms over 250 acres in 30 of the country's 50 provinces.

Table 21.--Spain: Aid imports compared with domestic production, 1954-61

| Commodity and year 1/ | Domestic production | Aid imports 2/ | | | Aid as a percentage of production |
|---|---|---|---|---|---|
| | | P.L. 480 3/ | Mutual Security | Total | |
| | 1,000 metric tons | | | | Percent |
| **Wheat** | | | | | |
| 1959 | 4,627 | 21 | --- | 21 | 4 |
| 1960 | 3,538 | 13 | 400 | 413 | 12 |
| 1961 | 3,266 | 224 | --- | 224 | 7 |
| Average | 3,810 | 86 | 133 | 219 | 6 |
| **Corn** | | | | | |
| 1955 | 686 | 47 | 7 | 54 | 8 |
| 1956 | 714 | 32 | 3 | 35 | 5 |
| 1957 | 771 | 4 | 3 | 6 | 1 |
| 1958 | 916 | 97 | --- | 97 | 10 |
| 1959 | 1,001 | 52 | --- | 52 | 5 |
| 1960 | 1,016 | 100 | 58 | 158 | 16 |
| 1961 | 1,067 | 83 | --- | 83 | 8 |
| Average | 882 | 59 | 10 | 69 | 8 |
| **Barley** | | | | | |
| 1956 | 1,551 | 50 | 35 | 85 | 5 |
| 1957 | 1,881 | 9 | 7 | 16 | 1 |
| 1958 | 1,777 | 112 | --- | 112 | 6 |
| 1959 | 2,050 | 72 | --- | 72 | 4 |
| 1960 | 1,566 | 100 | 83 | 183 | 12 |
| 1961 | 1,744 | 62 | --- | 62 | 4 |
| Average | 1,761 | 68 | 20 | 88 | 5 |
| **Oilseeds 4/** | | | | | |
| 1955 | 61 | 114 | 11 | 125 | 781 |
| 1956 | 19 | 126 | 29 | 155 | 816 |
| 1957 | 14 | 116 | 12 | 128 | 914 |
| 1958 | 17 | 183 | --- | 183 | 107 |
| 1959 | 23 | 149 | --- | 149 | 643 |
| 1960 | 25 | 116 | --- | 116 | 464 |
| Average | 19 | 134 | 8 | 142 | 747 |
| **Cotton** | | | | | |
| 1954 | 21 | --- | 42 | 42 | 195 |
| 1955 | 34 | 9 | 22 | 31 | 91 |
| 1956 | 49 | 34 | 3 | 37 | 76 |
| 1957 | 38 | 22 | 16 | 38 | 100 |
| 1958 | 42 | 37 | 19 | 56 | 133 |
| 1959 | 65 | 2 | 7 | 9 | 14 |
| 1960 | 72 | 38 | --- | 38 | 53 |
| 1961 | 106 | 34 | --- | 34 | 32 |
| Average | 53 | 22 | 13 | 35 | 66 |

1/ Each year shown is beginning of crop year for production and of fiscal year for imports.
2/ Data are on an export shipment basis and are not available on an import basis.
3/ Mostly Title I and small amounts under Title II.
4/ Production includes sunflower, hempseed, linseed, and cottonseed oils; imports include soybean and cottonseed oils.

Source: U.S. Dept. Agr., Foreign Agr. Serv.

Feed grains can be sold on the open market, but NWS will purchase them at the support price if voluntarily offered for sale. An official agency, General Transport and Supply Commission, has a monopoly over all wheat imports, and until 1963, feed grain imports. Private trade now handles most feed grain imports which are subject to licensing regulations and levies.

(2) Tobacco - A government agency fixes the minimum number of acres to be devoted to tobacco production, and requires growers to sell their entire crop to the agency at the support price. A semiofficial agency has monopoly over all imports and the manufacture and distribution of tobacco and tobacco products.

(3) Cotton - The government requires cotton growers to produce the varieties authorized for their areas, sets support prices, and requires growers to sell their entire crop to ginning concessionaries at prices no lower than the support price. Before 1962, the government controlled imports. Since then, licensed private importers may import cotton, but the government authorizes imports only for the manufacture of textiles for export or to replace raw cotton previously used in the manufacture of export products. Cotton gins must deliver to the government the cotton needed to meet export requirements. The producer receives a subsidy on exports or a price which is between the high domestic and the low export or world price.

(4) Oils - The government controls new plantings of olive trees and sets minimum support prices for oil. Olive oil can be sold on the open market, but a semi-government agency purchases at the support price all oil offered to the agency for sale. Although there are no longer ceiling prices set on olive oil at wholesale and retail levels, the official agency may sell its stocks of olive oil to prevent excessive price increases. All exports of olive oil require a license, and until 1962, export prices were controlled. The government had a monopoly over imports of vegetable oils and their internal distribution until the end of 1965.

The government minimized price depressing effects of Title I commodities by controlling imports and by selling the lower priced commercial and concessional imports at levels approximating the prices of domestically produced commodities. Table 22 compares c.i.f. import prices of Title I and MSP commodities and their wholesale prices with support and farm prices of indigenous crops.

During the period of concessional imports, the average annual level of guaranteed support prices exceeded average annual c.i.f. import prices of the P.L. 480 and MSP commodities by the following percentages: wheat, 25 percent; barley, 11 percent; corn, 3 percent; and olive oil, 48 percent above soybean oil. Domestic farm prices usually were higher than import prices. The cost to the General Transport and Supply Commission of importing and distributing Title I corn imports during 1958-62 averaged 3.54 pesetas per kilogram, while the sales prices averaged 4.16 pesetas per kilogram--a net markup of 18 percent. Net markups on other aid imports: wheat, 18 percent; barley, 13 percent; and soybean oil, 19 percent.

The Commission sold wheat imports in the domestic market at about the same level as producer support and farm prices of wheat. Imports of soybean oil were sold at prices near the support for olive oil, but below farm levels. Corn and barley imports were sold at prices higher than producer price supports, but

Table 22.--Spain: Import costs of selected commodities under P.L. 480 and the Mutual Security programs, compared with domestic prices, 1955-63

| Commodity and year | C.i.f. import price of aid 1/ | Import cost of aid imports 2/ | Domestic sales price of aid imports | Margin between sales price of aid imports and cost of imports | Support price | Farm price |
|---|---|---|---|---|---|---|
| | Pesetas/kilogram | | | | | |
| Corn | | | | | | |
| 1955 | 2.89 | 3.03 | --- | --- | 2.30 | 3.52 |
| 1956 | 2.84 | 2.99 | --- | --- | 2.40 | 4.43 |
| 1957 | 2.89 | 3.03 | --- | --- | 2.40 | 4.54 |
| 1958 | 2.61 | 2.84 | 4.10 | 1.36 | 2.40 | 5.64 |
| 1959 | 2.94 | 3.20 | 4.10 | 1.02 | 3.50 | 4.92 |
| 1960 | 3.71 | 4.04 | 4.20 | .30 | 3.60 | 5.25 |
| 1961 | 3.46 | 3.77 | 4.20 | .49 | 3.60 | 4.83 |
| 1962 | 3.53 | 3.85 | 4.20 | .57 | 3.60 | 5.39 |
| Av. 1958-62 | 3.25 | 3.54 | 4.16 | .75 | 3.34 | 5.21 |
| Barley | | | | | | |
| 1957 | 2.73 | 2.88 | --- | --- | 2.80 | 3.97 |
| 1958 | 2.43 | 2.56 | 3.60 | 1.04 | 3.35 | 4.05 |
| 1959 | 2.80 | 2.94 | 3.60 | .66 | 3.40 | 4.41 |
| 1960 | 3.60 | 3.78 | 3.60 | -.18 | 3.45 | 4.16 |
| 1961 | 3.49 | 3.66 | 3.80 | .14 | 3.50 | 4.09 |
| Av. 1958-61 | 3.08 | 3.24 | 3.65 | .41 | 3.42 | 4.18 |
| Soybean and olive oil 3/ | | | | | | |
| 1955 | 4/n.a. | 5/16.2 | 12.7 | -3.5 | 11.6 | --- |
| 1956 | n.a. | 6/18.5 | n.a. | n.a. | 12.6 | --- |
| 1957 | n.a. | 7/18.3 | n.a. | n.a. | 15.5 | --- |
| 1958 | 8/11.1 | 8/13.1 | n.a. | n.a. | 17.3 | 21.7 |
| 1959 | 9/10.2 | 9/12.1 | 16.0 | 3.9 | 19.5 | 21.6 |
| 1960 | 10/12.0 | 10/14.2 | 10/21.0 | 6.8 | 19.5 | 22.7 |
| 1961 | 18.6 | 22.0 | 20.2 | -1.8 | 19.5 | 24.2 |
| 1962 | 15.3 | 18.0 | 20.2 | 2.2 | 19.9 | 31.7 |
| 1963 | 13.7 | 16.2 | 21.0 | 4.8 | 25.3 | 31.2 |
| Av. 1959-63 | 14.0 | 16.5 | 19.7 | 3.2 | 20.7 | 26.3 |
| Wheat | | | | | | |
| 1961 | 4.46 | 4.70 | 5.56 | .89 | 5.56 | 5.59 |

1/ Aid includes P.L. 480 and the Mutual Security Programs.
2/ Includes economic cost of transporting and distributing the imports within Spain. It was estimated that marketing costs amount to an additional 9 percent of the import prices for corn and barley, 5 percent for wheat, and 10 percent of the import prices of refined soybean oil.
3/ Soybean oil applies to the aid data. C.i.f. prices are for unrefined soybean oil; and import costs and sales prices are for refined soybean oil. The yield rate for unrefined soybean oil is estimated at 93 percent. Olive oil applies to support and farm prices.
4/ n.a. = not available.
5/ December.
6/ February.
7/ January.
8/ August.
9/ April.
10/ March only for years 1960-63 c.i.f. prices, import costs, and sales prices of imports.

Source: (6; 66).

considerably below prices actually received by farmers as a means of subsidizing livestock producers. Since 1962, the government has required private traders to pay a compensatory duty on feed grain imports which brings them into alignment with the level of domestic farm prices.

Prices of all commodities increased during 1951-64 (table 23). On a deflated basis, prices for olive oil and the barley and corn supports rose more than the general wholesale level while the prices for the other commodities listed in table 22 lagged. This indicates that U.S. aid programs helped stabilize prices at a time when Spain was under serious inflationary pressures.

The shortage of foreign exchange reserves during 1955-59 imposed severe limitations on the quantity of agricultural commodities that could be purchased commercially. During this period, domestic production was not sufficient to meet the increasing demand for agricultural commodities. Therefore, the P.L. 480 imports helped stabilize prices at a time when Spain was under serious inflationary pressures and thus it is believed contributed to economic development (6, pp. 106, 110-3, 121, 162-4, 175, 182, 189, 190, 200, 207, 212-3, 276, 286, 293, 254-9, 302-4). By 1960-61, Spain's foreign exchange situation had improved considerably, but sizable imports under P.L. 480 continued. This contributed greatly to rapid improvement in the country's financial condition and put Spain in the position to shift to an important commercial purchaser with the termination of the aid program in 1962.

In the absence of a P.L. 480 program during 1955-59, however, it is unlikely that the government would have permitted domestic prices to rise to excessive levels. Restraining rapid price fluctuations of basic commodities was an essential element of government policy. For example, there were rationing regulations and strict controls over the marketing and pricing of olive oil during periods of shortages prior to the aid programs. Throughout the fifties, government regulation of the domestic olive trade was gradually reduced with the government reserving the right to intervene to prevent prices from exceeding reasonable levels. Since aid imports provided the country with a greater supply of edible oils and other commodities than would otherwise have been possible during 1955-59, it appears that the aid programs made it possible for the government to relax its control over domestic prices and marketing and hastened the country's transition from an aid recipient to an important commercial market for agricultural products, particularly vegetable oils, oilseeds, and grains.

## Trends in Agricultural Production

Total agricultural output increased 42 percent during 1952-65. Most of the increase occurred since 1958 when food production increased at a faster rate than population (table 24). The largest production gains were made in cotton, corn, and livestock products. Wheat, barley, oats, and olive oil showed no trends (table 25, fig. 5). The available evidence indicates that concessional imports under P.L. 480 and MSP were not allowed to interfere with the domestic production of olive oil, grains, cotton, or tobacco (6, pp. 64, 66-7, 69, 78, 86-7, 106-14, 122, 308).

Since 1950, production of olive oil and other vegetable oils has been insufficient to meet the increased demand. During 1955-61, aid imports of soybean and cottonseed oil supplied 27 percent of domestic consumption and accounted for

Table 23.--Spain: Indices of current and deflated prices of selected agricultural commodities, 1951-64

(1953=100)

| Crop year | Wheat | | Barley | | Corn | | Rice | | Olive oil | | Beet sugar wholesale | Cotton support 4/ | Tobacco support 5/ | General wholesale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Support | Wholesale | Support | Wholesale | Support | Wholesale | Support 1/ | Farm | Support 2/ | Wholesale 3/ | | | | |
| | Current prices | | | | | | | | | | | | | |
| 1951 | 6/n.a. | 108 | n.a. | 47 | n.a. | 74 | n.a. | n.a. | 87 | 81 | 72 | n.a. | n.a. | 93 |
| 1952 | 97 | 100 | 75 | 65 | n.a. | 72 | n.a. | n.a. | 87 | 93 | 84 | n.a. | n.a. | 93 |
| 1953 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1954 | 100 | 102 | 100 | 77 | 104 | 95 | 100 | 84 | 103 | 114 | 100 | 100 | 100 | 100 |
| 1955 | 106 | 104 | 104 | 70 | 104 | 80 | 106 | 85 | 103 | 121 | 100 | 100 | 100 | 104 |
| 1956 | 106 | 109 | 104 | 110 | 104 | 114 | 108 | 84 | 112 | 126 | 100 | 100 | 100 | 114 |
| 1957 | 126 | 120 | 150 | 121 | 104 | 112 | 108 | 92 | 137 | 144 | 100 | 100 | 100 | 133 |
| 1958 | 129 | 130 | 154 | 112 | 152 | 140 | 112 | 100 | 153 | 147 | 119 | 135 | 125 | 146 |
| 1959 | 129 | 132 | 154 | 116 | 152 | 135 | 118 | 102 | 172 | 196 | 118 | 135 | 125 | 149 |
| 1960 | 129 | 132 | 159 | 127 | 156 | 134 | 138 | 92 | 172 | 196 | 112 | 135 | 154 | 152 |
| 1961 | 142 | 139 | 159 | 120 | 156 | 133 | 138 | 104 | 172 | 211 | 112 | 135 | 154 | 157 |
| 1962 | 142 | 144 | 159 | 120 | 156 | 132 | 138 | 112 | 175 | 259 | 120 | 135 | 154 | 160 |
| 1963 | 157 | 153 | 184 | 139 | 189 | 146 | 166 | 116 | 223 | 284 | 124 | 135 | 154 | 170 |
| 1964 | 170 | 167 | 184 | 138 | 189 | 132 | 194 | 128 | 230 | 259 | 145 | 135 | 223 | 176 |
| | Deflated prices | | | | | | | | | | | | | |
| 1951 | n.a. | 116 | n.a. | 50 | n.a. | 80 | n.a. | n.a. | 94 | 87 | 77 | 104 | n.a. | 100 |
| 1952 | 104 | 107 | 81 | 70 | n.a. | 77 | n.a. | n.a. | 94 | 100 | 90 | 104 | n.a. | 100 |
| 1953 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1954 | 100 | 102 | 100 | 77 | 104 | 95 | 100 | 84 | 102 | 114 | 100 | 100 | 100 | 100 |
| 1955 | 102 | 100 | 100 | 67 | 100 | 77 | 102 | 82 | 99 | 116 | 96 | 96 | 96 | 100 |
| 1956 | 92 | 95 | 91 | 96 | 91 | 100 | 94 | 74 | 98 | 110 | 88 | 88 | 88 | 100 |
| 1957 | 94 | 90 | 112 | 90 | 78 | 84 | 82 | 69 | 103 | 108 | 75 | 75 | 75 | 100 |
| 1958 | 88 | 89 | 105 | 76 | 104 | 96 | 76 | 68 | 104 | 101 | 81 | 92 | 86 | 100 |
| 1959 | 86 | 88 | 103 | 78 | 102 | 91 | 79 | 68 | 115 | 132 | 79 | 90 | 84 | 100 |
| 1960 | 84 | 86 | 104 | 84 | 102 | 88 | 90 | 60 | 113 | 129 | 74 | 89 | 76 | 100 |
| 1961 | 90 | 88 | 101 | 101 | 99 | 85 | 88 | 66 | 110 | 134 | 71 | 86 | 98 | 100 |
| 1962 | 88 | 90 | 99 | 75 | 98 | 82 | 86 | 70 | 109 | 162 | 75 | 84 | 96 | 100 |
| 1963 | 92 | 90 | 108 | 82 | 111 | 86 | 98 | 68 | 131 | 167 | 73 | 79 | 90 | 100 |
| 1964 | 96 | 94 | 104 | 78 | 107 | 75 | 110 | 73 | 131 | 147 | 82 | 77 | 127 | 100 |

1/ Paddy, semifine (type 2).
2/ Grade of 1.5 to 2.5 acidity.
3/ Andaluz region.
4/ American, second class, upland type. This type accounts for 95 percent of the total crop produced.
5/ Type B, second class, group 1 (representative class) (6, p. 305).
6/ n.a. = not available.

Source: Except as indicated, (26, 64, 65).

Table 24.--Spain: Indices of production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | | | | | Total agricultural production (1957-59=100) 1/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | | Yield | | | | | | | Per capita | |
| | Wheat | Corn | Barley | Olive oil | Cotton | Tobacco | Wheat | Corn | Barley | Cotton | Tobacco | Food | Total | Food | Total |
| 1950 .... | 81 | 87 | 78 | 51 | 49 | 62 | 84 | 98 | 79 | 62 | 94 | 2/n.a. | n.a. | n.a. | n.a. |
| 1951 .... | 113 | 95 | 111 | 195 | 52 | 79 | 114 | 91 | 113 | 92 | 92 | n.a. | n.a. | n.a. | n.a. |
| 1952 .... | 110 | 100 | 115 | 78 | 113 | 103 | 108 | 95 | 114 | 128 | 103 | 89 | 86 | 97 | 81 |
| 1953 .... | 81 | 108 | 82 | 92 | 130 | 122 | 80 | 109 | 81 | 113 | 105 | 85 | 86 | 91 | 80 |
| 1954 .... | 116 | 109 | 114 | 85 | 158 | 135 | 116 | 107 | 112 | 106 | 105 | 91 | 87 | 97 | 92 |
| 1955 .... | 94 | 100 | 89 | 73 | 257 | 125 | 94 | 110 | 106 | 114 | 108 | 87 | 87 | 90 | 89 |
| 1956 .... | 99 | 104 | 80 | 106 | 370 | 100 | 96 | 115 | 80 | 136 | 87 | 90 | 90 | 94 | 92 |
| 1957 .... | 116 | 112 | 97 | 95 | 291 | 104 | 112 | 116 | 100 | 120 | 188 | 96 | 96 | 97 | 97 |
| 1958 .... | 108 | 134 | 92 | 96 | 318 | 85 | 104 | 110 | 96 | 132 | 92 | 97 | 97 | 98 | 97 |
| 1959 .... | 110 | 146 | 106 | 126 | 495 | 87 | 107 | 112 | 111 | 153 | 85 | 106 | 107 | 106 | 106 |
| 1960 .... | 84 | 148 | 81 | 139 | 548 | 119 | 86 | 114 | 89 | 154 | 116 | 102 | 105 | 98 | 103 |
| 1961 .... | 77 | 156 | 90 | 95 | 806 | 127 | 89 | 118 | 106 | 180 | 116 | 107 | 111 | 100 | 109 |
| 1962 .... | 105 | 134 | 112 | 91 | 847 | 94 | 114 | 118 | 121 | 175 | 109 | 109 | 114 | 104 | 110 |
| 1963 .... | 123 | 171 | 107 | 164 | 731 | 99 | 115 | 120 | 117 | 198 | 104 | 125 | 129 | 118 | 124 |
| 1964 .... | 94 | 176 | 83 | 57 | 589 | 100 | 98 | 139 | 95 | 210 | 104 | 111 | 116 | 97 | 110 |
| 1965 .... | 107 | 169 | 72 | 88 | 615 | 125 | 107 | 142 | 80 | 218 | 111 | 118 | 122 | 108 | 115 |

1/ U.S. Dept. Agr., Econ. Res. Serv.
2/ n.a. = not available.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

Table 25.--Spain: Production, acreage, and yield of selected agricultural commodities, 1950-65

| Crop year | Grains | | | | | Cotton | Tobacco | Olive oil |
|---|---|---|---|---|---|---|---|---|
| | Wheat | Rice | Corn | Barley | Oats | | | |
| | PRODUCTION | | | | | | | |
| | 1,000 metric tons | | | | | | | |
| 1950 | 3,402 | 299 | 599 | 1,502 | 506 | 6.4 | 15.5 | 181.4 |
| 1951 | 4,763 | 302 | 650 | 2,143 | 540 | 6.8 | 20.0 | 698.5 |
| 1952 | 4,627 | 324 | 686 | 2,230 | 547 | 14.8 | 26.0 | 278.0 |
| 1953 | 3,402 | 389 | 742 | 1,590 | 443 | 17.0 | 30.7 | 330.0 |
| 1954 | 4,899 | 361 | 749 | 2,205 | 526 | 20.7 | 34.0 | 303.9 |
| 1955 | 3,991 | 389 | 686 | 1,718 | 540 | 33.7 | 31.4 | 263.1 |
| 1956 | 4,196 | 384 | 714 | 1,551 | 452 | 48.6 | 25.3 | 381.0 |
| 1957 | 4,900 | 402 | 771 | 1,881 | 535 | 38.1 | 26.3 | 340.2 |
| 1958 | 4,545 | 375 | 916 | 1,777 | 519 | 41.6 | 21.5 | 345.0 |
| 1959 | 4,627 | 386 | 1,001 | 2,050 | 560 | 64.9 | 22.0 | 450.0 |
| 1960 | 3,538 | 361 | 1,016 | 1,566 | 300 | 71.8 | 29.9 | 499.0 |
| 1961 | 3,266 | 394 | 1,067 | 1,744 | 472 | 105.6 | 32.1 | 340.2 |
| 1962 | 4,431 | 392 | 920 | 2,162 | 513 | 111.0 | 23.7 | 327.6 |
| 1963 | 4,860 | 399 | 1,171 | 2,070 | 466 | 96.8 | 24.9 | 590.7 |
| 1964 | 3,966 | 398 | 1,203 | 1,600 | 381 | 77.2 | 25.1 | 200.0 |
| 1965 | 4,500 | 377 | 1,155 | 1,391 | 346 | 80.6 | 31.6 | 314.0 |
| | ACREAGE | | | | | | | |
| | 1,000 acres | | | | | | | |
| 1950 | 10,080 | 143 | 990 | 3,820 | 1,546 | 78 | 28 | |
| 1951 | 10,413 | 151 | 990 | 3,815 | 1,550 | 110 | 37 | |
| 1952 | 10,531 | 160 | 1,000 | 3,954 | 1,483 | 150 | 43 | |
| 1953 | 10,517 | 169 | 1,025 | 3,964 | 1,527 | 175 | 50 | |
| 1954 | 10,526 | 175 | 1,000 | 3,963 | 1,502 | 267 | 55 | |
| 1955 | 10,593 | 166 | 925 | 3,990 | 1,505 | 406 | 49 | |
| 1956 | 10,860 | 162 | 911 | 3,892 | 1,251 | 494 | 49 | |
| 1957 | 10,818 | 165 | 925 | 3,781 | 1,448 | 433 | 49 | |
| 1958 | 10,786 | 160 | 939 | 3,739 | 1,432 | 417 | 43 | |
| 1959 | 10,791 | 165 | 964 | 3,706 | 1,396 | 557 | 44 | |
| 1960 | 10,462 | 163 | 1,058 | 3,529 | 1,374 | 618 | 44 | |
| 1961 | 10,587 | 153 | 1,038 | 2,866 | 1,236 | 805 | 47 | |
| 1962 | 10,507 | 156 | 1,097 | 3,580 | 1,357 | 855 | 47 | |
| 1963 | 10,474 | 155 | 1,203 | 3,576 | 1,300 | 650 | 41 | |
| 1964 | 10,223 | 158 | 1,270 | 3,388 | 1,225 | 490 | 41 | |
| 1965 | 10,447 | 143 | 1,191 | 3,511 | 1,206 | 490 | 48 | |
| | YIELD PER ACRE | | | | | | | |
| | Bushels | | | | | Pounds | | |
| 1950 | 12.4 | 102.4 | 23.8 | 18.1 | 22.6 | 103 | 1,220 | |
| 1951 | 16.9 | 103.3 | 25.9 | 25.8 | 24.0 | 153 | 1,192 | |
| 1952 | 16.0 | 99.2 | 27.6 | 25.9 | 25.4 | 213 | 1,332 | |
| 1953 | 11.8 | 112.9 | 27.3 | 18.4 | 20.0 | 187 | 1,355 | |
| 1954 | 17.1 | 100.9 | 29.5 | 25.6 | 24.1 | 176 | 1,363 | |
| 1955 | 13.9 | 114.7 | 29.2 | 24.2 | 24.7 | 190 | 1,402 | |
| 1956 | 14.2 | 119.9 | 30.8 | 18.3 | 24.9 | 225 | 1,130 | |
| 1957 | 16.6 | 121.7 | 32.3 | 22.8 | 25.5 | 200 | 1,138 | |
| 1958 | 15.4 | 114.9 | 38.4 | 21.8 | 25.0 | 220 | 1,185 | |
| 1959 | 15.8 | 117.4 | 40.9 | 25.4 | 27.6 | 254 | 1,102 | |
| 1960 | 12.7 | 118.8 | 37.8 | 20.4 | 21.6 | 256 | 1,504 | |
| 1961 | 13.2 | 124.0 | 41.7 | 24.2 | 26.3 | 298 | 1,501 | |
| 1962 | 16.8 | 123.2 | 33.0 | 27.7 | 26.0 | 290 | 1,404 | |
| 1963 | 17.0 | 126.0 | 38.3 | 26.6 | 24.7 | 329 | 1,346 | |
| 1964 | 14.5 | 123.3 | 37.3 | 21.7 | 21.4 | 348 | 1,351 | |
| 1965 | 15.8 | 127.9 | 38.2 | 18.2 | 19.8 | 362 | 1,438 | |

Source: U.S. Dept. Agr., Foreign Agr. Serv.

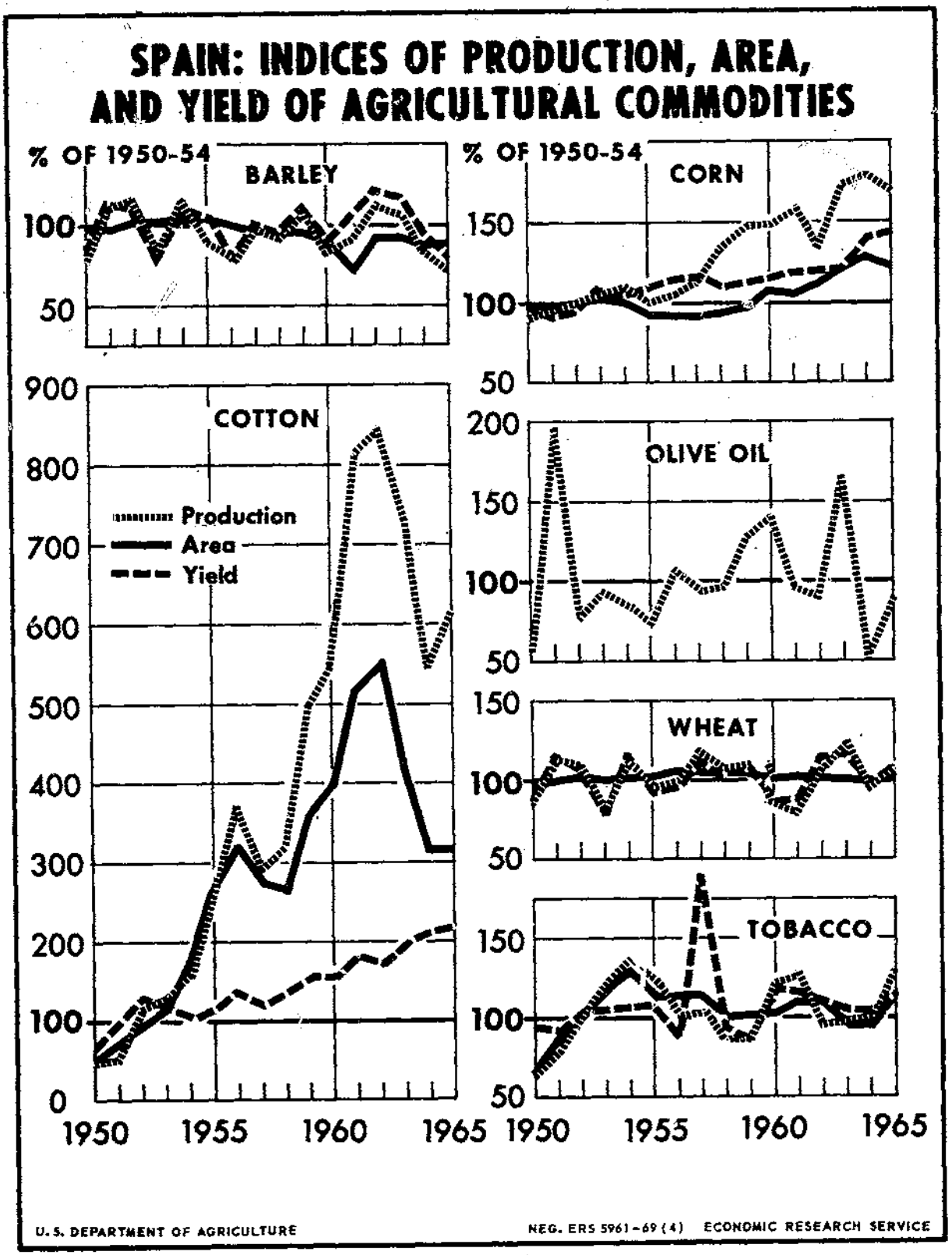
SPAIN: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
BARLEY
CORN
COTTON
OLIVE OIL
WHEAT
TOBACCO
Production
Area
Yield
1950
1955
1960
1965
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5961-69 (4)
ECONOMIC RESEARCH SERVICE

Figure 5

about one-third of domestic production of vegetable oils, primarily olive oil. The P.L. 480 study concluded that during 1955-61, almost two-thirds of aid imports of soybean and cottonseed oils supplemented domestic supplies or covered the deficit between national production and domestic requirements. The remaining one-third substituted for domestic olive oil and thereby enabled the country to export olive oil.

It is unlikely that olive oil production would have been significantly greater had there been no P.L. 480 program. Although domestic olive oil prices might have been higher in the absence of a P.L. 480 program, higher prices probably would not have stimulated domestic production in the short run. It takes many years for newly planted olive trees to reach full production. Also, even in the long run, higher prices alone might not be much of a stimulant to the expansion of production. Since the early fifties, there has been a steady rise in domestic olive oil prices, both absolutely and relatively. Despite favorable prices, the area planted to young olive trees increased at a declining rate during the fifties. Thus, the P.L. 480 study on Spain concluded that the

> . . . influence of prices in the long run is growing weaker, at least with regard to the extension of land surface dedicated to olive-growing . . . . the development [increase] of mill olive prices is not a sufficient incentive to reverse the process of steadily diminishing expansion in mill olive growing (6, pp. 59-60).

Also, it is probable that the government would have instituted controls to restrain excessive rises in domestic oil prices in the absence of the P.L. 480 imports of soybean and cottonseed oil.

An article published in December 1961 by the Banco Central in Madrid stated that a price increase by itself is not sufficient to bring about a substantial increase in production; it must be accompanied by improvements in basic farm organization, in the distribution and marketing system, and in farm techniques. The author compared changes in agricultural production of principal food and industrial commodities in Spain (such as grains, olive oil, and livestock products) with farm prices. He found that

> there is no parallel between developments in prices and those of production; there is even a considerable disparity. For example, the lowest figure in the rate of increase of the price index--industrial crops--shows the highest production figure, and the highest price index--potatoes--has the lowest production figure (32, p. 6095).

Production of the crops he examined increased, in general, less rapidly than prices. Even when there was an important increase in production of a commodity handled largely by free trade, such as poultry, the author found that organizational elements (compensating duties on grain fodder) explained the increase better than prices. The author concluded that price is an important factor, but not always a decisive one in stimulating production. Attention must also be given, he said, to all the structural and technical aspects of agriculture and the general economic framework.

> The stimulus of high prices, especially under the free trade system (where there are extreme seasonal price variations), does not seem to be sufficient to achieve any substantial advance in production, and indeed it would be ridiculous to use it as a long-term measure (32, p. 6098).

Wheat acreage and production remained rather constant during 1951-64, but yields fluctuated widely because of variations in the weather. Wheat was imported under aid programs in only 3 years over the period of the entire aid programs, 1954-61. Only in 1960 did wheat imports represent a significant amount--12 percent of domestic production. The government, through a semiofficial agency, has completely controlled the wheat industry.

The P.L. 480 study concluded that since Spain had sufficient foreign exchange reserves in 1960 and 1961, the government would have imported approximately the same amount commercially as it did on concessional terms. The study also found that because of the periodic need for imports and the nature of the controlled wheat economy, wheat imports, whether they were on concessional or commercial terms, did not discourage domestic production (6, pp. 148-53, 158-61, 309-10).

The main effect of imports of feed grains under P.L. 480 was in contributing to the better use of the country's agricultural resources (6, pp. 188-9, 204, 309-10). During the period of concessional feed grain imports (1955-61), there was a decline in barley acreage of approximately 89,000 hectares on unirrigated land and an increase in corn production of about the same amount on irrigated land. There was also an increase in barley yields. Corn cultivation became more profitable relative to the barley, due to the following factors: (1) An increase in the price of corn relative to that of barley, as corn consumption grew at a rate five times faster than barley; (2) expansion of the irrigated area devoted to corn; (3) increase in the use of fertilizers; (4) increase in the use of agricultural machinery; and (5) more widespread use of U.S. hybrid corn under the aid program.

In the absence of P.L. 480 feed grain imports, there probably would have been a shift in acreage from barley to corn, because corn is a more profitable crop, especially on irrigated land. However, it is likely that, due to the country's deficit in barley production, the shift in acreage would have been restricted. Therefore, Title I barley imports facilitated and encouraged the shift from barley to corn. The P.L. 480 study in Spain concluded that the transfer of land from barley to corn was desirable, because it made possible a better use of resources.

Although cotton imports under P.L. 480 and MSP accounted for almost one-third of Spain's total cotton supply from domestic and imported sources and about 79 percent of domestic production between 1954 and 1962, these imports did not slow the development of national production (6, pp. 257-9, 262, 269, 284-5, 291-3, 311-2). After the early 1950's, a significant expansion occurred in output, acreage, and yield. Production increased from 14,000 tons in 1952 to 77,000 tons in 1964. This expansion was accomplished through seed improvements, extension of irrigated land, greater use of fertilizers, better production practices, extremely high subsidized prices, and a strict system of government protection and controls.

Concessional imports provided the textile industries with a greater supply of good quality low-priced cotton than otherwise would have been available had there been no program. Therefore, P.L. 480 and MSP imports contributed to better utilization of the industry's productive capacity and to the continuation, and later expansion, of textile exports.

Tobacco is under strict government control and protection. During 1955-61, P.L. 480 imports averaged about 8 percent of domestic output, which remained stable after increasing in the mid-fifties. Spain's inability to supply more than half of its needs from domestic sources has been due to indigenous factors. Imports of tobacco have been necessary to meet the domestic requirements.

Agricultural Development

By increasing supplies of corn and barley in 1952-62, the aid program contributed to a sharp expansion in production of poultry and livestock products, despite a decline in livestock numbers from 1952-62. Greater supplies of good quality feed grains made it possible to improve the quality of livestock diets and to increase the quantity of feed per animal. The increase in feed grain supplies came both from an expansion of domestic corn production and from supplemental imports under concessional import programs. The government sold aid imports at prices below domestic farm prices as a means of subsidizing livestock and poultry industries and preventing excessive increases in the price of domestic feed to livestock producers (6, pp. 227-31, 310).

Concessional imports also assisted the expansion of the mixed feeds industry. The growth in mixed feed production required larger quantities of barley, corn, and soybean meal than could have been obtained from domestic sources or commercial imports during this period. The increased feed output was an important factor in the increase in production of livestock and poultry products.

Part of the local currencies collected by the United States from the sale of Title I commodities in Spain were used to promote agricultural development. From 1955 to June 1966, the peseta equivalent of $184 million of local currencies generated from Title I sales were loaned to the Spanish Government. Over two-thirds of this amount was used for projects aimed at raising agricultural productivity. The principal projects included irrigation, land consolidation, reforestation, watershed control, and soil conservation. These Title I loans provided supplementary funds for agricultural projects, which probably would have been delayed in the absence of the program.

Conclusions - Spain

Stringent government controls over agricultural production, prices, marketing, and foreign trade insulated domestic producers from the competition of lower cost or lower priced concessional or commercial imports. The profits accruing to the government through its resale of low-cost agricultural imports at the higher level of domestic prices were available to help finance domestic agricultural price and development programs.

The availability of concessional imports under the aid programs made it possible for the government to import far larger quantities of agricultural commodities than it could have purchased on a commercial basis because of the severe

shortage of foreign exchange, particularly prior to 1960. By obtaining these agricultural imports on concessional terms, primarily under P.L. 480, greater stability in agricultural and food prices were achieved. Instead of the government resorting to more intensive marketing, price, and trade controls, the stage was set for gradual relaxation of controls, which began in the early 1960's.

The Spanish study on the effects of P.L. 480 and other agricultural aid imports concluded that the imports of grains contributed to more efficient use of agricultural resources by enabling the country to concentrate on increasing the production of corn, the expansion of commercial livestock and poultry industries, and the development of the commercial feed mixing industry.

The imports of cotton on concessional terms facilitated recovery and development of the textile industry and the imports of cottonseed and soybean oil made it possible to offset shortfalls in olive oil production. In both cases, the impact of these commodity imports were beneficial in raising domestic consumption levels and in terms of both short and long term improvement in the country's balance of payments position. Also in both cases, the commodity imports were managed in a way to avoid interference with domestic production. And in the case of vegetable oils, consumers became amenable to their use, particularly in blender with olive oil, which opened the way for Spain to become a major commercial importer of United States vegetable oilseeds, particularly soybeans.

## ISRAEL

Israel imported $279 million of P.L. 480 Title I commodities during 1955-64, and was the largest recipient on a per capita basis. Feed grains accounted for 36 percent; wheat, 34 percent; oilseeds, 12 percent; and the remainder (consisting mostly of dairy products and smaller amounts of rice, cotton, tobacco, and meat), 18 percent. Israel has increased its commercial purchases of agricultural commodities since 1960, but P.L. 480 imports continued to be important after 1960.

Concessional imports during 1954-64 were larger compared to domestic production than in most other Title I recipient countries (table 26). Imports of wheat and feed grains under Title I and MSP exceeded domestic output by an annual average of 11,000 and 6,000 tons, respectively. Title I imports of oilseeds averaged approximately 37 percent of domestic production of refined vegetable oils, while cotton imports averaged 12 percent of domestic output.

The government controlled the distribution of Title I imports to promote its policies for expanding production and developing agricultural processing enterprises. In contrast with Turkey, Colombia, Greece, and Spain, the Israeli Government used Title I imports to help stabilize domestic prices at levels low enough to make it possible for the government to relax price and marketing controls.

### Agricultural Price Policies

The government has exercised rigorous controls over agricultural production, marketing, consumption, and prices since it was established in 1948. Because of extreme inflationary conditions, the government instituted wholesale and retail price control and rationing in the early 1950's for bread, vegetable oils, beef, rice, dairy products, and feed grains. Controls were gradually relaxed, and by 1962 rationing and retail price controls had been abolished for most commodities.

The government also has regulated prices and marketing at the farm level since the early 1950's (28). Three types of price guarantees to producers have been used: (1) minimum support prices for vegetables, poultry, meat, peanuts, and certain fruit, whereby the government agrees to purchase these commodities at set prices; (2) fixed prices for sugar, cotton, wheat, and feed grains, whereby the government requires processors to purchase a specified amount at fixed prices which usually are subsidized by the government; and (3) marketing and price agreements for dairy products, through which the government sets production quotas to restrict supplies and uses subsidies to establish "reasonable" prices.

Price and production controls on agricultural commodities have been administered through some 12 production and marketing boards, which in 1964 covered 85 percent of the total value of agricultural commodities marketed. These boards are controlled mainly by producers, although each board includes government representatives who insure that the boards' activities conform to government policy. There are no boards for grains, producer sales of which are subject to direct government control.

Table 26.--Israel: Selected imports under P.L. 480 and Mutual Security Programs related to domestic production, 1954-64

| Year beginning 1/ | Domestic production | | | | P.L. 480 imports 4/ | | | |
|---|---|---|---|---|---|---|---|---|
| | Wheat | Feed grains 2/ | Oilseeds 3/ | Cotton | Wheat 5/ | Feed grains 6/ | Oilseeds 7/ | Cotton |
| | 1,000 metric tons | | | | | | | |
| 1954 ..... | 34 | 134 | 14 | 1 | 155 | 51 | --- | 1 |
| 1955 ..... | 36 | 81 | 18 | 2 | 236 | 149 | 6 | 2 |
| 1956 ..... | 74 | 134 | 22 | 3 | 260 | 97 | 2 | 8/ |
| 1957 ..... | 83 | 130 | 24 | 4 | 179 | 224 | 5 | 2 |
| 1958 ..... | 63 | 116 | 26 | 5 | 159 | 296 | 8 | 2 |
| 1959 ..... | 73 | 121 | 33 | 7 | 189 | 335 | 9 | 1 |
| 1960 ..... | 41 | 50 | 42 | 11 | 194 | 194 | 11 | 1 |
| 1961 ..... | 52 | 86 | 36 | 15 | 271 | 109 | 20 | --- |
| 1962 ..... | 50 | 99 | 35 | 16 | 194 | 171 | 27 | --- |
| 1963 ..... | 55 | 83 | 34 | 14 | 136 | 192 | 16 | --- |
| 1964 ..... | 126 | 202 | 28 | 16 | 84 | 134 | 22 | --- |
| Average .. | 62 | 108 | 30 | 8 | 187 | 177 | 11 | 1 |

1/ Each year shown is beginning of crop year for production and of fiscal year for imports.
2/ Includes barley, corn, and grain sorghum.
3/ Refined vegetable oils. 1954-60 (31), and 1961-63 from U.S. Dept. Agr., Foreign Agr. Serv.
4/ Trade data are on an export shipment basis and are not available on an import basis.
5/ Includes mainly P.L. 480 Title I, small amounts under Title II and Title III donations, and the following amounts under the Mutual Security Program: 1954, 106,000 tons; 1955, 111,000 tons; 1956, 170,000 tons; 1957, 25,000 tons; 1959, 41,000 tons; and 1960, 47,000 tons.
6/ Barley, corn, and grain sorghum. Includes P.L. 480 Title I and the following amounts under the Mutual Security Program: 1954, 22,000 tons; 1955, 20,000 tons; 1956, 20,000 tons; and 1957, 40,000 tons.
7/ Soybean and cottonseed oils under P.L. 480 Title I.
8/ Less than 500,000 metric tons.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

The government is the sole importer of meats, wheat, and vegetable oils, and all Title I imports of dairy products. Commercial firms import feed grains, cotton, rice, and tobacco, but are subject to strict licensing and other government regulations.

## Agricultural Prices and Production Policies

During 1949-59, most farm prices and retail prices of food rose continuously (table 27). On a deflated basis, retail prices of most foods, and farm prices of feed grains and livestock products, rose less rapidly than other prices in 1949-51. This period was marked by strong demand for food, extreme inflation, and limited food supplies. Strict rationing and price controls limited the rise in food prices. The next 3 years were marked by currency devaluation and the beginning of relaxation of controls. Agricultural prices rose to levels more consistent with actual supply and demand conditions and advanced faster than prices generally. During 1955-59, food supplies were increased by the availability of Title I imports and expanded domestic production of some commodities. Although most controls were abolished, food prices rose at a slower rate than other prices.

The greater price stability resulting from Title I imports enabled the government to abolish price controls and rationing considerably sooner than would have otherwise been feasible. In fact, the transition away from price controls and rationing began in 1954, the first year of Title I imports (47, pp. 60, 64-6; 31, pp. 120-2, 131-3, 137, 179, 183, 195-6, 242-5).

Title I wheat imports led to increased supplies of white bread, prices of which declined relative to standard bread, even though the demand showed a greater increase. Title I rice imports enabled the government to abolish rationing and price subsidies on rice in 1958-59. Since then, the government has sold rice to wholesalers at fixed prices which have been more consistent with actual conditions, while free market prices have declined. Title I imports of feed grains and oilseeds led to derationing of these products in 1953-54 and 1958-59, respectively, and a substantial decline in free prices relative to official prices (31, pp. 4, 16, 17, 51, 95, 128, 281-2).

Total agricultural production almost tripled between 1954 and 1965, while per capita production rose substantially (table 28). Production and yields of wheat and feed grains increased between 1950 and 1954, and then remained fairly constant until 1964, when there was a substantial expansion (tables 28 and 29). Oilseed production rose slightly over the period and cotton production, which began in 1953, expanded rapidly (fig. 6). Production of animal products and citrus fruits--which were not imported under Title I--increased considerably after 1950.

The assurance of a continuous flow of Title I imports provided the government with greater flexibility in planning for more profitable use and desirable long-range development of the country's agricultural resources. Before the Title I program, the lack of a continuous flow of imported raw materials, in certain cases, prevented the full and efficient use of productive resources. Title I imports enabled the government to maintain an adequate level of stocks, thus making it possible to more fully utilize the nation's productive capacity and to develop profitable local processing industries.

Table 27.--Israel: Indices of current and deflated retail prices, 1949-59

(1953=100)

| Crop year | Bread 1/ | | Rice | | Feed grains 3/ | | Livestock products 3/ | Edible oils | | | | Cost of living |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Official | | Free | | |
| | Standard | White | Official | Free 2/ | Official | Free | | Edible oils | Marga-rine | Edible oils | Marga-rine | |
| | Current prices | | | | | | | | | | | |
| 1949 | 28 | 43 | 44 | 4/n.a. | 31 | n.a. | n.a. | 33 | 33 | n.a. | n.a. | 41 |
| 1950 | 29 | 44 | 43 | 32 | 32 | n.a. | n.a. | 34 | 34 | 106 | 94 | 45 |
| 1951 | 47 | 62 | 74 | 84 | 55 | n.a. | n.a. | 44 | 45 | 144 | 106 | 70 |
| 1952 | 77 | 92 | 100 | 100 | 78 | n.a. | n.a. | 84 | 83 | 106 | 94 | 84 |
| 1953 | 100 | 100 | 100 | n.a. | 5/100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1954 | 119 | 103 | 100 | n.a. | 120 | 145 | 108 | 99 | 99 | 86 | 78 | 106 |
| 1955 | 121 | 106 | 100 | n.a. | 108 | 121 | 116 | 121 | 121 | 78 | 84 | 112 |
| 1956 | 126 | 116 | 100 | 60 | 131 | 132 | 134 | 143 | 143 | 77 | 70 | 120 |
| 1957 | 126 | 117 | 100 | 71 | 131 | 106 | 135 | 143 | 143 | 73 | 72 | 124 |
| 1958 | 126 | 119 | 5/763 | n.a. | 131 | 106 | 117 | 5/174 | 167 | 67 | 60 | 127 |
| 1959 | 129 | 119 | 821 | n.a. | 129 | 108 | 115 | 162 | 164 | 58 | 60 | 129 |
| | Deflated prices | | | | | | | | | | | |
| 1949 | 68 | 105 | 107 | n.a. | 76 | n.a. | n.a. | 80 | 80 | n.a. | n.a. | 100 |
| 1950 | 64 | 98 | 96 | 70 | 71 | n.a. | n.a. | 76 | 76 | 236 | 209 | 100 |
| 1951 | 67 | 88 | 106 | 168 | 78 | n.a. | n.a. | 63 | 64 | 206 | 151 | 100 |
| 1952 | 92 | 110 | 119 | 128 | 93 | n.a. | n.a. | 100 | 99 | 128 | 112 | 100 |
| 1953 | 100 | 100 | 100 | n.a. | 5/100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1954 | 112 | 97 | 94 | n.a. | 113 | 137 | 102 | 93 | 93 | 81 | 74 | 100 |
| 1955 | 108 | 95 | 89 | n.a. | 96 | 108 | 104 | 108 | 108 | 62 | 75 | 100 |
| 1956 | 105 | 97 | 83 | 48 | 109 | 110 | 112 | 119 | 119 | 64 | 58 | 100 |
| 1957 | 102 | 94 | 81 | 52 | 106 | 85 | 109 | 115 | 115 | 59 | 58 | 100 |
| 1958 | 99 | 94 | 5/605 | n.a. | 103 | 83 | 92 | 5/137 | 131 | 53 | 47 | 100 |
| 1959 | 100 | 92 | 636 | n.a. | 100 | 84 | 89 | 126 | 127 | 45 | 46 | 100 |

1/ Rationing and price controls through 1962.
2/ 1952=100.
3/ Farm prices.
4/ n.a. = not available.
5/ Rationing and price controls abolished.

Source: (31, pp. 184, 244, 412, 451, 462).

Table 28.--Israel: Indices of production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | Total agricultural production (1957-59=100) 3/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | Yield | | | | | Per capita | |
| | Grains | | Oilseeds 1/ | Cotton 2/ | Grains | | Cotton 2/ | Food | Total | Food | Total |
| | Wheat | Barley | | | Wheat | Barley | | | | | |
| 1950 ..... | 93 | 60 | 87 | --- | 86 | 84 | --- | 4/n.a. | n.a. | n.a. | n.a. |
| 1951 ..... | 72 | 45 | 143 | --- | 62 | 46 | --- | n.a. | n.a. | n.a. | n.a. |
| 1952 ..... | 107 | 147 | 87 | --- | 117 | 143 | --- | n.a. | n.a. | n.a. | n.a. |
| 1953 ..... | 103 | 105 | 122 | 19 | 106 | 95 | 35 | n.a. | n.a. | n.a. | n.a. |
| 1954 ..... | 117 | 147 | 70 | 64 | 129 | 131 | 139 | 67 | 66 | 79 | 78 |
| 1955 ..... | 124 | 71 | 70 | 127 | 88 | 79 | 128 | 71 | 70 | 81 | 80 |
| 1956 ..... | 255 | 137 | 87 | 191 | 155 | 164 | 98 | 78 | 77 | 85 | 84 |
| 1957 ..... | 286 | 119 | 174 | 253 | 168 | 182 | 110 | 82 | 81 | 85 | 84 |
| 1958 ..... | 217 | 87 | 104 | 332 | 146 | 117 | 102 | 101 | 101 | 101 | 101 |
| 1959 ..... | 252 | 105 | 130 | 445 | 163 | 145 | 139 | 117 | 118 | 113 | 114 |
| 1960 ..... | 141 | 42 | 170 | 700 | 92 | 54 | 136 | 125 | 127 | 118 | 120 |
| 1961 ..... | 179 | 71 | 248 | 955 | 156 | 165 | 119 | 130 | 134 | 118 | 123 |
| 1962 ..... | 172 | 77 | 248 | 1,019 | 132 | 90 | 130 | 144 | 149 | 125 | 130 |
| 1963 ..... | 190 | 60 | 87 | 891 | 129 | 69 | 143 | 149 | 152 | 125 | 128 |
| 1964 ..... | 434 | 189 | 130 | 1,019 | 278 | 189 | 143 | 166 | 170 | 134 | 137 |
| 1965 ..... | 517 | 108 | 250 | 1,338 | 271 | 146 | 166 | 171 | 178 | 133 | 139 |

1/ Includes sesameseed and sunflowerseed.
2/ 1953-56=100.
3/ U.S. Dept. Agr., Econ. Res. Serv.
4/ n.a. = not available.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

Table 29.--Israel: Production, acreage, and yield of selected agricultural commodities, 1950-64

| Crop year | Grains | | Cotton | Oilseeds 1/ |
|---|---|---|---|---|
| | Wheat | Barley | | |
| | PRODUCTION | | | |
| | 1,000 metric tons | | | |
| 1950 | 27 | 37 | --- | 2 |
| 1951 | 21 | 28 | --- | 3 |
| 1952 | 31 | 91 | --- | 2 |
| 1953 | 30 | 65 | 2/ | 3 |
| 1954 | 34 | 91 | 1 | 2 |
| 1955 | 36 | 44 | 2 | 2 |
| 1956 | 74 | 85 | 3 | 2 |
| 1957 | 83 | 74 | 4 | 4 |
| 1958 | 63 | 54 | 5 | 2 |
| 1959 | 73 | 65 | 7 | 3 |
| 1960 | 41 | 26 | 11 | 4 |
| 1961 | 52 | 44 | 15 | 6 |
| 1962 | 50 | 48 | 16 | 6 |
| 1963 | 55 | 37 | 14 | 2 |
| 1964 | 126 | 117 | 16 | 3 |
| | ACREAGE | | | |
| | 1,000 acres | | | |
| 1950 | 95 | 123 | --- | |
| 1951 | 105 | 151 | --- | |
| 1952 | 80 | 200 | --- | |
| 1953 | 85 | 205 | 2 | |
| 1954 | 80 | 195 | 2 | |
| 1955 | 125 | 155 | 6 | |
| 1956 | 145 | 145 | 14 | |
| 1957 | 150 | 114 | 12 | |
| 1958 | 130 | 128 | 15 | |
| 1959 | 137 | 126 | 17 | |
| 1960 | 135 | 135 | 25 | |
| 1961 | 106 | 136 | 39 | |
| 1962 | 119 | 150 | 40 | |
| 1963 | 129 | 163 | 31 | |
| 1964 | 138 | 181 | 31 | |
| | YIELD PER ACRE | | | |
| | Bushels | | Pounds | |
| 1950 | 10.4 | 13.8 | --- | |
| 1951 | 7.5 | 7.6 | --- | |
| 1952 | 14.1 | 23.4 | --- | |
| 1953 | 12.8 | 15.6 | 240 | |
| 1954 | 15.6 | 21.5 | 960 | |
| 1955 | 10.6 | 12.9 | 880 | |
| 1956 | 18.8 | 26.9 | 680 | |
| 1957 | 20.3 | 29.8 | 760 | |
| 1958 | 17.7 | 19.2 | 704 | |
| 1959 | 19.7 | 23.7 | 960 | |
| 1960 | 11.1 | 8.9 | 941 | |
| 1961 | 18.9 | 27.0 | 825 | |
| 1962 | 16.0 | 14.7 | 900 | |
| 1963 | 15.6 | 11.3 | 960 | |
| 1964 | 33.7 | 29.6 | 1,115 | |

1/ Includes sesame and sunflowerseeds. 2/ Less than 500 metric tons.
Source: U.S. Dept. Agr., Foreign Agr. Serv.

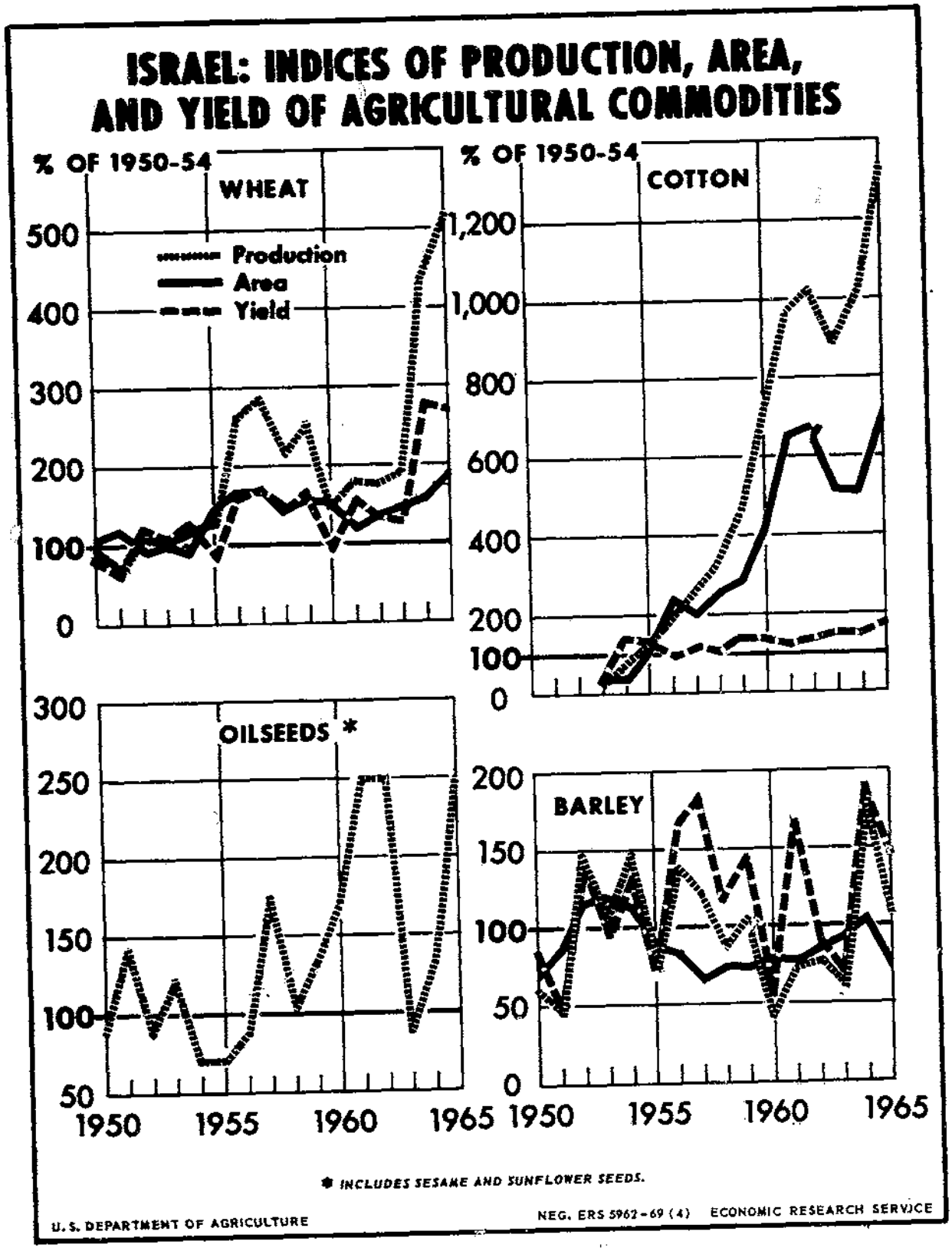
ISRAEL: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
WHEAT
Production
Area
Yield
500
400
300
200
100
0
% OF 1950-54
COTTON
1,200
1,000
800
600
400
200
100
0
OILSEEDS *
300
250
200
150
100
50
BARLEY
200
150
100
50
0
1950
1955
1960
1965
1950
1955
1960
1965
* INCLUDES SESAME AND SUNFLOWER SEEDS.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5962-69 (4) ECONOMIC RESEARCH SERVICE

Figure 6

## Agricultural Development

Increased supplies of grains and oilseeds from Title I imports contributed to an expansion of the flour milling, edible oil, and feed mixing industries and to the construction of grain storage facilities. Before 1955, the lack of suitable storage facilities for grains and oilseeds, irregularity of supplies and the low level of stocks discouraged the building of additional facilities. The regular flow of supplies under the Title I program during 1955-60 resulted in increasing storage capacity for grains by one-half. Part of these facilities were financed by local currency loans from the sale of Title I commodities. Almost 30 percent of these loans were made to private firms. Most U.S. grain shipments now pass through grain elevators built with the aid of Title I loans.

The Israel study concluded that Title I imports allowed for additional investments amounting to approximately two-thirds of the value of the imports from 1955 to 1960. This made possible an increase of about 2 percent in gross national product in 1961.

Title I imports were particularly important to development of the livestock industry (31, pp. 212, 232-66). In the 1949-54 period, all locally produced grains had to be sold to the government at fixed prices. Government stocks of indigenous grains, and all imported grains, were allocated at controlled prices to livestock producers, who also had to market their products at prescribed prices. Since feed prices on the free market were considerably higher than official prices, the majority of livestock producers could buy only a limited quantity of feeds. Beginning in 1955, Title I imports provided the country with an adequate and continuous supply of feeds. The government permitted decontrol of grain prices and allowed official prices to drop to a lower and more stable level. Free prices declined from as much as 50 percent above government levels to near official levels.

It is estimated that livestock production increased 15 percent more during 1955-59 than it would have without Title I imports. Profitability of livestock production also increased.

The assurance of concessional imports encouraged the government to conclude a poultry agreement with producers to supply necessary quantities of grains at stable prices. The agreement was a further stimulation to expansion of the industry.

## Conclusions - Israel

The government controlled the distribution of Title I imports to promote its policies for expanding agricultural production and developing agricultural enterprises. The assurance of a continuous flow of Title I grains, oilseeds, cotton, tobacco, and meat provided flexibility in planning for more profitable use and desirable long range development of the country's agricultural resources.

The imports of wheat, feed grains, and oilseeds avoided the pressure of short-term self-sufficiency measures to divert resources to expand the domestic production of these products. This facilitated progress in the development of more intensive enterprises such as fruits, vegetable crops, and cotton on

irrigated land which were more suited to the country's agricultural resources than grains and oilseeds.

During the 1955-65 period, total agricultural production almost tripled while per capita production rose substantially. By facilitating the stabilization of food prices at levels lower than otherwise would have been possible, the food aid program enabled the government to relax its rationing and price controls.

In addition to encouraging the more efficient use of agricultural resources, the food aid program contributed significantly to (a) the development of milling, feed mixing, edible oils, and livestock industries; and (b) the construction of increased storage facilities for grains and edible oils. These developments were not only timely but resulted in a permanent positive effect on gross national product, employment and income.

## INDIA

India received more Title I commodities than any other country during 1955-64, though the per capita value was relatively small. Of the $2.5 billion total, wheat accounted for three-fourths; cotton, 11 percent; rice, 9 percent, and corn, tobacco, dairy products, and soybean oil, the remaining 5 percent.

Concessional wheat imports were over one-fourth of domestic output during 1954-64, and reached 60 percent in 1964 (table 30). Title I imports of rice, corn, cotton, and tobacco were only negligible shares of domestic production, thus their impact on the nation's agriculture was small.

### Government Price Policies

Since World War II, the Indian Government has used an extensive range of measures to regulate and control agricultural prices, consumption, and marketing (54, pp. 2, 50, 57-67, 135, 201-2; 37, pp. 163, 167, 170). Title I imports were distributed and priced within this framework of controls and to a large extent were used to promote its policy of stabilizing food prices.

In general, the objective of agricultural price policy has been to maintain a "reasonable" level of consumer prices. Measures used by the central government to prevent exorbitant price rises during periods of shortages and general inflationary pressures included: (1) Rationing of food grains and sugar; (2) restrictions on the movement of food grains, sugar, and cotton between interstate zones; (3) distribution of government stocks of food grains to consumers at fixed prices through fair-price shops (about 150,000 in June 1967); (4) licensing of food grain and cotton wholesalers operating on the free market; (5) setting quotas for cotton textile and jute mills; (6) requiring that roller flour mills buy from government stocks and sell their products at set prices; and (7) regulating forward trading in oilseeds (37, pp. 168, 171-2, 188, 191-2; 27, pp. 23-9; 54, pp. 83, 90, 101; 35, pp. 5, 7-11, 18-20). State governments used similar measures to stabilize agricultural prices.

Although domestic prices policies have been consumer-oriented, the government has given some price support to producers in the following ways: (1) Since 1943, setting floor and ceiling prices for main varieties of cotton; (2) since 1948, setting minimum prices for sugarcane purchased by mills; (3) in certain years since 1954, procuring grains from producers at fixed prices; and (4) since 1949, setting minimum prices for raw jute.

Until 1964, price support policies generally were limited and designed more to meet emergency situations of declining farm prices than to stimulate production (37, pp. 167, 178; 9, p. 34; 33, p. 51). Price supports to producers for most commodities also were held at relatively low levels, primarily because of administrative difficulties, the costs of high price support programs, and a general lack of storage facilities.

In 1965, the government announced a basic change in its grain price policies. Adequate incentives to producers were made a major policy objective and price supports were increased considerably (27).

Table 30.--India: Selected P.L. 480 imports related to domestic production, 1954-64

| Category 1/ | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | Average 2/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,000 tons | | | | | | | | | | | |
| **Wheat** | | | | | | | | | | | | |
| Production | 8,106 | 9,146 | 8,869 | 9,504 | 8,005 | 9,957 | 10,322 | 10,952 | 12,039 | 10,830 | 9,861 | 9,785 |
| P.L. 480 imports 3/ | 140 | 244 | 1,814 | 2,020 | 3,330 | 3,125 | 3,164 | 1,992 | 3,436 | 4,451 | 5,935 | 2,696 |
| Ratio (percent) | 2 | 3 | 20 | 21 | 42 | 31 | 31 | 18 | 28 | 41 | 60 | 28 |
| **Rice** | | | | | | | | | | | | |
| Production | 39,886 | 43,054 | 45,390 | 39,848 | 48,105 | 47,232 | 51,344 | 52,263 | 48,100 | 52,000 | 58,157 | 47,788 |
| P.L. 480 imports | --- | 11 | 198 | 10 | 2 | 179 | 283 | 144 | 271 | 364 | 328 | 199 |
| Ratio (percent) | --- | 4/ | 4/ | 4/ | 4/ | 4/ | 4/ | 4/ | 1 | 1 | 1 | 4/ |
| **Corn** | | | | | | | | | | | | |
| Production | 2,975 | 2,602 | 3,078 | 3,100 | 3,409 | 4,069 | 4,015 | 4,269 | 4,520 | 4,527 | 4,558 | 4,058 |
| P.L. 480 imports | --- | --- | --- | 4 | 246 | 99 | 97 | 114 | 126 | 146 | 130 | 120 |
| Ratio (percent) | --- | --- | --- | 4/ | 7 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| **Cotton** | | | | | | | | | | | | |
| Production | 958 | 823 | 908 | 963 | 893 | 718 | 1,008 | 882 | 1,067 | 1,132 | 1,067 | 960 |
| P.L. 480 imports | --- | --- | 28 | 11 | 18 | 72 | 113 | 32 | 67 | 47 | 52 | 48 |
| Ratio (percent) | --- | --- | 3 | 1 | 2 | 10 | 11 | 4 | 6 | 4 | 5 | 5 |
| **Tobacco** | | | | | | | | | | | | |
| Production | 272 | 248 | 300 | 311 | 241 | 265 | 265 | 312 | 348 | 365 | 358 | 301 |
| P.L. 480 imports | --- | --- | --- | 2 | 1 | 5/ | 1 | --- | 1 | 1 | --- | 1 |
| Ratio (percent) | --- | --- | --- | 1 | 4/ | --- | 4/ | --- | 4/ | 4/ | --- | 4/ |

1/ Each year shown is beginning of crop year for production and of fiscal year for P.L. 480. P.L. 480 data are on an export basis and are not available on an import basis. P.L. 480 includes mainly Title I exports and small amounts under Title II and Title III donations.

2/ Production averaged only for years of P.L. 480 imports.

3/ Includes the following amounts under the Mutual Security Program: 1954, 140,000 tons; 1955, 233,000 tons; 1956, 80,000 tons; 1957, 94,000 tons; and 1958, 15,000 tons.

4/ Less than 0.5 percent.

5/ Less than 500,000 tons.

Source: U.S. Dept. Agr., Foreign Agr. Serv.

To stabilize domestic agricultural prices, the government also has established extensive controls and regulation of foreign trade of most commodities. Since 1943, the government has exercised monopoly control over all food grain imports and has controlled the internal prices of food grain imports at both the wholesale and retail levels. Other farm commodities, except soybean oil, can be imported by private traders subject to strict quantitative and financial controls (27, pp. 2-14). Some commodities, such as cotton, are imported through both government and private channels.

Since 1954, the government has subsidized the prices of imported food grains to permit lower income consumers to purchase them. Until recently, concessional and commercial imports of wheat and rice were issued to state governments, dealers of fair-price shops, and roller flour mills at prices below the costs of importing, distributing, and storing. The government also prescribes the retail prices at which the imported grains or their byproducts may be sold. The government subsidy on the sale of Title I imported wheat was 10 percent of the cost of importation and distribution in 1956-64, compared with 25 percent for imported rice in 1956-61 (table 31). In January 1965, the sale prices of imported wheat and rice were increased to levels which eliminated the subsidy on wheat and reduced the one on rice (29, p. 14). In November 1965, the sale price of imported wheat was again increased to a level which, for the first time, slightly exceeded import costs.

During most years, the wholesale and farm prices of wheat at major private markets far exceeded the cost of imported wheat or the sales price of Title I imports. For example, wholesale prices of indigenous wheat in Bombay during 1957-63 ranged from 10 percent to 78 percent above the import costs of Title I wheat. Nevertheless, the government subsidized imported wheat as a means of helping to implement its policy of stabilizing food prices in fair-price shops and of keeping general wheat prices from rising to higher levels.

## Agricultural Price Trends

During most of the 1950-64 period, average wholesale prices of all grains and industrial raw materials, as a group, deflated by the cost-of-living index, were fairly stable (table 32). In general, grain and cotton prices lagged behind the rise in general prices, while prices of jute and oilseeds rose at a faster rate.

Food grain prices passed through five stages, with corresponding changes in controls and regulations affecting marketing and distribution:

(1) From 1948 to 1951, wholesale grain prices rose sharply as supplies declined, due to declining production and the loss of a major source of supply with the partition of India and Pakistan in 1947. Consequently, rigorous controls were instituted.

(2) From 1952 to 1955, prices fell as production increased. Controls, such as rationing and restriction of interstate trade, were gradually reduced.

Table 31.--India: Title I import costs of wheat and rice compared with domestic prices, 1955-65

| Crop year | Wheat | | | | Rice | | | |
|---|---|---|---|---|---|---|---|---|
| | Title I import cost 1/ | Title I sales price | Wholesale price of domestic crop (Bombay) | Support price 2/ | Title I import cost 3/ | Title I sales price | Wholesale price of domestic crop (Calcutta) | Support price 4/ |
| | Rupees/maund | | | | | | | |
| 1955 .... | --- | --- | 14.5 | 10.0 | --- | --- | 16.8 | 6.9 |
| 1956 .... | 17.0 | 14.0 | 14.6 | --- | 31.7 | 20.0 | 18.4 | --- |
| 1957 .... | 17.0 | 14.0 | 18.8 | --- | 31.0 | 20.0 | 21.3 | --- |
| 1958 .... | 14.5 | 14.0 | 22.4 | --- | --- | --- | 23.8 | --- |
| 1959 .... | 14.0 | 14.0 | 24.8 | --- | 23.9 | 20.0 | 23.4 | --- |
| 1960 .... | 14.7 | 14.0 | 19.8 | --- | 24.7 | 22.0 | 26.0 | --- |
| 1961 .... | 15.2 | 14.0 | 20.1 | --- | 26.1 | 22.0 | 22.7 | --- |
| 1962 .... | 15.6-17.4 | 14.0 | 20.2 | 13.0 | 5/n.a. | 18.0 | 25.3 | --- |
| 1963 .... | 15.6-17.4 | 14.0 | 32.9 | 14.0 | n.a. | 18.0 | 31.5 | 11.2-12.7 |
| 1964 .... | 15.6-17.4 | 14.0 | 33.5 | 18.5 | n.a. | 18.0 | 29.6 | 12.7-14.9 |
| 1965 .... | 15.6-17.4 | 6/17.9 | 36.8 | 18.5 | n.a. | n.a. | 24.2 | 13.1-14.9 |

1/ Includes the economic cost of importing, distributing, and storing the grains.
2/ Common white wheat.
3/ Imported USA long-grain rice.
4/ Support price is for paddy rough rice and is not comparable to the other prices which are for milled rice and are automatically higher.
5/ n.a. = not available.
6/ In November, the sales price was raised to 18.7 rupees per maund.

Source: (54, pp. 136-7; 38) and U.S. Dept. Agr., Foreign Agr. Serv.

Table 32.--India: Indices of wholesale prices of selected commodities, 1950-65

(1952-53=100)

| Calendar year | Grains | | | | | Industrial raw materials | | | | All commodities 2/ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Wheat | Rice | Corn | Barley | Total 1/ | Raw cotton | Raw jute | Oilseeds | Total | |
| | Current prices | | | | | | | | | |
| 1950 | 94 | 91 | 110 | 99 | 93 | 3/n.a. | n.a. | n.a. | n.a. | 109 |
| 1951 | 96 | 104 | 131 | 120 | 102 | n.a. | n.a. | 143 | n.a. | 120 |
| 1952 | 98 | 100 | 104 | 103 | 97 | n.a. | n.a. | n.a. | n.a. | 102 |
| 1953 | 96 | 102 | 101 | 98 | 100 | 102 | 96 | 128 | 110 | 104 |
| 1954 | 79 | 86 | 88 | 77 | 84 | 105 | 102 | 101 | 104 | 100 |
| 1955 | 70 | 76 | 70 | 61 | 73 | 95 | 122 | 79 | 97 | 92 |
| 1956 | 86 | 93 | 101 | 91 | 92 | 109 | 122 | 115 | 113 | 103 |
| 1957 | 90 | 104 | 115 | 102 | 102 | 108 | 136 | 122 | 118 | 109 |
| 1958 | 96 | 108 | 116 | 111 | 105 | 100 | 120 | 124 | 115 | 111 |
| 1959 | 102 | 102 | 123 | 112 | 104 | 103 | 118 | 131 | 120 | 116 |
| 1960 | 91 | 109 | 106 | 104 | 105 | 113 | 178 | 145 | 139 | 123 |
| 1961 | 89 | 105 | 111 | 101 | 102 | 108 | 208 | 158 | 148 | 126 |
| 1962 | 92 | 109 | 106 | 93 | 106 | 112 | 146 | 154 | 137 | 127 |
| 1963 | 91 | 122 | 101 | 96 | 112 | 117 | 147 | 150 | 137 | 132 |
| 1964 | 123 | 133 | 152 | 167 | 134 | n.a. | 160 | 188 | 148 | 148 |
| 1965 | 140 | 135 | n.a. | n.a. | 145 | n.a. | n.a. | n.a. | n.a. | 161 |
| | Deflated prices | | | | | | | | | |
| 1950 | 86 | 83 | 101 | 91 | 85 | n.a. | n.a. | n.a. | n.a. | 100 |
| 1951 | 80 | 87 | 109 | 100 | 85 | n.a. | n.a. | 119 | n.a. | 100 |
| 1952 | 96 | 98 | 102 | 101 | 95 | n.a. | n.a. | n.a. | n.a. | 100 |
| 1953 | 92 | 98 | 97 | 94 | 96 | 98 | 92 | 122 | 106 | 100 |
| 1954 | 79 | 86 | 88 | 77 | 84 | 105 | 102 | 101 | 104 | 100 |
| 1955 | 76 | 83 | 76 | 67 | 80 | 104 | 133 | 87 | 106 | 100 |
| 1956 | 84 | 90 | 98 | 88 | 90 | 106 | 119 | 112 | 110 | 100 |
| 1957 | 83 | 96 | 106 | 94 | 94 | 99 | 125 | 112 | 108 | 100 |
| 1958 | 86 | 97 | 104 | 100 | 94 | 90 | 108 | 111 | 103 | 100 |
| 1959 | 88 | 88 | 106 | 97 | 90 | 89 | 102 | 113 | 104 | 100 |
| 1960 | 74 | 89 | 86 | 84 | 85 | 92 | 145 | 118 | 113 | 100 |
| 1961 | 71 | 83 | 88 | 80 | 81 | 86 | 165 | 125 | 117 | 100 |
| 1962 | 72 | 86 | 83 | 73 | 83 | 88 | 115 | 121 | 108 | 100 |
| 1963 | 69 | 92 | 76 | 72 | 84 | 88 | 111 | 113 | 104 | 100 |
| 1964 | 83 | 90 | 103 | 113 | 90 | n.a. | 108 | 127 | 100 | 100 |
| 1965 | 87 | 84 | n.a. | n.a. | 90 | n.a. | n.a. | n.a. | n.a. | 100 |

1/ Includes wheat, rice, corn, barley, jowar, bajra, and ragi.
2/ Includes foods, liquor, tobacco, fuel, power, light, lubricants, industrial raw materials and manufacturers.
3/ n.a. = not available.
Source: (38; 35; 37).

(3) From 1956 to 1959, prices rose as a result of increasing demand due to population growth, a short grain crop, rising incomes, and greater urbanization. A number of early post-partition measures for checking price rises were revived. Since the government did not want to exercise as strict control over the food grain sector as it did immediately after partition, Title I imports were used to check price rises.

(4) From 1960 to 1963, food grain prices were stabilized at a lower level, as supplies increased as a result of greater production and Title I imports. Price controls and market restrictions gradually were eased or abolished.

(5) In 1964 and 1965, prices rose due to a severe drought and depleted stocks. Several price and marketing controls were applied.

The government considered control of food grain prices vital to the success of its economic development plans (54, pp. 61, 64-9, 72, 74, 76-7, 120-1, 127-8, 135-6, 138, 199, 200; 35, pp. 18-9, 73). Government officials feared that development programs would generate inflationary pressures which might be most severe in food grains, as India was not able to produce enough for its increasing needs. The government relied on Title I imports to help stabilize wheat prices in the fair-price shops, but they were ineffective in holding wholesale prices of indigenous wheat down during periods of shortages. Zonal restrictions on the movement of wheat were eliminated with the signing of the 4-year Title I agreement in 1960, and were not revived until 1964 when acute food shortages occurred. Because Title I imports of rice were very small, the government tried to check rising prices primarily by reliance on zonal restrictions and other marketing controls (49; 37).

During 1950-63, wholesale prices of cotton declined relative to the prices of other industrial raw materials and the general price level. But cotton prices were high relative to cereals. As with food grains, the relative movement of cotton prices was not due to manipulation of Title I import sales prices but to various government price and marketing controls (37, pp. 169, 191-4).

The income-generating effects of P.L. 480 commodity imports tend to raise prices over the long run by contributing to economic growth, which in turn raises the demand for food. In the absence of P.L. 480, economic growth probably would have been discouraged by higher food costs and the necessity to use scarce foreign exchange to import essential commodities.

## Agricultural Production and Factors Affecting Expansion

Food production and total agricultural production increased by almost one-third between 1954 and 1964, but dropped considerably in 1965 (table 33). Since population rose at about the same rate as production, there was little or no per capita gain. Grains account for almost two-thirds of total agricultural output and about three-fourths of the arable land. Among the grains, wheat and corn production nearly doubled from 1950 to 1965 while rice, the major grain crop, increased two-fifths (table 34). Production and yields of several principal cash crops--jute, sugarcane, and oilseeds--also increased during 1950-65 (fig. 7). Production of wheat and rice increased less than domestic requirements as a result of population growth and rising incomes.

Table 33.--India: Indices of the production and yield of selected agricultural commodities, and of total agricultural production, 1950-65

| Crop year | Selected commodities (1950-54=100) | | | | | | | | | | | Total agricultural production (1957-59=100) 1/ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | | Yield | | | | | Food | Total | Per capita | |
| | Rice | Wheat | Corn | Sesame | Cotton | Jute | Rice | Wheat | Corn | Cotton | Jute | | | Food | Total |
| 1950 | 88 | 95 | 74 | 88 | 84 | 88 | 87 | 100 | 84 | 91 | 96 | 2/n.a. | n.a. | n.a. | n.a. |
| 1951 | 90 | 96 | 89 | 89 | 90 | 126 | 92 | 98 | 96 | 93 | 99 | n.a. | n.a. | n.a. | n.a. |
| 1952 | 97 | 89 | 109 | 93 | 90 | 124 | 99 | 94 | 108 | 93 | 105 | n.a. | n.a. | n.a. | n.a. |
| 1953 | 119 | 107 | 115 | 111 | 113 | 83 | 116 | 105 | 106 | 106 | 104 | n.a. | n.a. | n.a. | n.a. |
| 1954 | 106 | 114 | 112 | 118 | 128 | 79 | 105 | 104 | 107 | 115 | 97 | 91 | 91 | 98 | 98 |
| 1955 | 114 | 128 | 99 | 92 | 110 | 113 | 111 | 113 | 96 | 93 | 100 | 94 | 94 | 100 | 100 |
| 1956 | 120 | 124 | 117 | 89 | 121 | 115 | 114 | 101 | 111 | 102 | 102 | 97 | 97 | 101 | 101 |
| 1957 | 106 | 133 | 120 | 71 | 128 | 104 | 100 | 99 | 105 | 111 | 85 | 94 | 94 | 96 | 97 |
| 1958 | 128 | 112 | 120 | 103 | 122 | 131 | 118 | 96 | 99 | 102 | 111 | 102 | 102 | 102 | 101 |
| 1959 | 125 | 140 | 129 | 72 | 96 | 117 | 113 | 108 | 96 | 101 | 107 | 104 | 104 | 102 | 102 |
| 1960 | 136 | 145 | 127 | 63 | 134 | 102 | 121 | 107 | 102 | 118 | 101 | 111 | 110 | 106 | 105 |
| 1961 | 139 | 154 | 137 | 74 | 118 | 161 | 120 | 120 | 108 | 102 | 110 | 115 | 115 | 108 | 108 |
| 1962 | 128 | 169 | 143 | 92 | 142 | 137 | 109 | 122 | 110 | 123 | 100 | 110 | 110 | 101 | 101 |
| 1963 | 147 | 152 | 144 | 87 | 151 | 150 | 123 | 109 | 110 | 128 | 108 | 116 | 117 | 103 | 104 |
| 1964 | 156 | 138 | 145 | 92 | 142 | 153 | 126 | 101 | 110 | 118 | 113 | 119 | 120 | 104 | 105 |
| 1965 | 124 | 172 | 147 | 92 | 133 | 114 | 103 | 127 | 110 | 113 | 88 | 108 | 109 | 92 | 93 |

1/ U.S. Dept. Agr., Economic Res. Serv.
2/ n.a. = not available.

Source: Except as indicated, U.S. Dept. Agr., Foreign Agr. Serv.

Table 34.--India: Production, acreage, and yield of selected agricultural commodities, 1950-65

| Crop year | Grains | | | | Cotton | Jute | Sesame |
|---|---|---|---|---|---|---|---|
| | Wheat | Corn | Barley | Rice | | | |
| | PRODUCTION | | | | | | |
| | 1,000 metric tons | | | | | | |
| 1950 | 6,755 | 2,347 | 2,389 | 33,138 | 592 | 631 | 445 |
| 1951 | 6,829 | 2,817 | 2,523 | 33,967 | 677 | 899 | 452 |
| 1952 | 6,343 | 3,429 | 2,367 | 36,494 | 675 | 883 | 471 |
| 1953 | 7,613 | 3,621 | 2,928 | 44,712 | 846 | 594 | 563 |
| 1954 | 8,106 | 3,546 | 2,952 | 39,886 | 958 | 563 | 598 |
| 1955 | 9,146 | 3,123 | 2,980 | 43,054 | 823 | 806 | 464 |
| 1956 | 8,869 | 3,693 | 2,814 | 45,390 | 908 | 824 | 449 |
| 1957 | 9,504 | 3,780 | 2,863 | 39,848 | 963 | 742 | 360 |
| 1958 | 8,005 | 3,769 | 2,256 | 48,105 | 914 | 936 | 519 |
| 1959 | 9,957 | 4,069 | 2,651 | 47,232 | 718 | 836 | 365 |
| 1960 | 10,322 | 4,015 | 2,717 | 51,344 | 1,008 | 731 | 321 |
| 1961 | 10,992 | 4,312 | 2,866 | 52,263 | 882 | 1,152 | 372 |
| 1962 | 12,039 | 4,520 | 3,152 | 48,100 | 1,067 | 981 | 464 |
| 1963 | 10,830 | 4,553 | 2,423 | 55,388 | 1,132 | 1,072 | 439 |
| 1964 | 9,861 | 4,558 | 2,037 | 58,610 | 1,067 | 1,094 | 466 |
| 1965 | 12,268 | 4,632 | 2,523 | 46,500 | 1,001 | 814 | 465 |
| | ACREAGE | | | | | | |
| | 1,000 acres | | | | | | |
| 1950 | 23,082 | 7,613 | 7,654 | 74,252 | 14,556 | 1,376 | |
| 1951 | 23,488 | 7,960 | 7,502 | 71,896 | 16,213 | 1,904 | |
| 1952 | 22,825 | 8,688 | 7,613 | 72,225 | 15,693 | 1,769 | |
| 1953 | 23,685 | 9,324 | 7,822 | 75,406 | 17,027 | 1,198 | |
| 1954 | 25,741 | 9,035 | 8,505 | 74,144 | 18,684 | 1,212 | |
| 1955 | 27,517 | 8,910 | 8,228 | 75,965 | 19,978 | 1,697 | |
| 1956 | 29,804 | 9,057 | 8,237 | 77,788 | 19,893 | 1,860 | |
| 1957 | 32,593 | 9,830 | 8,478 | 77,838 | 19,314 | 1,844 | |
| 1958 | 28,269 | 10,457 | 7,396 | 79,848 | 19,926 | 1,766 | |
| 1959 | 31,141 | 10,457 | 7,982 | 81,506 | 17,581 | 1,644 | |
| 1960 | 32,542 | 10,774 | 8,140 | 82,947 | 18,871 | 1,516 | |
| 1961 | 31,154 | 10,862 | 7,724 | 83,669 | 19,226 | 2,209 | |
| 1962 | 33,410 | 11,385 | 8,191 | 86,325 | 19,230 | 2,051 | |
| 1963 | 33,748 | 11,238 | 7,468 | 88,026 | 19,600 | 2,092 | |
| 1964 | 33,349 | 11,345 | 6,857 | 89,855 | 20,100 | 2,020 | |
| 1965 | 32,800 | 11,572 | 6,592 | 89,000 | 19,800 | 1,928 | |
| | YIELD | | | | | | |
| | Bushels | | | | Pounds | | |
| 1950 | 10.8 | 12.1 | 14.3 | 21.8 | 90 | 101 | |
| 1951 | 10.6 | 13.9 | 15.4 | 23.1 | 92 | 104 | |
| 1952 | 10.2 | 15.5 | 14.3 | 24.7 | 92 | 110 | |
| 1953 | 11.3 | 15.3 | 17.2 | 29.0 | 105 | 109 | |
| 1954 | 11.2 | 15.4 | 15.9 | 26.3 | 114 | 102 | |
| 1955 | 12.2 | 13.8 | 16.6 | 27.7 | 92 | 105 | |
| 1956 | 10.9 | 16.0 | 15.7 | 28.5 | 101 | 107 | |
| 1957 | 10.7 | 15.1 | 15.5 | 25.0 | 110 | 89 | |
| 1958 | 10.4 | 14.2 | 14.0 | 29.5 | 101 | 117 | |
| 1959 | 11.7 | 13.8 | 15.2 | 28.3 | 100 | 112 | |
| 1960 | 11.6 | 14.7 | 15.3 | 30.3 | 117 | 106 | |
| 1961 | 13.0 | 15.6 | 17.0 | 30.0 | 101 | 115 | |
| 1962 | 13.2 | 15.8 | 17.7 | 27.2 | 122 | 105 | |
| 1963 | 11.8 | 15.8 | 14.9 | 30.8 | 127 | 113 | |
| 1964 | 10.9 | 15.8 | 13.6 | 31.6 | 117 | 119 | |
| 1965 | 13.7 | 15.8 | 17.6 | 25.8 | 112 | 93 | |

Source: U.S. Dept. Agr., Foreign Agr. Serv.

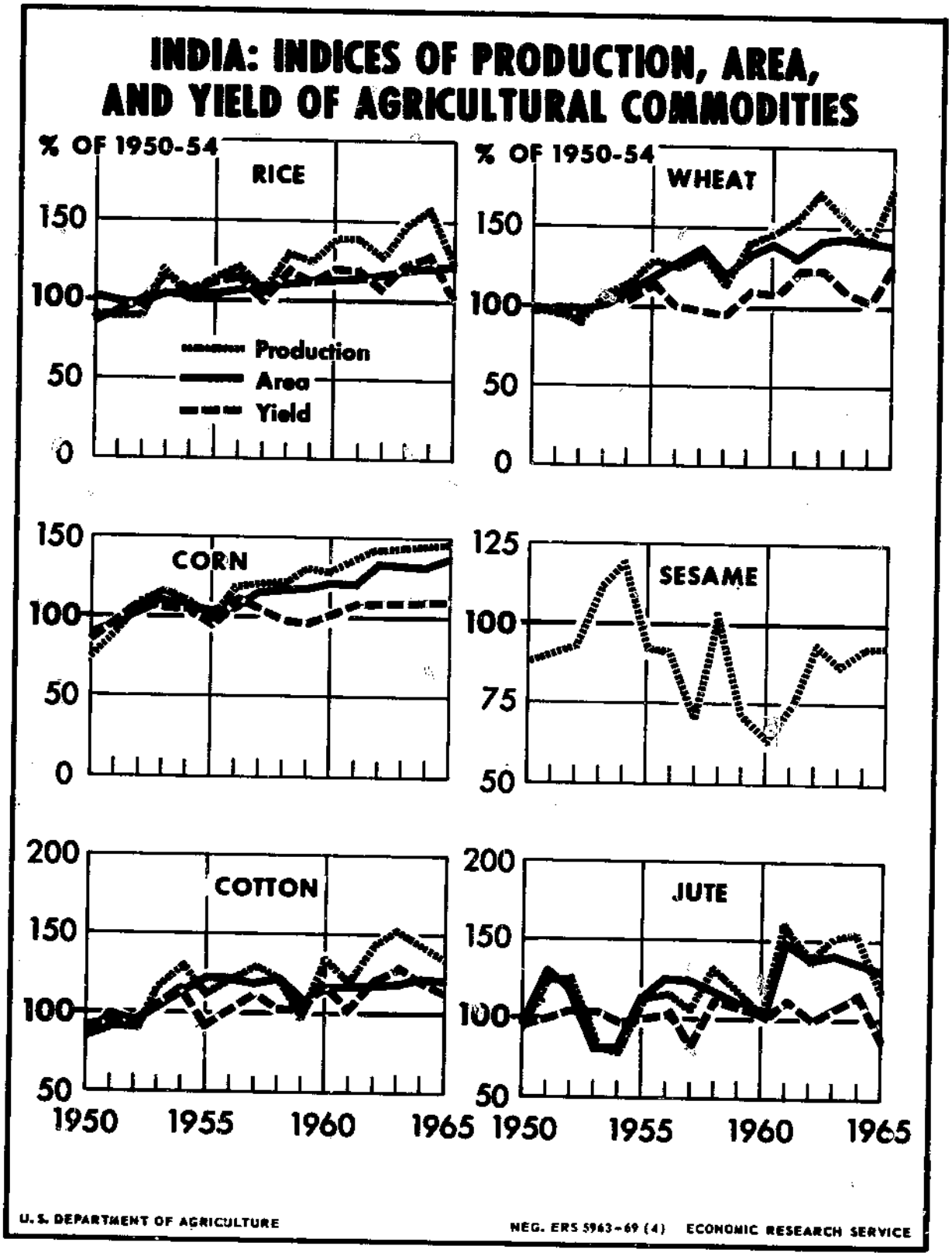
INDIA: INDICES OF PRODUCTION, AREA, AND YIELD OF AGRICULTURAL COMMODITIES
% OF 1950-54
RICE
WHEAT
CORN
SESAME
COTTON
JUTE
Production
Area
Yield
150
100
50
0
125
75
200
1950
1955
1960
1965
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5963-69 (4)
ECONOMIC RESEARCH SERVICE

Figure 7

In recent years, there has been considerable research on factors affecting agricultural production in India. Much of this research has been concerned with the level of agricultural prices and the response of producers to changes in product prices. In considering how food aid can be most effective in contributing to agricultural production, it is relevant to review some of the research conducted on the importance of agricultural price movements, the effects of food aid imports on product price levels, and the importance of commodity prices in relation to other major factors affecting the expansion of agricultural output in India. These findings should be valuable in the future programming of food aid to insure that these additional resources contribute as effectively as possible to the Indian Government's objectives of expanding food production.

The changes in area planted to wheat and production of wheat in response to changes in the price of wheat were studied by the Gokhale Institute of Politics and Economics in India. Regression analyses were made for the five principal wheat producing areas, covering 1950-61. These five areas accounted for nearly 90 percent of the total area in wheat. In these areas, acreage increased over the 12-year period, while relative farm prices remained stable or declined (54, pp. 167-81). The conclusions from the regression analyses were:

> (1) . . . the statistical analysis . . . does not indicate any significant influence of relative price on the acreage under wheat (54, p. 164).
>
> (2) . . . the price elasticity of acreage under different cereals in most parts of India is low . . . (54, p. 201).
>
> (3) . . . internal production of wheat had a negative relation with price . . . (54, p. 126).
>
> (4) . . . the statistical analysis did not reveal any significant relation of the supply of rice or other cereals with the price of wheat (54, p. 127).
>
> (5) . . . agricultural production during the decade preceding 1961-62 was so dominated by extension of cultivation to new areas, particularly in the wheat growing States, that it is difficult to see any effect on it, of the large wheat imports under P.L. 480 through relatively lower wheat prices . . . . It does not appear that the relatively low wheat prices had particularly discouraged farmers from putting not merely a large part of the new land under wheat, but also from using the seasonal fallow land for the purpose (54, p. 165).

Several other studies tend to support these conclusions. P. N. Mathur of the Gokhale Institute pointed out that from 1952 through 1961 "the percentage increase in area of wheat has been the largest for any important crop and no other major crop suffers that much price decline" (45, p. 69). S. P. Sinha of Bihar University found from his regression analysis that in the main grain growing areas:

> . . . the relationships between the purchasing power of farmers' net yield per acre of rice, wheat, maize, and jowar and the acreages under these crops indicate a very small change in the acreage on account of the changes in the purchasing power of net returns (64, p. 97).

He also found that

> . . . the correlation between price and production (of grains) is not significant (64, p. 98).

Other studies comparing price and production changes from 1950-62 for crops in the Punjab area of India indicate somewhat more elasticity in the response of acreage to price (44, pp. 477-87). 11/ One study indicated that

> . . . though agricultural production in general is inelastic (in the Punjab), production of rice, wheat, and sugarcane was relatively more price elastic (41, p. 39).

Sinha also recognized that the response of grain acreage to price changes was higher in Punjab and Madhya Pradesh than in other grain producing areas. However, he indicated the response was not a marked one and was probably due to the fact that these two areas are more commercialized than other regions. Landholdings are larger and more wheat is produced primarily for the market rather than for home consumption. However, even in the more commercialized areas, S. R. Sen of the Planning Commission, New Delhi, found that

> . . . there has not been any occasion since P.L. 480 supplies started in 1956 for prices to fall to such a low level as to discourage domestic production (60, p. 1034).

As indicated earlier with respect to the other countries studied, the significance of price incentives is related in part to the degree to which production is for the market. In India, most farmers have small holdings and produce subsistence crops (food grains) mainly for home consumption. Commercial crops, like cotton, jute, and oilseeds, are grown primarily for the market. In 1961, the marketed surpluses (or the share of production sold from farm) of rice, wheat, and corn were estimated at 31, 33, and 24 percent, respectively, of the country's total production, while the percentage for commercial crops was three-fourths and upward of total output (8, p. 34). The ratio of marketed surplus of grains to production increases as the size of farm holdings increases, as indicated in table 35.

Farmers who market only a small portion of their crop, as well as commercial farmers, are influenced in their production plans by economic, climatic, and institutional factors, such as the amount of irrigation and fertilizer, the

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11/ The short-term price elasticities in this study were based on pre-partition Punjab for the years 1914-45 and indicated a slight response of acreage planted to price.

quality of seeds, the degree of technology, the availability of credit, the adequacy of marketing and transportation facilities, and the amount of foreign exchange reserves to purchase agricultural inputs, such as fertilizer (64, pp. 96-100; 49, p. 1044; 48, pp. 287, 288, 293, 297, 298; 51, pp. 44, 88; 9, p. 35).

Table 35.--India: Marketed surplus of grains as percentage of production according to size of landholdings, 1958

| Market | Crop | Size of holdings | | |
|---|---|---|---|---|
| | | Below 10 acres | 10-20 acres | Above 20 acres |
| | | Percent | | |
| Hapur (Uttar Pradesh) ... | Wheat | 20 | 22 | 37 |
| Chandausi (U.P.) ..... | Wheat | 12 | 32 | 30 |
| Moga (Punjab) ..... | Wheat | 1/40 | 44 | 66 |
| Bhatinda (Punjab) ..... | Wheat | 0 | 19 | 28 |
| Monghyr (Bihar) ..... | Corn | 0 | 16 | 26 |
| Andhra Pradesh ..... | Rice | 1/41 | 39 | 48 |

1/ Percentage is high because this is a commercial area.

Source: (37, pp. 163, 167, 170).

The Gokhale Institute study on P.L. 480 concluded that:

> In an economy like India's no one expects the relative prices to play the major role in increasing food production to meet the rapidly growing demands. It would require major efforts at re-organization of the structure of agriculture, changing the technological base through extension of irrigation, improved seeds, increased supply of fertilizers, better credit and marketing facilities, and generally the know-how of superior farming techniques. To a very large extent, these efforts in India have to be initiated mainly by the State (54, p. 166).

Smoothing out the fluctuations in grain prices reduces uncertainty for producers and provides the basis for income stability. Assuming that prices are sufficiently high to encourage yield-increasing methods, instability of prices, even at a higher level, is probably more of a deterrent to expansion of grain

production than somewhat lower prices with reasonable stability (15, p. 380; 37, pp. 93-4, 158-62; 60, p. 1034; 62, pp. 91-2).

Most of the emphasis in the studies cited in this report was on price and acreage response. Since the use of fertilizer and other yield-increasing technology is related to knowledge dissemination and availability of adapted varieties, the price effects are even more difficult to determine by statistical techniques. Consequently, effects, if any, of prices on the rate of increase in yields must be regarded as largely speculative. Analysis by Mellor, however, indicates that with the technology available during this period, yield increases from fertilizer were relatively low (34, pp. 150-60). Factors in addition to price are important in attaining rapid increase in agricultural production. The prices of grains, particularly rice, however, were relatively low in relation to the cost of fertilizer during most of this period (19, pp. 55-6).

## Agricultural Development and Government Policies

A main goal of Indian agricultural policy has been to achieve greater self-sufficiency in food grain production to reduce the nation's dependence on imports (33, p. v). However, it now appears that insufficient attention was given to agriculture in the first and second 5-year plans, 1951-61 (7, pp. 426-7). This was due primarily to the prestige associated with industrial enterprises and to the widely held view that emphasis on industry was in India's economic interest. However, Title I imports were not available when the first plan was drawn up. When the second 5-year plan was drawn up in 1956, the government did not visualize the need for large food aid imports during the early sixties.

Agriculture received considerably more attention in the third plan (1961-66), which was formulated about the time of negotiation of the large 4-year Title I agreement in 1960. Government investments allocated to agriculture increased from 7.6 billion rupees in the first plan to 17.6 billion rupees in the third. Government investment planned for the fourth plan (1966-71) will be more than double that allocated in the third. The principal agricultural objective in the fourth plan is to achieve self-sufficiency in food grain production by 1970 (40). Budget expenditures for agriculture during 1966-67 are 43 percent above the 1965-66 level.

Some of the programs to stimulate grain production during the last decade were: (1) More short- and medium-term credit to farmers, (2) increased use of improved seeds and fertilizers, (3) soil conservation and land reclamation, (4) flood control and irrigation, (5) establishment of marketing cooperatives, and (6) use of a package program (Intensive Agricultural District Program) in selected areas (27, pp. 30-51; 29, pp. 21).

Beginning in 1964-65, greater emphasis was placed on incentive support prices for food grain producers, and the Food Corporation of India was established to administer the government's price programs. In 1965, the government also established an Agricultural Prices Commission to advise the government on needed changes in agricultural policy and price structures to stimulate agricultural production. Price supports in 1965-67 were significantly higher than those in 1963-64.

Rising investment expenditures were facilitated by the use of Title I imports to stabilize prices of food. More of the scarce foreign exchange was available for development expenditures than would have been available otherwise. In the absence of food aid under P.L. 480, the government probably would have been forced to cut back on its development expenditures, adversely affecting the food production program (30; 37, pp. 93-4; 54, pp. 102, 320; 49; 45, p. 70).

S. R. Sen summarized his views on the effects of P.L. 480 on agriculture in India as follows:

> . . . large imports under P.L. 480 have been absorbed in India without adverse effect on either prices or production of domestic wheat. This . . . has been possible primarily because these additional supplies were injected not into a stagnant but into a developing economy in which an attempt was made to use P.L. 480 supplies in an integrated manner along with other complementary resources for stepping up the rate of investment and hence the productive capacity and the purchasing power of the people (60, p. 396). 12/

Conclusions - India

Before 1965, the government sold Title I food grain imports at subsidized prices below the costs of importation and distribution. During this period, farm and wholesale market prices of indigenous food grains were far above the subsidized prices, and after 1961, producer prices for wheat were about the same or higher than Title I sales prices.

The Indian Government used Title I imports in the late 1950's to help carry out its policy of stabilizing food prices and relaxing rationing and price controls on food grains. In the absence of Title I imports, the government probably would have intensified price and marketing controls during the periods of extreme food shortages in 1957-58 and 1964-65 to alleviate famine conditions, particularly in the cities.

The relative importance of price probably has been overemphasized as the cause of food shortages in India. The acute shortages of food in 1958 and 1965 were to a large extent the result of unfavorable weather. The analysis of factors affecting the expansion of food production in India indicates that the levels of commodity prices is particularly important in the commercial sectors of Indian agriculture in encouraging the application of yield increasing technologies, but that price per se is only one of the many factors that must be considered on the Indian scene.

It should be recognized that the expansion of agricultural production over the last decade has been hindered by structural, economic, and physical factors that

12/ Similar views were expressed by another Indian economist who concluded that, "On the whole, taking the available evidence on acreage under cultivation, agricultural investments and farm inputs, it seems that import of P.L. 480 food grains has not adversely affected agricultural production" (53, p. 43).

existed prior to P.L. 480. Thus, it appears the programming of P.L. 480 food aid was more the result than the cause of India's failure to expand production more rapidly.

The flow of Title I imports into India during periods of food shortages led to greater stability in food availabilities, which assisted the government in maintaining its level of development expenditures, both in agriculture and the industrial sectors of the national economy.

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