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BRAZIL (RIO DE JANEIRO)

Jan. 26, 1971

BZ-1003

CODE: 24A

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A AGR. 4-2

AGRICULTURAL SITUATION

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I. NARRATIVE SECTION

A. Situation and Outlook

Despite a searing drought in the Northeast and one of the smallest coffee crops on record, Brazil posted in 1970 a 7 percent increase in agricultural production over the preceding calendar year, and at this writing it gives promise -- barring natural catastrophe -- of continuing or improving upon that highly satisfactory rate of expansion through 1971.

"I think that for the first time we are going to have two consecutive record crop years," Agriculture Minister Luiz Fernando Cirne Lima said in January 1971. He noted that drought still persisted in the Northeast and that a serious moisture shortage embraced most of Goias while immoderate rainfall was damaging crops in Parana, but he said nonetheless that he has high hopes this year for the greatest agricultural production and productivity increase in the history of Brazil.

The Minister of Agriculture credited incentives granted by the federal government of President Emilio Garrastazu Medici for the buoyant trends of last year and this. Among the chief incentives he listed fair minimum prices, expanded rural credit, and exemption from taxation of modern agricultural inputs and machinery.

Two important export crops besides coffee -- cotton and cocoa -- suffered reverses as a result of unfavorable weather, but most other major farm commodities registered substantial gains: wheat, soybeans, rice, corn, sugarcane, beans, peanuts, and potatoes among them.

The near-term outlook for Brazil's No. 1 export crop, coffee, was for vigorous recovery from a disastrous frost that in 1970 resulted in a near-blank for the coffee trees of Parana. As to cotton, Brazil gave promise a year ago of assuming first place among the exporting countries of the world, but the aforementioned drought left the Northeast with a fiber deficit instead of the normal exportable surplus, and too much rainfall at harvest time reduced the size and quality of the South-Central cotton crop as well. Some recovery may be anticipated in 1971, but rainfall still is lacking in the Northeast, and cotton plantings are down in the South.

1. Current situation

a. General economic situation. On January 6, 1971, the Ministers of Finance and Planning submitted a report to the President outlining results of the government's economic policies, based upon preliminary data for CY 1970, plus the goals for 1971. The principal achievements last year were these: Gross domestic product (GDP) equaled the 1969 expansion rate of 9 percent (Embassy economists believe the 1969 growth rate to be in the 6-7 percent range, with agricultural growth at 2.6 percent instead of 6 percent; see A-547, Dec. 28, 1970); for calendar year 1970,

industrial sector expansion was estimated to be 10 percent and agriculture 7 percent; the inflation rate dropped below 20 percent for the first time in a decade; exports of about US$2.7 billion represented a third consecutive annual record, with shipment of manufactures rising more than 100 percent to US$430 million. The lowest budget deficit in a decade amounted to only 0.5 percent of GNP, and new money issued was less than one-fourth of the 1969 total. Foreign reserves stood at a record level as the old year closed and the new one began.

Preliminary results of the 1970 decennial census contained a surprise. Since the demographic census of a decade ago, Brazil has been pointed to as a country with one of the highest annual rates -- 3.1 percent -- of population expansion in the world. The 1970 count, however, revealed an absolute population gain of 21.3 million since 1960, to a total of 92.2 million today -- and thus a yearly increment of 2.7 percent. While even this lesser rate of gain is a high one, it seems (in the absence yet of a thorough study of its significance) to indicate a small but welcome decline in the birthrate. Brazil suffers a great deal of unemployment and underemployment, the labor force is increasing faster than new jobs, and per capita income is estimated at US$370 for CY 1970.

Certain population trends of the 1950s were altered in the most recent decade. Migration from the Northeast declined sharply; even during the worst drought since 1958, which persisted for many months in 1970, hungry and jobless people did not abandon the Northeast in large numbers as they used to do in unfortunate times. It is believed that population in rural Brazil may have grown at a rate of only 1.5 percent a year as rural residents migrated to urban areas. Many migrated to medium-sized cities rather than to metropolises. São Paulo city, for example, registered an average annual growth rate of only 4.4 percent while 91 other cities between 30,000 and 500,000 population in the state of São Paulo grew at the rate of 8.2 percent per year.

Brazil's richest and most advanced state, São Paulo, is also the most populous, with 17.7 million inhabitants. Minas Gerais is second with 11.3 million. Others above 5.0 million are Bahia, Paraná, Rio Grande do Sul, and Pernambuco. São Paulo is the largest city, with 5.9 million residents, and Rio de Janeiro is next with 4.3 million. Belo Horizonte, Recife, and Salvador each has more than a million persons. The 7.1 million residents of Greater Rio are almost as numerous as those of Greater São Paulo, which is the industrial and agricultural capital of Latin America. The Federal District -- the capital city of Brasília -- grew from 141,742 inhabitants a decade ago to 544,862 in 1970.

b. Agricultural production.

(1) Basic food crops

Wheat - Reference is made to a recent detailed report on the Brazilian wheat situation, progress under an accelerated improvement program, and outlook: EZ-0067, November 30, 1970, "Wheat Situation in Brazil, 1970/71." The 1970/71 harvest, which at this date is nearing completion, will provide the country with

its third consecutive record harvest. Production has risen from 364,870 metric tons* three years ago to 1.6 million tons in the current season. As of January 21, 1971, the Bank of Brazil, which purchases all domestic production for the government of Brazil (GOB), had bought 1,570,000 tons. The Bank forecasts that when complete figures are available at the end of February the total will be 1,610,000 tons. Of this amount, the Bank estimates that between 1,350,000 and 1,380,000 tons will be sold to the flour mills and the remainder will be used for seed in 1971. The Federation of Wheat Cooperatives (Fecotrigo) is already on record with a production forecast of 2.0 million tons a year hence.

Sunab, the GOB's national supply agency, has authorized wheat consumption of 3.2 million tons in CY 1971. This compares with an official level of 3.09 million tons last year. Sunab predicts that 1.35 million tons will be available from the current harvest for milling into flour and 1.85 million tons must therefore be imported. This import forecast compares with CY 1970 unloadings of 1.94 million tons, as detailed in Table I of the Statistical Section of this report.

In 1970, Brazil's traditional wheat suppliers, Argentina and the United States, furnished 1,020,748 and 619,109 tons, respectively, and Canada supplied the remainder, 302,050 tons, of the total imports. The U.S. share was the smallest in five years because of delay in concluding a Title I Public Law 480 agreement. Brazil purchased 100,000 tons under the 400,000-ton agreement on November 10, and, as the year 1970 ended, some 80,000 tons of P.L. 480 and at least 15,000 tons commercial purchase from the U.S. were still to be delivered. Also enroute, presumably, were some 55,000 tons from Argentina.

Brazil's commercial purchases from the United States, 518,000 tons, were the largest in three years. Canada shipped its first wheat to Brazil since 1958 under a concessional agreement for purchase of up to one million tons over a four-year period. In 1970, for the first time in recent history, Brazil imported no wheat from Eastern Europe.

The foreign supply situation for CY 1971 is clouded because Argentina, which normally furnishes one million tons per year to Brazil under a bilateral arrangement, had a short crop and will not have that much available for export. The only amounts rather firmly spoken for at this time are 300,000 tons still to be purchased from the United States during January-June under the P.L. 480 contract, and 200,000 tons from Canada under the 1970-73 bilateral.

(Additional details on wheat and other grains mentioned below -- corn, rice, and sorghum -- were reported in the Grain, Feed, and Rice Report from this office, BZ-0062, dated November 12, 1970. An annual Grain and Feed Report will be received at FAS/Washington February 15, 1971.)

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* All tonnage references in this report are to metric tons.

Corn - Brazil established two new corn records -- for production and exports -- in CY 1970. Brazil was fortunate in having planted a record 10.5 million hectares from which it harvested an estimated 14.2 million tons of corn in a year in which the United States (the world's largest producer, with Brazil being No. 2) suffered a 10 percent production loss as a result of corn blight. Brazil's corn exports totaled 1,434,890 tons (unofficial) during calendar year 1970, a 16 percent increase over the previous record of 1,237,966 tons established two years ago and 120 percent greater than 1969 shipments of 651,419 tons. Nearly 90 percent of the corn exported in 1970 was shipped in the second half of the year, and although shipments normally fade away in the last couple of months of the year, the impetus was so great at the end of 1970 that 33,500 tons of corn was shipped in the first 11 days of 1971 and the trade reported that a goal of 1.5 million tons would be reached soon. With such a beginning for 1971, with prospects apparently strong for another record crop (plantings are up about 15 percent in São Paulo, for example), with corn still in the domestic pipeline as against empty bins in the early months of 1970, another export record is not unlikely. Our forecast is 1.75 million tons.

The short U.S. crop sent world prices up, and value projections made it appear that Brazil would realize some US$82 million dollars from its large corn exports in 1970 as compared with US$32.4 million in the previous year. During the third week of December 1970, according to Bank of Brazil figures, sales brought nearly NCr$60 a ton.

The Paraná port of Paranaguá handled 60 percent -- 866,779 tons -- of the corn shipped in 1970, with the balance of 568,111 tons going through the coffee port of Santos (state of São Paulo).

Rice - A bumper harvest of rice in 1970 added to marketing woes experienced for the past couple of years as Brazil sought to rid itself of a burden of excess stocks. The Rice Institute of Rio Grande do Sul (IRGA) finally, in late 1970, was able with the help of federal export subsidies to sell 90,000 tons of 1968 and 1969 rice abroad, and to dispose of another 10,000 tons to the federal food agency (part or all of which was used to pay the wages of drought victims laboring in "work fronts" in the Northeast). This left only 8,300 tons of old-crop rice, but IRGA estimated there were another 400,000 tons available for export from the 1970 crop. (Details in BZ-0071, December 23, 1970.)

Sales to overseas customers were very slow in early-1970, but late in the year this group of subsidized shipments began to appear in the statistics and brought total exports (through Dec. 26) of whole grained rice to 41,333 tons (milled basis). In the second week of December, exports of whole rice (24,252 tons) were greater than for all the year to that time. Shipments of broken rice totaled 42,206 tons in 1970, through Dec. 26. These figures compared with 1969 exports of 42,249 and 20,418 tons of whole and broken rice, respectively, and with 70,285 and 87,890 tons for those two categories in 1968.

As this report goes to press, the GEB has developed a scheme to export 270,000 tons

of 1969/70 crop rice from Rio Grande do Sul without having to pay subsidies on it. On February 1, the first 100,000 tons will be offered to exporters at a minimum price of US$150 per ton FOB converted into cruzeiros at the current official rate. Exporters may sell the rice abroad for dollars and will be given three years in which to pay off the GOB in cruzeiros without interest, at the aforementioned official rate in effect on the date of contract. If the cruzeiro continues to decline in value (it was devalued about 13.5 percent per year in both 1969 and 1970), this means that in three years the exporter's payment in real terms will be considerably less than US$150 per ton.

A sizable reduction, perhaps up to 20 percent, may be anticipated in 1971 rice plantings and production. Plantings are down an estimated 20 to 25 percent in the high-cost irrigated paddies of Rio Grande do Sul, the principal producing state. Reduced plantings are reported in upland rice regions as well. In the important state of Goias, where 1970 output exceeded a million tons, planted area is down and a prolonged dry spell has profoundly reduced production prospects. We look for national output to decline to no more than 5.0 million tons of rough rice this year as compared with 6.3 million tons in 1970.

Rice is grown in every state in Brazil, but there is a wide variation in yield. Yields in Rio Grande do Sul have exceeded 3.0 tons of paddy rice per hectare in recent years (yield rose to a record 3.4 tons in 1970), but upland rice yields in some of the Northeastern states are very low. There is at least one very promising program of double-cropping with imported and "miracle" varieties in the Amazon basin. On a private project, where trials are being conducted under contract with the IRI Research Institute, crops yielding more than 6.0 tons of paddy rice have been produced twice a year. Fairly large-scale production is planned on this project in 1972. Reportedly also, favorable results have been obtained with low cost pump irrigation in the Pantanal region of Mato Grosso where proper climate and low plains flooding at certain times of the year permit double-cropping.

Edible beans - Beans continue to be a major staple food in the Brazilian diet. Brazil is the No. 1 producer and consumer of beans in the world. The only source for production data is the Ministry of Agriculture whose estimates for 1969 and 1970 are 1,830 and 1,945 thousand tons, respectively.

During CY 1969 and first-semester 1970, there were no imports of beans, and exports were insignificant.

Manioc - This root is grown in all states and territories in Brazil, and is also a staple food. As such, it is a rich source of calories and starch but is devoid of protein. Manioc is also a major source for industrial starch. The Ministry's production estimate for 1969 was 30 million metric tons.

(2) Principal export crops

Coffee - Brazil's coffee producing potential has declined substantially since the 1966/67 coffee crop. During the decade 1956-65, average annual production was 27.8 million bags (of 60 kilograms each), and during the past five years, 1966-70, the average dropped to 17.2 million bags. There were two reasons for the startling decline: the eradication of 1.4 billion trees and unfavorable weather.

During this most recent five-year period, coffee stocks, which were about 60 million bags, have been dipped into regularly to make up the difference between production and annual sales, and now they are less than half as large as they were. Early in 1970, a new source of uneasiness appeared. This was discovery of Hemileia vastatrix, or coffee rust, in some of the smaller producing areas. To date coffee rust has not been found in the large producing states of São Paulo and Paraná, and its incidence has been too minor to affect overall production significantly.

The rust threat and the reduction of stocks have led the government to grant credit for planting of new coffee trees. But plantings during 1970 were below expectations because, according to the Brazilian Coffee Institute (IBC), there was an insufficient supply of seedlings. The number of new trees planted was estimated at 130 million, far short of the goal of some 425 million.

Prospects for the coffee crop to be harvested during May-August 1971 are much more promising than they were for the 1970 crop. Coffee trees in Paraná, devastated by frost in July 1969, produced the smallest crop in the state's history, about 1.3 million bags. This compared with a record state production of 21 million bags in 1965. Because the frost damage was extensive rather than intensive, favorable weather conditions coupled with greater use of fertilizers helped the crippled trees to recuperate their vegetative strength almost completely. Adequate, well-distributed rainfall benefited moisture-short trees in the state of São Paulo. The nation's coffee crop to be harvested in mid-1971 is expected to be more than double last year's production of about 10 million bags. Still, this will not meet export needs of 18 to 19 million bags plus internal consumption of 9 million. Once again, the balance will come from reduced government coffee stocks.

During calendar year 1969, green coffee exports totaled 18.7 million bags which earned US$813 million for Brazil. During CY 1970, according to Ministry of Finance estimates, green coffee shipments amounted to 17 million bags earning US$950 million. World prices rose spectacularly during the year as the market over-reacted to news of the short crop in Brazil.

Cotton - Brazil's cotton exports in 1970 are estimated at about 343,000 tons, valued at about US$155 million. This was nearly 100,000 tons less than the 1969 all-time record, and was attributed primarily to decreased production in South Brazil. Growers and exporters had anticipated new records in both production and exports because of an estimated 10 percent increase in plantings for the 1969-70 crop. But poor rainfall distribution throughout the growing season and excessive rainfall in March resulted in widespread disease and pest damage. Consequently

average yields were down considerably, especially in the state of Parana, and South Brazil's 1969-70 crop totaled about 500,000 tons, which, added to Northeast production, totaled 670,000 tons for all Brazil. Earlier, many observers had anticipated an 800,000 ton crop.

The Northeast crop, which normally averages about 170,000 - 180,000 tons, totaled only 82,000 tons in 1970-71 because of both drought and flood damage to Northeast cotton areas in early 1970. Consequently little or no Northeast cotton will be exported in CY 1971. In South Brazil, producers reduced 1970-71 plantings by an estimated 23 percent, primarily because of profit losses from the preceding crop. Many switched to soybeans, corn, or peanuts, all of which had been bringing good prices, and which require lower labor costs and fewer risks. Assuming good weather, South Brazil's 1970-71 cotton production is forecast at 420,000 tons or more. Combined with Northeast production, Brazil's total cotton outturn for 1970-71 should be little more than 500,000 tons. Cotton exports in 1971 are forecast at about 240,000 tons, as compared with 1970's estimated 343,000 tons. One consequence is that Brazil's textile industry has been authorized by the GCB to import, under Brazil's drawback system, 5,000 tons of long and extra-long staple quality cotton. (See also BR-0027, December 15, 1970.)

Cocoa - The 1969/70 (October/September) cocoa crop of 3.4 million bags is an all time record for Brazilian cocoa production. Prospects for the 1970/71 cocoa crop are not so good as last year's, mainly because pod rot damage reduced the Bahia Main crop by over 30 percent. Although it is too early to venture a forecast for the coming Bahia Temporão crop, our guess for the 1970/71 cocoa crop is about 2.7 million bags.

Cocoa bean exports during calendar year 1969 were 1,993,000 bags, earning US$105 million FOB, and cocoa butter exports were 16,000 tons with an FOB value of US$30.6 million FOB. During the period January 1 through December 14, 1970, cocoa beans export were 1,952,000 bags at US$75.9 million FOB, and cocoa butter exports were 18,920 tons at US$27.6 million FOB. The cocoa trade reports that the total unsold quantity of cocoa beans available for exports on December 31, 1970, was only 182,000 bags.

Sugar - During calendar year 1970 sugar maintained its position as the fourth largest dollar earner among Brazilian export items. During 1969, sugar exports totaled 1.1 million metric tons, with an FOB value of US$115 million. Although total exports for the 1970 calendar year are not yet available, the Sugar Institute informs us that total 1970 sugar sales have reached 1,130,000 metric tons for US$126 million FOB.

During the current sugar marketing year (June 1, 1970-May 30, 1971), Brazil's sugar production authorized by the Sugar Institute is 85 million 60 kg. bags or 5.1 million metric tons. This authorized production represents an increase of 13 million bags (18 percent) over 1969/70 production.

Livestock and meat products - Brazilian meat policies took several unaccustomed turns in 1970 and early 1971, with the GOB withdrawing initially from marketing intervention and subsequently reacting to price rises and supply shortages (policy details follow, on pages 14 and 15.)

Total cattle numbers and slaughter in 1970 probably were a little less than a year earlier. Federally inspected slaughter rates were lower in Rio Grande do Sul and São Paulo states during first-half 1970, but in Mato Grosso they were up substantially. Although an increase is expected in feeding of young steers this year, the impact will not be felt for some time because it takes up to four or five years to bring cattle to slaughter weight in Brazil.

Swine production in 1970 was good primarily because of higher prices than earlier expected. Hog slaughter in South Brazil increased during the latter part of the year, and the outlook for 1971 is for increased production and slaughter. The trend to meat-type hogs is growing, with packers able to pay higher prices for quality swine. Fat cattle shortages last year and resultant higher beef prices have contributed to increased demand for quality hogs. Record corn and soybean harvests in 1970 assured adequate feed supplies in 1970, and harvests are likely to be even larger this year. Swine breeders imported more purebred stock in 1970, and imports probably will increase again this year. Only small quantities of pork products are exported, with totals only slightly higher in 1970 than in 1969; further small increases are expected this year.

Wool production in 1970-71 was about 35,000 tons, or slightly higher than during the 1969-70 season. Rio Grande do Sul was responsible for practically all the commercial production. Imports totaled about 18,000 tons in 1970, compared with 22,289 tons in 1969.

Fats and oils - With the exception of cottonseed, production of major oilseeds was higher in 1970 than a year earlier. Plantings were increased, and yields were up as a result of generally favorable weather conditions. Encouraged by favorable prices, growers planted and produced record soybean and peanut crops in 1970, and plantings were again increased for the 1970/71 crop. Cotton growers suffered large losses last year because of drought, floods, and untimely rains which resulted in destroyed plantings and pest problems. As a consequence, many of South Brazil's growers cut cotton acreage, and enlarged their plantings of soybeans, peanuts, and corn which required fewer risks. So, although 1971 supplies of cottonseed oil will again be lower, there will be a slightly greater availability of soybeans for the domestic vegetable oil crush. Recent heavy rains in Parana may have reduced total 1971 peanut crop expectations to little more than last year's outturn. Lard and butter consumption in 1970 continued to give way to increased production and consumption of margarine, and pork packers found fewer outlets for lard. Imports of butter in 1970 were less than in 1969. The 1970 castorbean crop was down by more than a third from a year earlier. Forecasts generally are for a much larger crop in 1971, but not so large as the 1969 record. Castor oil exports totaled less than 150,000 tons in 1970 as compared with 1969's record 184,288 tons.

Brazil exported 290,000 tons of soybeans in 1970, as compared with 310,148 tons in 1969. Exports of soybeans are likely to drop further in 1971 because of rapidly increasing domestic demand by vegetable oil crushers for soybeans, combined with decreased availabilities of cotton seed and peanuts from earlier expectations. Brazil's major vegetable oil producing firms will continue to increase their crushing capacity, especially for soybeans, in 1971 and for the next several years as well. Planned expansion includes not only increasing existing plant capacity but also the construction of large, modern facilities (BR-1002, January 21, 1971.) Peanut exports in 1970 were about 53,000 tons, or double those of 1969. Peanut cake and meal exports were nearly 200,000 tons in 1970 compared with 131,264 tons in 1969, and an estimated 30,000 tons of peanut oil were exported compared with only 2,165 tons in 1969. Another 30,000 tons or so of peanut oil could be exported in 1971, but not soybean oil.

Tobacco - Production of all types of tobacco totaled an estimated 196,000 metric tons in 1970, a 4 percent increase from the 188,000 tons grown in 1969. Cigar tobacco production increased by about one-fourth, the cigarette leaf crop by less than one percent. But significant changes occurred in the makeup of the latter. Production of Virginia flue-cured increased by almost 80 percent and burley by 20 percent, while the crops of the native flue-cured and air-cured types declined. The first two are the types most desired in international trade. The best of Brazil's flue-cured tobacco is comparable to American flue-cured, but cigarette tobacco blenders find the Brazilian burley less attractive.

Total cigarette leaf plantings for 1971 are estimated to be up from a year ago, and thanks to rainfall in the principal growing areas during the month of December yields are expected to improve, with leaf quality likely to decline. The 1971 cigarette tobacco crop which is currently being harvested is estimated at 178,000 tons. It is expected to comprise 47,000 tons of Virginia flue-cured, 48,000 tons of native flue-cured, 14,000 tons of burley, 19,000 tons of native air-cured, and 50,000 tons of low quality "twist" tobacco.

Brazil nuts - Brazil nut exports during CY 1969 were 24,114 metric tons valued at US$12 million. During January 1 - December 15, 1970, exports were 31,720 tons priced at US$13.1 million. Harvested production during 1970 is estimated at 40,000 tons and during 1969 at 33,000 tons.

(3) Other crops

Fruits and vegetables - Encouraged partly by higher prices in late 1969, growers increased potato plantings substantially in 1970. Imports of European seeds by South Brazil's major agricultural cooperatives rose an estimated 90 percent over 1969. Production was higher in 1970, but not in proportion to increased plantings because delayed germination caused by excessive dryness and followed by late rains brought on diseases which proved difficult to control. Producer prices in 1970 did not compensate for higher production costs, and consequently the 1971 outlook is for plantings slightly below last year's.

Vegetable supplies generally were normal last year, and supplies should be adequate in 1971, given continued good weather conditions.

Already the world's third largest citrus producer, Brazil again increased plantings last year. São Paulo, which produces an estimated 40 million boxes of oranges, or nearly 70 percent of Brazil's estimated 60 million box total, had increased 1969/70 area by an estimated 21 percent, and production by about 27 percent as compared with 1968/69. That state's 1969/70 orange crop was officially estimated at 1,774,000 tons, with prospects for further increases of 13 percent and 4 percent, respectively, in area and production in 1970/71. However, many citrus growers are beginning to express concern over the threat of lower prices brought on by excessive production and supplies for the domestic market.

Exports of fresh oranges totaled about 52,000 tons in 1970 compared with 56,952 tons in 1969. Exports of concentrated orange juice totaled about 31,487 tons in 1970 compared with 1969 shipments of 23,245 tons (net weight).

Brazil's banana exports in 1970 totaled about 200,000 tons as compared with 162,954 tons in 1969.

Domestic deciduous production in South Brazil continued to improve but total production remained at low levels. The grape harvest last year was considered good, and plantings were increased both for table use and for wine production. Brazil imports large quantities of fresh apples each year, usually from Argentina which enjoys LAFTA preferences, and from France because of lower prices than the North American imports. The United States continues to supply most of the imported pears. Fruit importers showed comparatively little interest in U.S. grapes in 1970, partly because of quality problems in previous years. Pineapple plantings were increased last year.

Dairy - Prolonged dry weather resulted in poor pasture conditions again in 1970, and this, together with continued large slaughter of cows in 1969 and 1970, prevented milk production from achieving hoped-for high levels. Even so, total milk production probably increased slightly in 1970, with outturn expected to increase further in 1971. Producers' milk prices, guaranteed by the federal government, were considered good in 1970. Milking of beef cows continues, but there is an increasing trend toward production of quality milk. Fat content is higher and increasing quantities of milk are being pasteurized. National production of milking machines more than doubled in 1970, compared with 1969. Purebred dairy cattle, including European-type breeds, particularly Holstein-Friesians, but also Guernseys and Jerseys, are being imported and bred in increasing quantities. There is also more cross-breeding of native Zebu with strictly dairy breeds. Last year's imports of both purebred dairy cattle and frozen semen were substantially higher than in 1969, and prospects this year are favorable for greater imports of both. The Brazilian National Holstein-Friesian Association is preparing for its third annual all-Holstein show in March 1971, and interest is high. The U.S. Holstein-Friesian Association is again providing a judge as it did for the first two annual shows.

Production of processed dairy products increased slightly in 1970. Many small butter and cheese processing plants were replaced by a few larger and more efficient units. Producers did not accumulate butter stocks last year as in 1969, fearing that butter would again be imported in quantity from Europe at subsidized prices. Although butter supplies were plentiful, total annual consumption of margarine continued to exceed that of butter. Powdered milk production was about 2 percent lower in 1970 than a year earlier, with prospects for a further decline in 1971, partly because producers held stocks of some 4,000 tons at year end. Powdered milk imports in 1970 were expected to total slightly less than the 24.5 million tons imported in 1969, most of which entered under the U.S. donation program. Domestic producers again requested the GEB to reduce commercial imports through higher duties, and to reduce the size of the U.S. donation program in order to utilize idle capacity and encourage greater production by the domestic industry. Milk processing plants continued to modernize and to add new equipment.

Poultry - The year just ended was a good one for Brazil's poultry producers. Prices for both broilers and eggs rose substantially -- mostly during the first six months -- primarily because of higher beef prices, which resulted from short supplies of fat cattle and the government's decision to stop its own cattle slaughtering operations. A record corn crop assured adequate supplies of this basic broiler ration component, and feed prices were generally stable throughout the year in spite of record corn exports. A number of large commercial poultry farms and feed mills were inaugurated by private firms and cooperatives, especially in the states of Paraná and São Paulo. An estimated 450 million dozen eggs and 150 million broilers were produced from industrial flocks -- roughly 10 percent above 1969 for both -- but there was little improvement in poultry marketing facilities and egg processing plants. Consequently, exports were few, if any. Production of baby chicks was about the same in 1970 as a year earlier, but imports of baby chicks were higher, especially during last-half 1970, than in 1969.

Continued improvement in broiler and egg production and consumption is expected in 1971. Assuming normal weather, another record corn crop will provide adequate poultry feed supplies. Broiler and egg production is expected to increase by at least 5-8 percent. If the government will allow beef prices to increase in 1971, consumption of poultry should benefit further from relatively low consumer prices. The market for imported U.S. grandparent stock chicks is expected to strengthen further in the year ahead. One of the world's largest poultry firms with headquarters in Japan, plans to begin producing baby chicks in São Paulo in 1972. Production is projected at two million chicks in 1973 and five million in 1975, with the potential market including all of Latin America. Electronic computers will be employed to select and improve breeds. Turkey production also is expected to increase substantially, especially in the state of Santa Catarina, where commercial slaughter is projected at five million birds a year.

Sorghum - Hybrid grain sorghum, recently introduced in Brazil, is steadily gaining the interest of farmers and formula feed producers. Pioneer cultivation under contracts promoted by a single feed producing company has proved

eminently successful, and others want to "get into the act," particularly in view of increasing demand from the fast-growing poultry industry. It seems inevitable that Brazil will become an important factor in the international grain sorghum picture. Also, those interested in finding alternative crops for the drought-ridden Northeast are turning to grain sorghum as an attractive possibility because of its short growing cycle and relative invulnerability to dry weather.

c. Factors affecting agricultural production

(1) Unusual weather conditions

Not until mid-1970, when growers picked the coffee crop drastically reduced by frost a year earlier, did the full extent of the 1969 freeze in Paraná (page 7, above) become known. Higher world coffee prices softened the overall impact in this country, but were small comfort to coffee farmers whose trees were killed or who, if they were lucky, lost only their 1970 production -- but still had no coffee to sell at high prices.

The extended drought (which still prevails) in the Northeast, which is referred to in several places in this report, was the worst in many years in a region that is well-known for the frequency and severity of moisture shortages. Social effects were profound. Some half-a-million heads of families were given employment on "work fronts," and their wages were paid in food. Often in the news were gangs of flagelados (drought victims) who looted food warehouses and sacked food stores but refrained from violence.

The Northeast's main export crop, long fiber cotton, suffered from the drought, but in the Center-South cotton was the victim of too much rain at the wrong time and as a consequence both yield and quality fell. Prolonged dry weather, which is commonplace rather than "unusual" in many regions, resulted in poor pasture conditions (page 11, above).

It has been reported that 40 percent of the beef animals slaughtered in 1969 were females. Such a trend is contrary to the stated objective of rebuilding herds in order to expand meat exports in the future.

(2) Unusual outbreaks of diseases or pests

(a) Coffee borer. Several coffee producing areas in Paraná have reported coffee borer (Hypothenemus hampei) outbreaks on new coffee cherries which were set after last October and November flowerings. This insect was sheltered during the winter season inside unharvested, dried coffee cherries (the crop was very small because of frost, and some of it was not worth harvesting). The coffee borer larvae feed in the cherry seed (coffee bean), perforating it, and when the borer-damaged beans are dried and processed they break easily and are discarded, reducing the yields and quality of the product. The extent of damage to the coming coffee crop cannot yet be appraised.

(b) Cocoa pod rot. The 1970 Bahia cocoa main crop is reported to have been reduced by about 30 percent because of an outbreak of pod rot. Optimum temperature and air moisture together with inefficient preventive spraying triggered this outbreak.

(c) Pepper root rot. Pepper vine roots in the state of Pará were severely affected by a fusarium attack reducing 1970 pepper production from 13,000 to 8,000 metric tons. Measures are being adopted to control this disease and to expand plantings in disease-free areas.

(3) Changes in price policies, subsidies, improved market facilities

(a) Price policy.

Meat: In February 1970, the GOB withdrew from livestock slaughtering operations under which for several years Sunab, the national supply agency, had operated a large meat packing plant and contracted for production of other plants in order to supply part of the Rio de Janeiro market where cost-of-living figures are calculated. Producer prices for fat cattle, and consequently consumer meat prices, quickly climbed something like 40 percent. In efforts to halt further inflationary price increases, the GOB adopted in second-half 1970 a number of restrictive measures, including the following: (1) a price ceiling meat packers could pay for fat cattle, (2) limitation of monthly slaughter to the April-June 1970 average, (3) fines and plant closures for those not in compliance, and (4) government imports of 14,200 tons of frozen beef from Argentina, most of it for the Rio market. These measures were only partially effective, because most meat packers paid producers from Cr$40 to Cr$45 per arroba (15 kilos or 33 pounds), carcass weight basis, instead of the prescribed Cr$35.

For several years the government had been encouraging exports of processed meat products by exempting them from payment of the ICM value-added tax (15 percent, reduced to 14.5 percent January 1, 1971). But as an additional measure to insure adequate meat supplies in domestic markets, the tax exemption was withdrawn in December 1970 until further notice. The government, which not long ago had publicized for Brazil an export target of 300,000 tons of meat per year, thus has left no doubt that domestic price stability for beef is an even larger factor in its meat policy considerations. Just this month, for the first time, the GOB established an export ceiling of 70,000 tons for 1971 -- 36,000 tons originating in Central Brazil and 34,000 tons from Rio Grande do Sul. This is less than the totals for either 1969 or 1970, which were about 97,000 and 111,000 tons, respectively, both of them records.

Also this month (January 1971), the Minister of Finance announced wholesale price ceilings for hindquarters and forequarters of beef in the Rio market and banned from that market the products of two packers who refused to comply.

The GOB announced also that it planned to double the availability of credit for livestock loans, which are used mainly to enable cattlemen to retain breeding

stock and calves and to improve pastures. Other measures were aimed at (1) sharpening the inspection of sanitary facilities, (2) setting classification standards for beef, pork, and mutton, and (3) improving the distribution and marketing system for meat products in Central Brazil.

Coffee: Prices for export changed many times during the year 1970 and were reported to FAS/W as they occurred. During the year, the GCB took steps also to implement a commitment for gradual elimination of a subsidy on domestic coffee sales. Three years ago, domestic roasters paid only one cruzeiro (then about 31 U.S. cents) for a 60 kilo (132 pounds) bag of coffee taken from IBC stocks. The stated objective of the GCB was ultimately to charge the full market price, and the fourth and most recent increase to that end occurred in July 1970 when the price to roasters rose from Cr$32 to Cr$50 (US$10.89 at that time). On January 16, 1971, the National Monetary Council approved a further rise, to Cr$100 (US$20.33 at the current rate of exchange: Cr$4.92/US$1.00), but the press has conjectured that final approval by the Minister of Industry and Trade may be withheld until February so that cost of living statistics will not be affected this month. Retail price to the consumer will be increased at the same time to Cr$4.30 per kilo (US$.40 lb.).

Milk: The Interministerial Price Council (CIP) and Sunab regulate prices and marketing margins for milk and dairy products. Prices are fixed for fluid milk that plants sell to retail stores and that the stores, in turn, charge to consumers. (Packaged milk deliveries to homes are almost unknown in Brazil.) Prices to farmers for "Type C" milk, the grade normally sold for fluid use in the cities (it is very similar to manufacturing milk) are regulated by Sunab, as are retail ceilings. The retail dealer is allowed to mark up his fluid milk price no more than 5 percent, and this low margin provides little sales incentive. As a consequence of such factors, of cultural tradition, and of low per capita income, milk consumption is small. Milk, meat, and bread are all on the list from which the wholesale price index is calculated, and because this index is used to determine value of treasury certificates the items on it are politically sensitive.

Producer price supports: Until 1967 the GCB, while supporting prices of some crops by making loans on them, normally purchased commodities when prices fell below the established floor. Since that time, while still making some purchases, the government has emphasized the availability of crop loans to enable the grower to await more favorable marketing conditions. The largest program participation occurred in 1965 when nearly one-fourth of the rice crop was covered by loans and purchases. Again in 1970, with Rio Grande do Sul owning 108,000 tons of excess rice from the two preceding seasons and record crops being harvested in several states, the minimum price program was brought into prominent participation in the solution of rice problems.

The minimum price agency (Comissão de Financiamento da Produção - CFP) reported financing 533,658 tons of rough rice in the first 11 months of 1970 (with insignificant changes anticipated for 12 months). The CFP reported also that it took ownership of 535,514 tons during 12 months. (It is assumed that much of the

acquisitions resulted from farmers failing to pay off their 180-day support loans at which time the rice became government property, but this assumption could not be verified as this report was being prepared.) The GGB does not have infrastructural and management facilities for handling large quantities of commodities, so it may be anticipated that, with rice being in surplus as it is (even though the 1971 crop will be smaller), the minimum price for that commodity will be allowed to decline in real terms next year. Even in the Northeast, where rice acquisitions were almost zero (265 tons), the 1971 minimum price for rice, just announced, was smaller (unchanged, in real terms) than for any other supported crop.

IRGA, the Rio Grande do Sul state rice autarchy, also acquired large amounts of 1969/70 crop rice, but final totals are not available. We reported on November 12, 1970 (BZ-0062) that IRGA had purchased 4.5 million bags (60 kilos each) of milled rice and 850,000 bags (50 kilos) of rough rice. IRGA is attempting to dispose of 270,000 tons of its holdings by means of the plan described on pages 5 and 6, above. Recently the GGB put some CFP stocks on the Rio and São Paulo markets to contain prices, which had been rising. Current CFP holdings are 478,611 tons of rough rice and 13,348 tons of milled rice.

Support loans and purchases for 1970 are shown in Table XII, Statistical Section. It will be noted that only rice and sisal acquisitions were as large as the loan volumes. Growers took loans on 351,299 tons of corn, but of this total only 5,265 tons reverted to the government.

(b) Subsidies. In 1970, Brazil joined the company of nations that make payments to exporters in order to sell their own higher-cost agricultural commodities in foreign markets. Through the mediums of export subsidies of US$30 or more per ton and exchange for agricultural machinery, the GGB disposed of some 90,000 tons of old-crop rice owned by IRGA (see page 3, above). The funds were derived from internal sales of government-owned coffee stocks. These go into a Special Fund for Agricultural Development (Fundag) which was established in December 1969 by the National Monetary Council to stimulate agricultural exports and production and to remove marketing bottlenecks. It is said that a Fundag provision for export subsidies was inserted for the express purpose of selling this rice which had built up considerable storage costs, but there is nothing in the Central Bank Resolution No. 143, which controls Fundag, that prohibits its use for other commodities as well. (See A-242, May 15, 1970, Rio de Janeiro.)

(c) Improved market facilities. Recent expansion of storage and port facilities was reported on pages 4 and 5 of BZ-0067, November 30, 1970, "Wheat Situation in Brazil." Grain storage facilities in the wheat-soybean regions were increased by 400,000 tons in 1970. In addition, Cibrazem, the federal warehousing authority, bought 40 inflatable warehouses that were used to house record rice harvests in Goiás and Mato Grosso and then rushed to the south to help with a record wheat influx. Cibrazem reportedly is negotiating for 30 more of these portable storage facilities and also intends to construct 20 metallic warehouses in four states. Port improvements are under way at Santos, Paranaguá, and Rio Grande that include deeper channels, more berthing spaces, additional storage

capacity, and more rapid handling of commodities.

The GOB is engaged in efforts to modernize its food supply system by establishing supply centers and terminal markets in a dozen or so large cities. The government says that nine such centers will be under construction by April 1971.

(4) Introduction or increased usage of new varieties

BZ-0067, the wheat report cited above, includes details on the testing of countless wheat varieties from all over the world. Other grains are given similar attention on a less spectacular scale. Rice is being tested in the Amazon (see page 6, above), with a long grain variety from Surinam performing better than the famous "miracle" varieties from the Philippines.

(5) Unusual buildup or depletion of stocks

Rice stocks are at the glut level despite export subsidies and a new exporting scheme to dispose of them (see pages 5 and 6, above). Wheat stocks are ample because South Brazil is harvesting a record crop at this time.

On the low side, there are more commodities involved. Coffee stocks have dwindled from 60 million bags two or three years ago to fewer than half that number now, and the industry is forecasting exhaustion of stocks by 1973 or '74 in the absence of good weather and new production. At the end of December, unsold cocoa was down to an estimated 180,000 bags, the lowest total in recent history. Stocks of important oilseeds -- soybeans, cottonseed, peanuts -- are low because a short cotton crop occurred at the time of expanding domestic demand for soybeans and larger export demand for peanuts. The meat situation and outlook are so tight that Brazil has decreed export quotas (see page 14, above) for 1971.

(6) Fertilizer

The volume of fertilizer consumption has been increasing annually, stimulated to some extent by subsidies. Brazil produces only small quantities of its nitrogen requirements, only half its phosphate needs, and none of the potassium requirements for national fertilizer consumption, and as a result imports more than half its domestic fertilizer needs. In 1970 fertilizer imports totaled about 1.6 million tons, some 30 percent more than in the previous year. Ammonium sulfate accounted for about 31 percent, phosphate rock about 25 percent, and potassium chloride about 22 percent of total 1970 imports. Apparent consumption increased in 1970 by only about 30 percent from 1969, to a total estimated at approximately 2.5 million tons. National production in 1970 also increased by about 30 percent from a year earlier, to 813,729 tons. The government's goal is to raise total fertilizer consumption to 4.1 million tons in 1973.

Fertilizer stocks presently are reported plentiful even though national consumption remains far below potential. One reason is because many growers, particularly those with small operations outside the state of São Paulo, are not yet convinced

of the advantages of purchasing high priced fertilizers. São Paulo growers alone account for some 60 percent of total national consumption of NPK (nitrogen, phosphate, potassium) nutrients.

In São Paulo on June 1, 1970, the Ultrafertil industrial fertilizer complex was inaugurated. It is said to be the largest in Latin America, and the tenth largest in the world. The installation includes seven plants with a total daily production capability of 450 tons of anhydrous ammonia, 560 tons of nitric acid, and 690 tons of sulphuric acid. Some 690 tons of ammonium nitrate can be produced daily. Initial plant investment estimated at Cr$400 million is expected to insure continuous production of one ton per minute. Ultrafertil has constructed 27 agricultural service centers located throughout the states of São Paulo, Minas Gerais, Rio de Janeiro, and in Northern Paraná where staff agronomists provide technical assistance on fertilizer utilization. In addition to Ultrafertil, several other São Paulo plants began production last year of superphosphate, diammonium phosphate, and ammonium nitrate. Still another firm plans to construct in Rio Grande do Sul next year a fertilizer plant with annual capacity projected at 300,000 tons.

Coffee producers in São Paulo and Paraná were the largest single fertilizer purchasers in 1970. Increased demand is attributed also to greater fertilizer application in states which formerly used very little, such as Goiás and Minas Gerais, where plantings of rice and other grains were greatly expanded. It is estimated that in the Northeast about 90 percent of total NPK nutrients are used in sugarcane production. In Paraná and São Paulo, coffee plantings receive about 40 percent of NPK nutrients, sugarcane about 21 percent, cotton 13 percent, corn 12 percent, rice 9 percent, and potatoes 9 percent. In Rio Grande do Sul, 78 percent of the fertilizer goes to wheat-soybean rotation plantings and 15 percent to rice production.

(7) Pesticides

Brazil's Ministry of Health reports that national production of DDT, thiophosphate, and other chemical plant sprays valued at $582 million annually. According to trade sources, annual pesticide consumption increased from an estimated market value of $21.3 million in 1967 to $32.1 million in 1968 and $38.6 million in 1969. Domestic production accounted for less than 20 percent of total consumption in 1967 and 1968, but increased to 24 percent in 1969. Trade forecasts indicate a $60 million pesticide market in 1974.

The outlook for expansion of domestic insecticide producing facilities is not considered favorable because of uncertainty over the rapid changes taking place in pesticide technology and new product development and substitution for existing products.

(8) Irrigation

An estimated 400,000 of the 5-to 600,000 hectares of irrigated land in Brazil are in the state of Rio Grande do Sul. Another 12,000 hectares of irrigated land are

under cultivation in the Northeast.

Irrigation methods in use include flooding, sprinkler, and infiltration systems. A high proportion of Brazil's irrigated land is irrigated by the flooding process, especially in Rio Grande do Sul where 95 percent of the state's rice area is irrigated by this method (see Rice report, BZ-0054, Sept. 22, 1970). Generally, reservoirs are used which permit the flooding of previously terraced areas by gravity. Motor driven pumps are used to aid the flooding process in flatter areas. Sprinkler irrigation in the state of São Paulo represents 80 percent of the national total and accounts for about 90 percent of the state's irrigated land. In this state the potato crop takes up 50 percent of the irrigated land, citrus crop 10 percent, and other crops the remainder. Irrigation by means of infiltration consists of water distribution by ditches in the area to be irrigated. Increased usage of this technique is currently being stressed by the government, but there are no estimates available.

The GOB has an active interest in expanding the land area under irrigation. Within the ambitious National Irrigation Plan, approximately Cr$2 billion has been allocated to bring 134,000 hectares of land under irrigation in the Northeast during the next four years. French and Israeli consultants have been engaged to give technical assistance.

One knowledgeable observer has commented that expectations for economic return on the irrigation proposals in the Northeast appear to be inflated and that, despite already heavy outlays made in this area, results have been disappointing largely because of soil and water management problems.

The same observer suggests that irrigation emphasis be centered upon private supplemental works in areas of intensive agriculture and that public investment decisions be made only after thorough feasibility studies.

(9) Political developments affecting agriculture

In August 1970 the federal government launched a promotional campaign aimed at increasing agricultural production and productivity by at least 10 percent. The "Campanha para o Aumento da Produção e Produtividade" was unique in that the Ministers of Finance and Agriculture, as well as the Minister of Planning and the president of the Bank of Brazil, personally carried the message to Brazil's important agricultural regions.

In every section visited, the government leaders proclaimed variations of the following theme: "Brazil's economic development depends basically on the rate of agricultural expansion. Without agriculture there is no development. Without agriculture, there is no monetary stability. Without agriculture, there is no balance of payments. Without agriculture, the plan for a strong and independent Brazil is doomed to failure." Their speeches emphasized the necessity to export Brazil's agricultural production, to expand overseas markets, to increase food supplies in Brazil's large population centers, and to fight inflation and high

living costs. The government pledged to assist farmers with such production incentives as minimum price guarantees, income and ICM tax reductions, and credit for fertilizer, agricultural equipment, and selected seeds.

Besides newspaper, magazine, and radio/TV coverage of the Ministers' wide-ranging visits, the pleas were carried in advertisements in the news media and posters placed at vantage points throughout the interior. A recorded jingle was sung periodically on radio and TV by two popular folk singers.

d. Agricultural trade

The value of Brazil's agricultural exports, totaling about $1.8 billion in 1970, rose for the third consecutive year. Coffee accounted for about 47 percent of the total, cotton and linters 9 percent, sugar 6 percent, cocoa products 6 percent, meat products 5 percent, corn 4 percent, and soybean products 4 percent.

Major developments in Brazil's agricultural export pattern in 1970 were 11-year records for the value of cocoa products, sugar, beef, and soybeans and products. In addition, exports of corn, orange juice, bananas, peanuts and by-products, and tobacco leaf all achieved new value records in 1970. On the import side, total wheat unloadings in 1970 were lower for the second consecutive year but still by far the largest import item. Commercial wheat imports from the U.S. were the highest in three years (see Table X).

In value terms Brazil's imports from the United States of a number of important products were running substantially higher during last-half 1970 than in the same period a year ago. These included dairy breeding cattle, beef breeding bulls, swine, baby chick breeding stock, dry green peas, hops, and inedible tallow.

Agricultural trade data are shown in Tables IX - VIX in the Statistical Section.

2. Short-run outlook

a. General economic situation and objectives

The Ministers of Finance and Planning, who in early January reported last year's economic achievements to the President, at the same time presented the government's goals for this year. They said the "Goals and Bases for Government Action," approved by President Médici in October 1970 (see page 24, below), will be acted upon in 1971 by each Ministry of government concerned. They listed also this year's objectives, among which were the following of agricultural interest:

(1) Sustained growth of GDP at 8 to 10 percent with expanding employment and improved distribution of income. "It is reasonable to expect that agricultural production, including coffee, will expand by 9 to 11 percent," they said, "and industrial output at least 10 percent."

(2) Continued progress in reducing the rate of inflation so that by the end of the present administration's term of office in 1974 it will be less than 10 percent.

(3) Exports to reach US$3 billion, including manufactures of US$600 million. The GOB will oppose protectionism by the developed countries.

(4) National priorities will be education, health and sanitation, scientific and technical development, and agriculture. Funds for education will average Cr$6,870 million annually, with agriculture in second place at Cr$5,450 million, or US$700 million.

(5) The Program of National Integration -- "integration for development" -- will become an active force, with construction of the Trans-Amazon and Cuiabá-Santarém highways, colonization, and other programs to develop the Amazon river basin (page 26, below). The integration program also will be employed to improve agriculture in the Northeast through new measures and projects to increase productivity and absorb labor. Large fiscal incentives and investments are projected.

(6) Efforts will be increased to strengthen the role of private enterprise in both agriculture and industry. The former will be the beneficiary of "exceptional incentives" such as compensatory minimum prices, reduced taxes on modern inputs, abundant credit at low rates of interest, and government programs aimed at consolidation of the agricultural infrastructure. Also to be given priority attention are efficient and modern methods of marketing agricultural and industrial products.

(7) An economic census (agriculture, industry, and services) will be launched in March 1971, with data available by the end of the year.

b. Agricultural production

Finance Minister Antônio Delfim Netto, whose economic innovations are given much of the credit for three consecutive years of financial improvement, predicted recently that 1971 would witness the greatest agricultural expansion in the country's history. The Minister of Agriculture forecasts a second consecutive record year (page 2, above), and he has also predicted a 26 to 35 percent production gain in the period 1969-73. Coffee alone, which because of frost declined 30 percent in 1970 from the previous year and two-thirds from what used to be considered a "normal" year, cannot fail to register improvement this year despite current reports of broca (fruit borer) attack. The outlook for corn, soybeans, wheat, and beans is excellent if weather is normal. Cotton and rice face smaller production prospects, but that is to be welcomed for the latter in view of the dolorous marketing situation that exists for that crop.

c. Factors affecting trade in major agricultural commodities.

Brazil has just produced a wheat crop that is expected to supply about 43 percent of projected consumption in 1971 (1.37 and 3.2 million tons, respectively), and

this may affect import requirements. Brazil's Customs Policy Committee approved lower duties for the importation of 5,000 tons of long and extra long staple cotton in late 1970, and the trade believes that authorization soon will be given for another 5,000 tons because of the shortage of that type of cotton which is produced in the Northeast. A smaller cotton crop in 1971 also means lesser supplies of cottonseed for the vegetable oil market and a consequent greater domestic demand for alternative sources such as soybeans and peanuts; this will reduce availability of these commodities for export. In October 1970, the Customs Policy Committee canceled tariff duties on up to 20,000 tons of inedible tallow and on fresh and frozen meat imports through 1971. Argentina supplied most of the meat imported in 1970, and cotton and tallow came from various sources (data are not yet available), the United States among them. U.S. Census Bureau figures report exports to Brazil of 1,600 tons of inedible tallow and 90 bales of cotton in the month of November 1970.

On September 2, 1970, the GCB authorized a seasonal reduction in fresh pear import duties (from 37 percent to 20 percent during September-December 1970) as a result of lengthy negotiations. This was on a trial basis for one year, but because the approval did not become official until September 2, several months after importers had made their shipping commitments, and because also the U.S. pear crop was a small one and prices were high, U.S. exports were smaller in 1970 than in 1969 (5.6 million pounds valued at US$632,081 as compared with 7.8 million pounds worth US$887,596 in the comparable periods for which data are available, July-November each year). The United States has asked that the seasonal reduction for third countries be made permanent during those months when they do not compete with U.S. exports (Argentina's growing season is during the U.S. winter season) and that it be broadened to include apples and grapes as well. If granted, trade in fresh fruits may be expected to increase in 1971.

B. Changes in Policy

The year 1970 was marked not so much by changes in agricultural policy as by adoption of incentives to emphasize and accelerate what already had been under way: increased production and productivity (page 19, above) and expanded exports. Last March, the chief of the Finance Minister's economic advisory staff prepared a statement for publication that said, among other things: "Export expansion of agricultural products in the decade of the '70s represents an indispensable condition for economic development." Also essential, he said, were modernization, increased productivity, and reduction of costs in order to make Brazil competitive in world agricultural markets. He added that increased farm production is important not only for the sector itself, but, through larger export receipts, for augmenting the Brazilian capacity to import.

1. Production and trade considerations

a. Price supports.

Save for rice and castorbeans, the GCB increased minimum

support prices in real terms for the 1970/71 crop in the South and Central regions of Brazil (BZ-0045, August 18, 1970); increases for rough rice (10 percent) and castorbeans (12 percent) were less than annual devaluation of the cruzeiro. The floor prices of main 1971 crops in the North and Northeast also rose in real terms except for rice, which equaled the change in value of the cruzeiro (BZ-1801, Jan. 5, 1971).

b. Subsidies. Brazil employs internal subsidies described elsewhere in this report. Agricultural credit is the principal one. Reduction of fertilizer prices is another. Forgiveness of the ICM on certain exports and on certain agricultural machinery and inputs might be called an indirect subsidy. The only direct subsidy on 1970 exports was for rice (page 5, above).

c. Marketing arrangements. Sugar and coffee are marketed under close government control. All domestic and foreign wheat is purchased and sold by the government.

d. Tariffs. No significant changes since BZ-0007, January 27, 1970.

e. Import levies. No changes since BZ-0007.

f. Quantitative controls. Because of domestic shortages of long staple cotton and inedible tallow, importations of 5,000 and 20,000 tons, respectively, were authorized in 1970 (pages 8 and 22, above).

g. Bilateral agreements. Brazil and Canada signed a bilateral agreement in April 1970 under which Brazil will buy up to one million tons of wheat in four years and Canada, in turn, agreed to make a capital grant of 10 million dollars for construction of wheat marketing infrastructure in Brazil and to seek to increase imports from Brazil. Terms of payment were 5 percent down, two-year grace period, and balance payable in 10 years at 3 percent interest.

h. Regional arrangements. No change from BZ-0007, January 27, 1970.

i. Special trade concessions. The fresh pears seasonal tariff reduction (page 22, above) on a Most Favored Nation basis was a trial concession for one year which may become permanent under the General Agreement on Tariffs and Trade (GATT).

2. Incentives for production and export

a. Taxes -- ICM. In 1970, as in recent past years, the Impôsto Sôbre Circulação de Mercadorias (ICM) was much in the news. The ICM is levied on value added at each stage of production. It is a sales tax collected by the states and shared by them with the municipalities, and as such it is the largest single revenue producer in the Brazilian tax system. But under varying treatments by different states, it has become distorted in its application. The well-to-do state of São Paulo, for example, has canceled or reduced the ICM on a number of commodities and exports, while at the other end of the scale poverty-stricken states continue to depend upon it for most of their revenue.

Initially, in 1967, the ICM nominal rate was set at 15 percent, but was soon raised to 17 percent. Only the Northeastern states increased it in 1968, as planned, to 18 percent. Rates for interstate and export transactions remained uniformly at 15 percent. During 1970 the Minister of Finance met several times with State Secretaries of Finance to seek to improve the ICM and to make it more uniform. They agreed in August to reduce it by 0.5 percent per year until 1974, and on January 1, 1971, the first half-point reduction went into effect. South-Central states lowered the tax to 16.5 percent, and the rate for interstate and export transactions went to 14.5 percent. The 16.5 percent levy also applied to imports from abroad, which are treated like internal operations.

In December 1970, ICM exemptions were decreed for a number of agricultural production inputs, including feed concentrates and supplements for animal feed rations, many pesticides, vaccines, veterinary medicines, and frozen semen. Corn transferred to feed mills for conversion to animal rations became exempt if the entire operation was carried out by a single firm. Individual states may now grant ICM exemptions for movement to processing plants of inputs necessary for production of feed rations.

Recent ICM exemptions on internal and interstate movement of certain farm machinery and equipment are expected to reduce their purchases prices by up to 15 percent.

As a consequence of the incidence of the ICM and of some of its exemptions, a shift in emphasis has been noted from production of commodities for the internal market to those for export. For example, a new meat export record was established in 1970 while the government imported fresh meat to supply the domestic market and withdrew the ICM exemption on exports.

b. Taxes -- income. A new income tax law became effective for farmers in 1970. They are allowed to deduct from taxable income up to 80 percent of net income if they made certain agricultural investment expenditures. Deductions are based on a scale of values -- more, for example, for investment in soil correctives than for a mule. Farm corporations are granted total income tax exemption during their first two years, 50 percent in the third year, and 25 percent in the fourth. The GOB tightened up income tax administration in 1970 by withdrawing the option of reporting farm income on a presumed basis, and requiring instead that net income be reported as actual gross income minus expenditures. Heretofore, most taxpayers engaged in farming reported presumed income. It was computed at 3 percent of the value of unimproved land, plus 1 percent of the value of permanent crops, machinery, and livestock, plus income from other sources.

3. Agricultural development

a. Development plans. On October 1, 1970, President Médici announced a development program for the years 1970-73. The program, described in a book entitled, "Goals and Bases for Government Action" ("Metas e Bases Para a Ação do Govêrno"), gives top priority to (1) education and health, (2) agriculture and agricultural marketing, (3) development of science and technology, and (4) strengthening of nationally-owned private industry.

The prominent place assumed by agriculture in this citation of governmental objectives is another example of the new and continuous emphasis on the sector, which, until the revolution of 1964 was forgotten in most concrete development programs outside of coffee and sugar.

"Metas e Bases" lists 19 priority projects in agriculture, forestry, and fishing. Activities falling under a title, "Technological Development Through Intensification of the Use of Modern Production Factors," include programs for (1) agriculture mechanization; (2) strengthening the fertilizer industry; (3) intensive research wheat, corn, beans, soybeans, cocoa, coffee, sugarcane, and peanuts; and (4) production of improved seeds for the main crops.

The "National Cattle Program" embraces the following principal projects: (1) development of the slaughter cattle industry in the Center-South zone (states of Rio Grande do Sul, São Paulo, Mato Grosso, and Goiás) and in the eastern region (Minas Gerais, Bahia, and Espírito Santo); (2) eradication of foot-and-mouth disease in the Southern and Eastern regions through the vaccination of 32 million cattle; and (3) modernization of the dairy industry through strengthening of dairy cooperatives and construction of four dairy plants in São Paulo, Guanabara, and Minas Gerais.

Projects which are included under a plan for "Strengthening of the Agricultural Infrastructure" are as follows: (1) a national irrigation plan having priority projects in Ceará, Bahia, Rio Grande do Norte, and Rio Grande do Sul; (2) a program of rural electrification to benefit 27 thousand consumers in Rio Grande do Sul, Paraná, São Paulo, Minas Gerais, Goiás, Pernambuco, Alagoas, Paraíba, and Ceará; and (3) integration of rural roads in the states of Rio Grande do Sul, Espírito Santo, and Mato Grosso to connect producing zones with principal roads.

A program designed to bring more land under cultivation includes agrarian reform projects in Ceará, Pernambuco, and Minas Gerais. This expansion program also includes a project to improve productivity in the Central Plateau and Middle North regions (campos cerrados) and to colonize the productive "empty areas" that are owned by the states and the federal government.

There are two projects which fall under the category of "Modernization of the Supply System." The first of these is aimed at improving the distribution system of agricultural production through the construction of supply centers or terminal markets in the main demographical concentrations. The second project consists of expanding storage capacity at the producer level, intermediate level, and at the ports.

Other major programs include: (1) strengthening and expansion of the rural extension system, (2) construction of fishing terminals with first phase including ports of Niterói, Santos, and Rio Grande and second phase including ports of Itajaí, Vitória, Salvador, Recife, and Belém; and (3) reforestation of 510,000 hectares and expansion of wood exports.

Additional targets of the agricultural development program include increasing of the export of agricultural commodities by 1973 as follows (base year is 1969): corn 213 percent; rice 388 percent; soybeans 62 percent; lumber 50 percent; cotton 50 percent. Consumption of fertilizers is projected to expand by 1973 as follows (base year is 1969): nitrogen 128 percent; phosphate 100 percent; potash 96 percent. The number of tractors in use and the land under irrigation are both projected to increase by 50 percent by 1973. Food supply centers are scheduled for a three-fold increase and storage capacity is to expand by one-fourth. The national target growth rate for agriculture is 6 to 8 percent annually.

Funding of the diverse agricultural programs includes appropriated funds (federal, state, and local) and indirect funding through various tax incentive programs such as the elimination of the ICM tax on various non-traditional inputs (tractors and fertilizer) and income tax deductions of investments made in agriculture up to 80 percent of gross income. Other funds will come from the P.L.480 wheat agreement, the World Bank, the Inter-American Development Bank, and USAID loans. The federal government has pledged an investment of Cr$12 billion to the agricultural priority projects and complementary programs. The Cr$12 billion does not include loan funds from private credit systems or external sources.

b. Regional development

(1) National Integration Program

In June 1970, President Médici announced a $500 million project to develop and link with the rest of Brazil the nearly empty spaces of the Amazon basin, which has a population density of only six persons per square mile. The first stage of this Trans-Amazon project, which involves construction of two 900-mile-long highways and the colonization of adjacent land, may prove to be the single most conspicuous undertaking of the current administration, an initiative comparable, perhaps, to the construction of Brasilia under President Kubitschek. The scope of the project is awesome in terms not only of the size of the area involved but in terms of costs and objectives. The Amazon basin is one of the last frontiers. It is a little-explored, forested area of more than three million square miles, roughly the size of Argentina, Peru, Uruguay, and Chile together. Doubt exists about cultivability of much of the soil under tropical weather conditions, but the GOB expects to find enough good land and mineral resources, besides social and commercial benefits, to justify the expenditures.

Ten years ago a highway was pushed through almost impenetrable jungle to link the new capital of Brasilia with the northern port city of Belém at the mouth of the Amazon river. In the ensuing decade, an estimated half-million persons settled beside that road without government assistance. Planners think the same thing can happen along othe roads now under construction through the jungle, particularly since the GOB proposes to invest some $500 million in establishing colonies along the two great Trans-Amazon highways and in helping the settlers with credit and technical assistance. A tract of land 10 kilometers wide on both sides of the highways is being reserved for colonization. The nucleus of a village to be

built at each of the chosen sites will consist of a school, health post, church, Bank of Brazil office, communication post, and several buildings for operations of the Ministry of Agriculture such as soil analysis, farm commodity purchases, warehousing, and food sales.

Because a third of Brazil's 92 million inhabitants live in the perenially drought-stricken Northeast where underemployment and poverty have existed since the country's early days, the GOB sees in the Trans-Amazon project an opportunity to solve some of these population and job problems beyond the confines of the Northeast. Planners forecast also that it will integrate the nation, open up areas of fertile soil and facilitate the development of minerals, focus on crop and animal raising instead of industrialization as a means of development, and open up new markets for the rest of Brazil.

The first few residents have already been moved from the Northeast and settled along the roadways whose target date for completion is December 1971. Each family head is given 100 hectares of land as a homestead and will get clear title to the land when he has lived on it and worked it for five years. The settlers must be taught to use modern farming techniques because it is felt that only with these will the jungle soils continue to be useful. Much research still is needed. The potential for livestock growing is considerable in the Amazon basin because, unlike much of the rest of Brazil which is subject to dry seasons and shortage of forage, rainfall is ample and the grasses will support cattle throughout the year. Some scattered deposits of terra roxa (rich red soils on which the coffee trees of Paraná thrive) have been found in the Amazon, and the new highways have been routed to take advantage of their presence.

Financing of the Trans-Amazon project is being accomplished through a 30 percent reduction of tax incentive investment programs under which corporations were allowed to invest up to half of their income tax payments in private enterprise developments intended mainly to create new jobs in the Northeast. Thus added tax revenues will pay for Transamazônia without recourse to deficit financing.

(2) Northeast.

It was not a good year for this drought-ridden and heavily-populated nine-state region which has been the target of concentrated efforts to get it moving through the medium of fiscal incentives administered by the Superintendency for Development of the Northeast - Sudene. But while it lost 30 percent of those incentives through transfer to the Amazon program, above, it presumably may look to the Amazon basin in the future to receive some of its surplus population and labor supply. In 1970, however, income tax receipts turned over to Sudene for Northeastern development projects rose to about Cr$1 billion (US$200 million) as against Cr$676 million in 1969. Applications of resources rose 40 percent.

The press reports that 10,000 hungry and jobless persons on one of the crisis-ridden plantations in the sugar zone converted it into a community enterprise and are operating it themselves. The Jornal do Brasil called this "the only advance in the

reform sense in the sugar zone."

c. Improvement of farm efficiency

(1) Rural credit

(a) Private and institutional credit

Agricultural production credit is available in Brazil from both private and institutional sources. Sources of private credit include merchants, individuals, and to a small extent equipment retailers. Interest rates range from 2-1/2 to 5 percent or more per month. Sources of institutional credit includes the Bank of Brazil, the most important source, and regional, state, and private banks, and cooperatives. Seasonal loans are often made for agricultural inputs involved with crop planting and cultivation. Off-the-farm crop storage loans are also available for up to 180 days under the minimum price program. Capital goods loans can be obtained for repayment within 3 to 5 years. Maximum interest rates from banks are regulated by law and they range (according to loan size) from 12 to 17 percent. Since inflation still is above the maximum legal interest rate, the maximum rate is thus a negative interest rate. The Central Bank of Brazil is continuing to require that no less than 10 percent of the deposits of private bank and credit associations become part of the resources of the rural credit system.

During 1970 the Central Bank sought to improve the agricultural credit situation through the expansion of credit availability and the reduction of interest costs to the farmer. One program aimed at expanding the volume of loanable funds provides for banks which do not participate actively in the required agricultural lending program to receive 13 percent interest instead of 6 percent on the funds they turn over to the Central Bank to be lent as rural credit. A plan directed at subsidizing loans for purchases of modern inputs for agricultural production provides for the lending bank to receive interest of 17 percent, of which 7 percent is to be paid by the borrower and 10 percent by the Central Bank from the Special Fund for Agricultural Development (Fundag).

In 1969 total institutional rural credit reached an all time high of US$1.4 billion. Of this 28.1 percent was credit for investments. Although 1970 figures are not yet available, GOB officials have estimated there was a 10 to 15 percent increase in lending during 1970.

(b) Highlights of credit program

Accomplishments and achievements of the development of the agricultural credit program in Brazil in recent years are cited below:

1. The volume of capital in the rural credit program increased from the equivalent of US$500 million in 1963 to over US$1.4 billion in 1969.

2. In 1963 one bank, with something less than 500 agencies, provided 90 percent of the rural credit in Brazil. In 1969 there were 188 banks, having over 5,000 agencies, actively participating in the rural credit program.

3. Investment credit (medium and long term loans) which was practically non-existent in 1963 accounted for 27.9 percent of the rural credit loans in 1969.

4. The National Cooperative Bank, which in 1963 made only 249 loans to cooperatives, made 1,032 such loans in 1969. The number of members of the cooperatives receiving loans increased from 180,000 to more than one million. The cruzeiro value of the loans made in 1963 was 4.3 million while the value of loans made in 1969 was 203 million cruzeiros.

(2) Fertilizer use. See page 17, above.

(3) Extension.

The Brazilian Association for Rural Assistance and Credit (ABCAR), organized in 1956, coordinates the extension services of 21 affiliated state associations. The federal agency and the state services operate on a cooperative basis and are financed almost entirely by government funds. ABCAR distributes funds and policy guidance to the state affiliates but does not itself formulate policy. Despite the fact that the word "credit" appears in its name, its rural credit function is largely confined to providing technical guidance to borrowers.

There has been little change in the number of extension agents in Brazil since our BZ-0007, January 27, 1970. The distribution of agents is not uniform. A concentration is found in Central-Southern states while a small number are located in many heavily farmed areas in the Northeast. Also in the Center-South farmers have competent public extension services as well as the benefit of technical assistance services from banks, fertilizer distributors, farm machinery suppliers, and well organized cooperative groups.

(4) Mechanization

Seven manufacturers produced a record total of more than 16,000 Brazilian-made tractors in 1970, most of them for agricultural use. This was an increase of more than one-third over the previous year and of about 20 percent over the previous record output of 13,247 units in 1964. The industry anticipates a minimum increase of another 10 percent in 1971. Total production for the first 11 months of CY 1970 was 15,244 units, and for 10 years and 11 months (production began in 1960 with 37 units) it amounted to 107,535 units produced by 11 firms. This comprised 47,346 medium and 31,176 heavy tractors, 19,480 motorized cultivators, smaller numbers of light and micro-tractors, and 283 track types. (See Table XI.)

An increasing trend toward mechanization of agricultural production in South Central Brazil -- especially for wheat, soybeans, rice, cotton, and peanuts -- combined with continued government production incentives such as exemptions from payment of ICM and IPI taxes (BZ-0007, January 27, 1970) are responsible for the dramatic increase in tractor production in 1970. Because of Brazil's law of similars, the outlook for imported tractors is expected to remain poor. Imported tractors, which are considered by the GOB to be similar to nationally produced units, are subject to higher import duties (usually 30 percent higher) and are not eligible for duty exemptions. Imports of tractors are declining sharply. In 1969, Brazil imported 244 tractors, half from the United Kingdom and 4 units from the United States, as compared with 994 tractors imported a year earlier.

The number of tractors in use in Brazil is estimated to be more than 100,000 units, of which at least 10,000 are assumed to be replaced annually. A fertilizer industry spokesman forecast recently that Brazil should have a tractor fleet of 300,000 units within a decade.

But while imports of tractors were declining, that was not the case with self-propelled combines that arrive from abroad in greater numbers as wheat and soybean farming increases in the South, and rice, too, to a lesser extent. Bank of Brazil reports that 1,254 combines with a value of $8.2 million were imported in CY 1969. West Germany was the largest supplier, with 277 units, and the United States and United Kingdom were next with 212 and 211 units, respectively. There were eight other suppliers. The press reported that 200 Belgian-made (Clayson) combines arrived in Porto Alegre in January 1971 (as part of an exchange for rice that went to France; see BZ-0071, December 23, 1970, in which it was reported that Clayson took 32,576 tons of rice) and that France will ship 150 more combines in February. Domestic production of combines totaled 292 units in 1969.

d. Land reform. The Médici government sees agrarian reform not as a means of redistributing land ownership, as in some countries, but as integration of national development programs whose objectives are to increase agricultural income, production, and productivity levels, improve social conditions and use of the land, form new agricultural land-owning units to the benefit of a maximum number of families, grant technical assistance and credit, and award special incentives to colonizing by private citizens.

Agrarian reform has been a subject of controversy in Brazil since before the founding of the republic in 1891, but the intensification of public interest in the agricultural problem seems to date from the Constitution of 1946. From 1946 through 1963 the AR theme was used demagogically, especially prior to the 1964 revolution and under the Goulart regime, without concrete results.

The first revolutionary government, under President Castelo Branco, effected a major transition in the history of Brazilian agrarian reform by sanctioning Law No. 4504, of November 30, 1964, as the Land Statute, "Estatuto da Terra." The approach to rural agricultural problems in the new legislation was broader and

more moderate than previous land reform laws. It included not only the customary provisions for expropriation, colonization, and model agricultural units, but it extended economic policy into the areas of the land tax, public lands, credit, regulation of farm tenure contracts, and general agricultural development. The characteristic of moderation is evidenced by an attitude of economic persuasion, that is, a land tax in preference to expropriation. The latter was intended only to be a "subsidiary agrarian reform instrument of governmental action in priority areas." The primary emphasis of the law was the progressive land tax.

The administrative agencies which were to carry out the agrarian reform were the Brazilian Institute for Agrarian Reform (IBRA), regional delegations of IBRA, and the Agrarian Commission. Also created under the Land Statute was the National Institute of Agrarian Development (INDA), a federal agency attached to the Ministry of Agriculture for direction of agricultural development projects in non-priority areas; these included colonization, agricultural extension, and cooperatives. Later on, the Executive Group for Agrarian Reform was created. It was responsible for orientation, coordination, supervision, and promotion of agrarian reform in the dry Brazilian Northeast.

This law is now six years old and its net results seem meager in relation to the immense problems and continental size of the country. IBRA's major accomplishments were the registration of 3.8 million rural properties, legalization of 40,000 rural plots, and granting land to 1,000 settlers (the original goal was land grants to 48,000 families).

The present Brazilian Administration, in power since autumn of 1969, has taken two major steps, through presidential decrees, toward agrarian reform:

1. It fused the existing government agencies dealing with agrarian reform -- INDA, IBRA, and the Executive Group for Agrarian Reform, GERA -- into a single institution, the National Institute for Colonization and Agrarian Reform (INCRA). INCRA now has all the rights, duties, competence, attributions, and responsibilities of the three extinguished institutions, but it is under the administration of a president and four directors, all of whom are appointed by the President of the Republic and are under jurisdiction of the Ministry of Agriculture.

2. It declared that all municipalities through which the Transamazonica highway is scheduled to pass are priority areas for agrarian reform. According to the Minister of Agriculture this action will allow the effective occupation of the great demographic emptiness of Amazônia through colonization.

The presidential decree also included among INCRA's responsibilities in Amazônia the responsibility of (1) establishing 100,000 agrarian family units along the Transamazonica highway, (2) organizing up to 100 cooperatives, and (3) studying social and economic conditions of the region and elaborating agrarian promotion and rural development programs for it.

The following statement made by the Brazilian Minister of Agriculture reflects the

Additional projects under discussion and likely to be signed in 1971 are in the fields of artificial insemination, milk production, forestry (Southern Brazil), telecommunications, urbanization and community development, and public administration. The last is a Ministry of Finance project in fiscal administration, including budgeting and accounting. It involves creation of a university level school in fiscal administration.

A coordinating mechanism for agricultural projects is being established with the participation of the German Embassy, Ministry of Agriculture, and the Technical Cooperation Division. Increasing emphasis will be given to agricultural research.

Great Britain signed two new projects in 1970: colonization in Maranhão, and professors to give post-graduate training in a number of fields. An urbanization and community development project involving the National Housing Bank is expected to be signed in 1971. Although most of their programs are in graduate teaching, the British are engaged in an agricultural research project in Campo Grande, Mato Grosso.

Israel is operating programs in the Northeast on irrigation and selective seeds. A project for integrated rural development planning in the Northeast is likely to be signed in 1971.

French projects are mainly in public administration and university level teaching. There is an African palm project in the Amazon area and a feasibility study of the Jaguaribe irrigation project which is being extended. A new coordinating mechanism will be established in 1971 with the aim of upgrading quality and increasing the specialization of education programs.

Yugoslavia is expected to sign a hybrid corn research project in 1971 and has under discussion a governmental program for aid to deaf mutes.

Japan has several projects under way that pre-date its technical cooperation agreement, which was signed in 1970. That agreement is the first Japanese contract of its kind outside Asia. Brazil's Ministry of Planning is presently preparing a coordinated group of projects for discussion with Japan.

b. International Agencies. The United Nations Development Program operates the largest technical assistance program in Brazil. Some 50 percent of the UNDP projects are in agriculture, and the GOB is seeking to diminish this emphasis. One of UNDP's ongoing projects is a million dollar participation in the Brazilian wheat improvement program (reference BZ-0067, November 30, 1970). The Organization of American States is said to be involved in 17 projects, most of which finance educational fellowships. The World Bank (IBRD) has been studying Brazilian agricultural problems in depth with a view to determining the role it can best play in implementing rural development. Both the IBRD and the Inter-American Development Bank have granted large loans to Brazil, and others are being negotiated, for various agricultural development programs. Since April 1962 and as of September 30, 1970, the IBB has approved loans of US$154 million and disbursed US$45.7 million for 11 agricultural development projects on which total estimated costs are

US$367 million.

c. U.S. assistance programs.

(1) Public Law 480 Title I sales

The 10th P.L. 480 agreement between the United States and Brazil, signed October 21, 1970, provided for 400,000 tons (US$23.7 million worth) of U.S. wheat to be supplied to Brazil during calendar year 1970 under Title I. Subsequently the supply period was extended to June 30, 1971. Payment terms are these: initial payment of 5 percent, currency use payment of 5 percent, a 10-year grace period during which interest rates will be 2 percent, then 21 equal annual installments with interest at 3 percent. To the date of this report Brazil had purchased 100,000 tons of the 400,000 tons agreed upon.

Brazilian cruzeiros generated by Title I wheat sales are made available by the GOB for use in the agricultural sector. Allocation of P.L. 480 generated funds for agricultural development during 1970 totaled Cr$233 million and distribution by major activity was as follows (all figures millions of cruzeiros): rural credit 105.0, supply markets 33.0, irrigation 22.0, agricultural research 20.0, rural roads 18.0, special cooperative credit 16.0, fertiliser incentives 10.0, extension 9.0.

(2) P.L. 480 Title II donations

The U.S. government and U.S. voluntary agencies handle the distribution of donations under this program. Approximately $30 million (110,000 metric tons of commodities) of grant assistance is programmed for the current fiscal year and $36.7 million (134,000 metric tons) for fiscal year 1972. All of this assistance, except for 9,000 tons of feedgrains in 1971 and 10,000 tons in 1972, is in the form of food commodities.

(3) U.S. dollar loans for agriculture

Three USAID dollar loans which are currently pending are the following: (1) US$11.4 million loan to finance a U.S. university contract with the Brazilian Ministry of Agriculture's Office of Research and Experimentation, (2) US$25.0 million loan for the construction of a feeder road to aid in infrastructure improvement in the Northeast, and (3) US$15.0 million loan to help strengthen the marketing system in the Northeast. Of this amount, US$1 million would be used for technical assistance, studies, and training.

II. STATISTICAL SECTION

Tables I through XIX follow.

The current buying rate of exchange, which is used in the following tables in which there are references to Brazil's unit of currency, the Cruzeiro, is Cr$4.92 to US$1.00. The selling rate is Cr$4.95 to US$1.00.

Table I - Brazilian Wheat Imports, by country of origin, CY 1970

Year	United States Title I P.L.480	United States Commercial	Argentina	Canada	Russia	Bulgaria	Rumania	Uruguay	Other	Total
	1,000 metric tons									
1965	197	275	1,313	-	-	-	-	91	-	1,876
1966	522	713	1,023	-	-	30	-	91	-	2,379
1967	288	781	807	-	52	116	56	10	324 1/	2,434
1968	608	448	1,017	-	79	202	-	-	261 2/	2,615
1969	477	420	1,033	-	103	105	119	69	36 3/	2,362
1970	71	548	1,021	302	-	-	-	-	-	1,942 4/

1/ Australia 205, Hungary 62, Mexico 57

2/ France 153, Spain 103, Mexico 5

3/ Mexico

4/ As the year ended, at least 95,000 tons from the U.S. and 55,000 tons from Argentina were still to be delivered from 1970 purchases.

Source: Bank of Brazil (CACEX)

Table II - Brazil: Export trends for major agricultural commodities since 1960.

Year	Coffee 1/		Cotton		Cocoa 2/		Sugar		Beef 3/		Soybeans 4/	
	$ mil.	mil. bags	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.
1960	713	16.8	45,586	95,398	93,822	148,061	57,731	769,040	9,710	14,134	0	0
1961	710	17.0	109,682	205,676	60,683	119,150	65,570	782,992	18,926	28,109	6,872	73,267
1962	643	16.4	112,166	215,915	41,008	72,124	39,111	445,225	12,357	21,890	8,376	96,002
1963	747	19.5	114,241	221,028	50,751	82,725	72,316	523,385	9,314	18,371	7,076	93,002
1964	760	14.9	108,258	217,028	45,662	85,040	32,950	252,073	16,954	26,404	2,852	41,325
1965	707	13.5	95,651	195,690	41,036	109,162	57,647	759,979	36,706	52,637	14,568	174,338
1966	773	17.0	111,004	235,867	71,510	133,514	80,535	1,004,549	20,994	31,302	26,517	291,879
1967	733	17.3	90,843	189,442	84,223	135,511	80,426	1,001,311	12,410	18,117	39,266	407,540
1968	798	19.0	131,129	248,035	72,085	94,067	101,577	1,026,244	39,086	59,452	25,251	300,389
1969	846	19.6	196,008	439,380	136,057	135,587	115,045	1,099,088	60,452	97,257	51,250	584,648
8/ 1970	7/843	14.3 7/	153,225	340,326	104,279	137,041	117,445	1,050,721	67,733	96,246	69,530	801,342

Table II - Brazil: Export trends for major agricultural commodities since 1960 - Cont.

Year	Castor Oil		Hides/Skins		Corn		Tobacco Leaf		Wool	
	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.
1960	9,714	41,856	6,610	21,203	408	9,927	18,579	31,268	24	69
1961	23,863	92,635	3,181	8,498	180	4,448	26,631	48,211	6	15
1962	14,814	60,786	1,540	4,622	0	6	23,602	41,066	0	0
1963	17,787	77,350	1,324	4,533	29,494	699,904	24,118	43,913	2,470	2,883
1964	24,435	111,014	2,797	14,367	2,928	62,315	28,291	59,793	18,977	16,037
1965	26,753	140,152	6,184	37,357	27,915	559,675	26,226	55,035	11,794	12,318
1966	22,332	95,043	4,908	14,989	31,478	620,800	21,893	45,638	20,039	18,741
1967	23,190	74,648	3,962	15,515	22,053	430,444	20,260	44,851	16,773	18,735
1968	26,373	116,335	2,724	14,977	57,009	1,231,966	18,869	38,525	13,299	17,131
1969	45,153	184,288	44,464	76,679	32,938	649,640	26,492	47,721	21,973	22,637
1970	36,327	146,508	16,118	41,559	77,945	1,425,470	29,443	51,020	16,868	17,994

Table II - Brazil: Export trends for major agricultural commodities since 1960 - Cont.

Year	Sisal		Brazil nuts 5/		Orange juice		Peanuts 6/	
	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.	$1,000	M.T.
1960	22,347	107,915	14,286	26,393	-	-	2,960	52,494
1961	24,793	128,655	15,621	36,252	-	-	7,198	110,549
1962	24,778	137,087	9,910	25,029	84	235	8,551	97,007
1963	36,443	129,998	8,882	25,193	2,167	5,314	8,959	116,840
1964	37,480	135,569	10,421	24,184	1,457	3,825	1,830	28,000
1965	24,615	150,246	11,597	19,911	1,884	5,760	12,291	134,529
1966	23,159	152,611	15,084	30,324	4,737	13,929	14,670	163,144
1967	16,276	127,830	10,129	19,979	6,693	18,647	14,619	156,683
1968	17,029	146,146	14,970	36,171	11,651	30,096	14,816	109,143
1969	16,867	144,418	12,076	24,114	10,210	23,245	16,875	166,231
1970	14,767	130,235	13,361	31,930	14,596	32,904	27,543	251,065

1/ Including soluble coffee. Bags are in green equivalent of soluble.
2/ Beans and butter
3/ 1969 exports breakdown in thousand metric tons: 50.6 frozen beef; 6.8 chilled beef; 20.1 veal beef; 4.0 salted beef; 0.4 dried beef; 15.2 canned beef.
4/ Beans, cake and meal
5/ Shelled and unshelled.
6/ Peanuts, cake and meal.
7/ Subject to revision.
8/ January 1 through December 21.

Table III - Brazil: 10 most important export and import agricultural commodities in 1969.

Item	Quantity 1,000 tons	Value US$ million	Major destination or source
Exports			
Coffee	1,176	846	United States, Italy, Sweden
Cotton	439	196	Japan, West Germany, France
Sugar	1,099	115	United States, Chile, South Vietnam
Corn	650	33	Italy, Bulgaria, Spain
Cocoa Beans	120	105	United States, USSR, Spain, Netherlands
Castor Bean Oil	184	45	United States, France, Netherlands
Cocoa Butter	16	31	USSR, Netherlands, U.Kingdom, U.S.A.
Meat	97	60	Italy, U.Kingdom, Netherlands
Rice	71	8	Portugal, Senegal Rep., Belgium Lux.
Tobacco	48	26	Spain, West Germany, France
Wool	23	22	United Kingdom, Netherlands
Sisal fiber	144	17	Netherlands, Italy, West Germany
Hides/skins	77	44	Italy, Spain, West Germany
Imports			
Wheat	2,346	161	Argentina, United States, Rumania, Bulgaria
Apples, pears, grapes	141	86	Argentina, France, United States
Dried fish	45	24	Spain, Norway, Ireland, France
Garlic	15	6	Argentina, Spain, Chile
Barley malt	71	11	Denmark, Argentina, Chile, Belgium-Lux.
Dry milk	12	7	United States, Denmark, Netherlands
Olive oil	8	7	Argentina, Spain, Portugal, France
Barley	41	4	Argentina, Denmark, Poland, Chile
Hops	1	2	United States, West Germany, Czechoslovakia

Source: Bank of Brazil; Cacex

Table IV Brazil: Total 1968 and 1969 exports 1/ by trading partner

	1968 (US$ million)	1969 (US$ million)	Change + or -
United States	627	610	- 17
West Germany	148	220	+ 72
Argentina	119	171	+ 52
Italy	117	164	+ 47
Netherlands	103	135	+ 32
Japan	59	103	+ 44
United Kingdom	73	99	+ 26
France	68	99	+ 31
Sweden	51	60	+ 9
Belgium-Luxembourg	44	64	+ 20
Denmark	35	41	+ 6
USSR	25	44	+ 19
Other	413	501	+ 30
Total	$1,882	$2,311	+429

1/ F.O.B.
Source: Bank of Brazil - Cacex

Table V - Brazil: Total 1968 and 1969 imports 1/ by trading partner.

	1968 (US$ million)	1969 (US$ million)	Change + or -
United States	585	682	+ 97
West Germany	236	286	+ 50
Argentina	153	156	+ 3
United Kingdom	96	91	- 5
Italy	73	76	+ 3
Japan	73	106	+ 33
France	72	67	- 5
Venezuela	67	11	- 56
Sweden	52	66	+ 14
USSR	17	61	+ 44
Other	708	663	- 45
Total	$2,132	$2,265	+133

1/ C.I.F.
Source: Bank of Brazil - Cacex

Table VI - U.S.: Principal exports of agricultural commodities to Brazil 1/

Product	July 1968 - June 1969 Quantity	July 1968 - June 1969 US$1,000	July 1969 - June 1970 Quantity	July 1969 - June 1970 US$1,000
Wheat, unmilled, 1,000 bu.	28,723	46,318	33,288	47,576
Hops, fresh or dried, 1,000 lb.	2,425	1,556	2,368	1,968
Nuts and fruit, fresh and dried, 1,000 lb.	8,972	1,458	10,522	1,603
Seeds, 1,000 lb.	940	747	1,068	1,153
Baby chicks and turkeys, number	510,000	646	299,014	643
Green peas, dried, 1,000 lb.	5,456	366	13,942	954
Breeding cattle, number	419	269	184	233

1/ All but wheat (part of which moved under Title I, P.L. 480) were commercial sales.
Source: U.S. Bureau of the Census

Table VII - Brazil: Principal exports of agricultural commodities to the U.S.

Product	January - December CY 1968 Quantity	January - December CY 1968 US$1,000	January - December CY 1969 Quantity	January - December CY 1969 US$1,000
Coffee, 1,000 MT, including soluble coffee	487	360,472	375	292,028
Sugar, 1,000 MT	596	78,367	665	93,450
Cocoa beans, 1,000 MT, including cocoa butter	38	24,086	47	42,033
Castor bean oil, 1,000 MT	49	15,111	69	16,505
Sisal, 1,000 MT	17	1,809	17	1,778
Brazil nuts, 1,000 MT	17	8,768	10	6,139

Source: Cacex, Bank of Brazil.

Table VIII. Distribution of farms by size 1967

Area by group Hectares	Number of properties	Area in hectares	Exploitable area-hectares
Less than 10	1,324,175	6,041,456	5,524,443
10 to 100	1,856,686	61,450,179	57,341,632
100 to 1,000	409,953	116,545,625	107,891,058
1,000 to 10,000	46,121	119,248,686	109,673,928
10,000 to 100,000	1,934	44,278,013	40,180,944
Over 100,000	62	12,530,385	11,465,663
Total	3,638,951	360,104,322	332,077,668

Source: Instituto Brasileiro de Reforma Agraria 1967 cadaster of rural properties as published in Anuário Estatístico do Brasil 1969.

Table IX. Brasil: Cultivated land, 1960 - 1969

Year	1,000 Hectares 1/
1960	25,628 2/
1961	25,830
1962	26,641
1963	27,252
1964	28,032
1965	30,967
1966	29,653
1967	31,062
1968	33,564
1969	34,580

1/ 1 Hectare = 2.47 acres
2/ This 1960 figure differs from the 1960 census figure.
Source: Produção Agrícola, 1969, Ministério da Agricultura

Table X. Brasil: Livestock and poultry population

Year	Cattle	Hogs	Sheep	Poultry
	million head			
1952/56	60.9	35.8	17.5	138
1963	79.1	52.9	19.7	208
1964	79.9	56.0	21.0	219
1965	84.2	58.7	21.9	249
1966	90.5	62.5	22.3	262
1967	90.2	61.7	22.1	268
1968	92.2	65.6	24.5	285
1969 1/	93.1	65.7	24.3	288

Source: Ministry of Agriculture
1/ Data subject to revision

Table XI. Brazil: Tractor production, 1960 - 1970

Years	Tractors					Micro-tractors	Motorized cultivators	Total
	Light	Medium	Heavy	Track layer	Subtotal			
1960	-	37	-	-	37	-	-	37
1961	25	1,574	80	-	1,679	-	751	2,430
1962	1,984	4,779	823	-	7,586	-	1,240	8,826
1963	3,990	4,179	1,739	-	9,908	-	1,110	11,018
1964	1,329	7,947	2,261	-	11,537	-	1,710	13,247
1965	241	5,810	2,070	-	8,121	280	2,403	10,804
1966	96	6,668	2,305	13	9,082	291	3,178	12,551
1967	57	4,077	2,089	73	6,296	72	2,159	8,527
1968	32	4,625	5,014	106	9,777	147	2,465	12,389
1969	22	3,387	6,128	91	9,628	334	1,947	11,909
1970 (11 months)	-	4,263	8,667	-	12,930	349	1,965	15,244

Source: Associação Nacional dos Fabricantes de Veículos Automotores

Table XII - Brasil: Price support loans and purchases, 1970

Commodities	Loans 1/ Cr$1,000	Loans 1/ Tons	Acquisitions 2/ Cr$1,000	Acquisitions 2/ Tons
Rice (rough)	157,458	533,658	178,377	535,514
Corn	46,173	351,299	740	5,265
Soybeans	43,640	173,943	-	-
Peanuts in shell	17,546	59,268	-	-
Cotton Lint	67,379	51,842	5	4
Sisal	8,126	25,390	8,076	25,724
Castor beans	6,598	21,895	-	-
Jute/malva	9,346	12,944	-	-
Beans	3,398	10,488	26	65
Manioc flour	331	2,810	-	-
Manioc Starch	86	710	-	-
Bags	23,583	-	-	-
Warehouses/Silos	14,328	-	-	-
Total	397,992	1,244,247	187,224	566,570

1/ January - November 1970 (11 months)
2/ January - December 1970
Source: Comissão de Financiamento da Produção (CFP)

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Agricultural Attaché

Annexed to this report is shuttle card F-29