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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

ECONOMIC DEVELOPMENT
AND PROSPECTS OF
CENTRAL AMERICA
(in eight volumes)

VOLUME III
AGRICULTURE

June 5, 1967

Western Hemisphere Department

EQUIVALENTS

<u>Currencies</u>	=	1 Central American peso (a unit of account)
) =	1 Guatemalan quetzal
U.S. dollar 1) =	2.5 Salvadorean colones
) =	2.0 Honduran lempiras
	=	7.0 Nicaraguan cordobas
	=	6.62 Costa Rican colones

Weights and Measures

1 manzana	=	1.727 acres = 0.69 ha.
1 (60 kilo) coffee bag	=	132 pounds
16.6 coffee bags	=	1 metric ton
1 short ton	=	2000 pounds
1 quintal	=	approximately 101 pounds
Approximately 20 quintals	=	1 short ton (sugar)
1 banana box	=	42 pounds
1 banana stem	=	approximately 1.35 banana boxes
1 banana stem	=	approximately 57 pounds
1 (cotton) bale	=	480 lbs. net

VOLUME III - AGRICULTURE

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AGRICULTURE

I. BACKGROUND AND MAIN FEATURES

1. Agriculture provides the major share of income and employment for the five Central American economies. While there are differences between the five agricultural sectors of the five countries, especially as regards the level of skills of labor in agriculture and the potential for growth of the agricultural sector itself, the structure and past performance of agriculture in the five countries have been broadly similar. In the last decade, the agricultural sector did not grow as fast as the overall economies: the share of GDP in agriculture in the region fell from about 40 percent in 1955 to about 33 percent in 1965,^{1/} and at present varies from 44 percent in Honduras to about 30 percent in El Salvador. Even with this moderate relative decline, each of the five economies continues to depend upon the movements in production and prices of the major export crops for 80 percent or more of their foreign exchange earnings, and the growth of foreign exchange earnings had undoubtedly been the main determinant of income growth. In the case of Central America as a whole, after making allowance for items traded between the countries, the dependence on agricultural exports is even higher, and agricultural and related products probably account for over 90 percent of the value of merchandise exports to the rest of the world (Volume II, Table 25). Employment in agriculture probably accounts for at least 60 percent of identifiable employment: while the share of agriculture in total employment has tended to fall, the expansion of export crop production in recent years has been the main absorber of wage labor. ^{2/}

2. While export crops have accounted for the major part of the 5.1 percent average annual increase in agricultural output in the last decade, the production of foodstuffs, including bananas, increasing by 3.1 percent annually on an average, has almost kept up with an average annual population growth of 3.4 percent. But with rising income levels, however, domestic demand has not only risen, but tended to shift consumer preferences. Hence, imports of foodstuffs from the rest of the world have risen from \$41 million in 1961 to \$59 million in 1965, but have fallen as a percentage of total imports and represent less than 10 percent of total merchandise imports. The major increase has been in imports of hard wheat, which cannot be grown in Central America, and of flour: rising incomes have been reflected in a higher consumption of bread, which is consumed largely by the more prosperous and urbanized sectors of the population in preference to cornmeal.

^{1/} Tables 5a-e, Volume II, give a breakdown by countries for 1955-65. The share of agriculture, forestry and fisheries in the GDP fell between 1955 and 1965 from 31 percent to 28 percent in Guatemala, 37 percent to 30 percent in El Salvador, 52 percent to 44 percent in Honduras, 41 percent to 35 percent in Nicaragua, and 39 percent to 31 percent in Costa Rica.

^{2/} Estimates of employment by sector in 1950 and 1964 are shown in Table 6, Volume II (Statistical Appendix).

3. Major developments in the agriculture sector center on production for export, which is largely well organized, almost entirely by the private sector, and has achieved some of the highest yields in the world for coffee and cotton production. The export sector is the one which has benefited from the major agricultural change of the last decade, namely the opening up of new lands mostly on the Pacific coast, and the accompanying diversification of production for export. The opening of the fertile Pacific coastal plains in Guatemala, El Salvador and Nicaragua, was made possible by the construction of new roads which placed these areas within easy driving time from the main economic centers and ports of the various countries, and by the accelerated control of malaria in the early and mid-fifties. These factors, combined with the drop in the profitability of coffee production as a result of the fall in coffee prices starting 1957, provided the incentive for the rapid increase in the production of cotton which began in 1961-62. The expansion of cotton production on the Pacific coast, together with the development of cattle and sugar production, has enabled the Central American economies to lessen their dependence on coffee for export earnings and has been the main factor in raising total export earnings. Whereas in 1955, 75.8 percent of total Central American exports to the rest of the world of \$413 million were coffee and bananas, this proportion fell to 58.7 percent out of total exports of \$634 million in 1965.

4. No such major changes have affected the production of crops for the domestic market, which remain largely in peasant hands in small holdings, mostly in the highland areas. Of about 800,000 farms which existed in Central America in the mid-fifties, about 80 percent could be classed as "minifundia," or very small farms. With an average size of 2.4 hectares, they accounted for 13 percent of the area in farms (Table 8). The largest proportion of grains production probably comes from these small farms, which are largely primitive subsistence operations, but part of whose production nevertheless enters commercial channels. The small producers have therefore not remained unresponsive to price movements and to a larger market as has been shown by the rise in grain production in Costa Rica in the late fifties in response to better prices to the producer, and by the rise of Honduran corn production following the opening of the Western Highway to El Salvador in 1963 and the stagnation in El Salvador's corn output after 1962 due to the expansion of cotton production.

Land Use

5. The availability of land has not so far been a major bottleneck to the increase of agricultural production in the last decade in the Central American countries, with the exception of El Salvador. The expansion of foodcrops has been largely achieved through increasing acreage in existing production areas, and the easily accessible Pacific coast has permitted the development of new export crops. In all countries there has been a marked increase in the acreage in annual crops: from the early fifties to the early sixties the acreage in annual crops or fallow rose from about 2.7 million hectares to about four million hectares or about one-tenth the land area of the region as a whole (Table 7). Over one-third of the

increase is probably due to the expansion of cotton production. The remainder of the approximately 15 million hectares estimated to be in farms was in largely unimproved pasture, in about one million hectares of perennial crops, or unused. There is evidently still much land to be used in Central America, although sizeable investments in transport are probably necessary to open up these new areas. There are, however, some signs of increasing pressure of population on certain areas, particularly in El Salvador, where the number of squatters and of small farms has risen substantially 1/ in the last decade, and the inflow of rural population into the metropolitan area of San Salvador has accelerated in the last five years. 2/ A similar phenomenon is also becoming apparent although less so, in the traditional agricultural areas of the Central Plateau of Costa Rica, Western Honduras and some areas of the Guatemalan highlands. Increasingly aware of these developments, the various Governments, which have in the past largely limited their assistance for agricultural development to road construction, have drawn up plans for colonization, credit and road construction to bring new areas into production, particularly on the Atlantic seaboard of Central America. While the merits of such plans vary as between the countries, it is generally recognized that the Atlantic areas are not of such uniformly recognizable potential as the Pacific coastal areas. The climate is generally less hospitable, the land more broken and less well endowed than the Pacific plains with their alluvial soils of volcanic origin, and the costs of road and land development in dense tropical forests are higher in comparison. Nevertheless, the development of certain definite areas for forest products and for cattle over the next decade merits high priority as a means of expanding and further diversifying exports. Among these areas are northern Costa Rica, in the area south of Lake Nicaragua, and some of the plains in eastern Guatemala and northwestern Honduras.

1/ Table 8a.

2/ From 1950 to 1960, the population of the capital city of San Salvador grew at an annual average of 4.3 percent; in 1960-64, the rate accelerated 7.6 percent, with rural migrants accounting for the bulk of the increase.

II. EXPORT PRODUCTS

A. Coffee

6. Coffee production is the largest industry in Central America and the largest single employer in the economy. In 1965 it accounted for 8-12 percent of GDP in the three major producing countries, Guatemala, El Salvador, and Costa Rica. At harvest time, the coffee sector possibly employs up to 400,000 workers in Guatemala and the same number in El Salvador. Production has grown by 75 percent over the last decade, largely because of the planting made in 1955-57, at the end of the period of high prices; this began to have a substantial effect on production beginning with the 1959/60 crop. The rapid rise in output has led to a moderate increase in the share of the five countries in world coffee exports, from an annual average of 8.9 percent in 1950-52 to 10.5 percent in 1963-65.

7. With rich volcanic soils in the moderate altitude highland areas, marked dry and wet seasons in these areas, and relative proximity to ports for shipping, Central America has special advantages for coffee production for export. Coffee trees act as a conservation agent in the sloping terrain of much of the highland areas, and coffee is one of the few crops which can economically be grown on such terrain. These factors, together with the high returns to the producer compared to virtually all other crops in most of the post-war period, provide the bases for the growth of production. Aside from the natural advantages, the main factors which have contributed to high returns at recent world prices have been the relatively low cost of labor, although this has increased somewhat in recent years, and the low taxation of the coffee sector. Moreover, the larger coffee planters, who account for the bulk of production, reacted to the pronounced fall in prices which began in 1957 and ended in 1963 (from an average of US .65 cents per lb. in 1956 to .36 cents in 1963), by modernizing their methods and substantially increasing yields per acre through double-planting, better pruning, new varieties, and vastly increased use of fertilizer. Central American imports of fertilizer, the major part of which is used for coffee production, have more than doubled in the last decade.

8. Until now, the Central American countries have not faced major problems in disposing of their exportable production. Sales abroad above the effective quotas under the International Coffee Agreement have not been substantial, except in 1962/63, when total sales of the region abroad were about 15 percent of above total of the quotas for the coffee year (Table 1a). But Guatemala exceeded her quotas then by a third while Costa Rica fell short by a third. This generally favorable marketing situation has, however, in a large degree been the result of special factors, in particular the sharp drop in Costa Rica production in 1964/65 as a result of a volcanic eruption and disease, and smaller crops than originally expected in Guatemala and El Salvador because of poor weather and disease. In addition, both the latter countries have also obtained

special supplementary quotas. The surpluses of El Salvador and Guatemala may in some years have been larger than shown in Table 1a, and may have been disposed of through sales via Honduras, which did not belong to the Agreement until July 1966. However, these sales have probably not been significant. Sales to "new markets" (eg. Japan, Lebanon) outside the quota have been very small. The beginnings of a longer-run surplus problem are appearing in 1965/66, although the carry-over, mostly in El Salvador and Guatemala, at the end of the 1965/66 coffee year will still be relatively small. Over the next five years, however, a substantial exportable surplus (about 20 percent over the likely export quotas in 1970/71) is likely to develop as a result of the double-planting of the last two or three years and also, because of the recent increase in acreage which has taken place in some countries. Since Costa Rica and Honduras are unlikely to have significant surpluses at that time, it would probably make sense, from the point of view of the five countries, to have a common export quota, so that shortfalls in one Central American country could be met by a surplus country. If world exports are not kept in check through some form of Agreement and as a result prices fall substantially below present levels, a substantial number of Central American producers would be faced with difficult cost adjustment problems, since production costs are on an average probably higher than in some other major producing countries. 1/

9. Coffee export earnings are unlikely to be a major factor in the growth of export earnings over the next five years, except for Costa Rica, where production is rapidly recovering from the very low crop of 1964/65, partly caused by the volcanic eruption of 1963/64. On the basis of the mission's projections (see Table 1), which envisage only a small drop in price from an average of US .44 cents in 1965 to US .41 cents in 1970, export earnings would reach about \$300 million in 1970/71, compared to 283 million in 1965. Virtually the whole of the increase is attributable to the recovery in Costa Rican output. The longer-term outlook beyond 1970 depends in large part on whether the authorities are willing and able to take measures to discourage exportable production beyond likely quota levels. In most of the countries the monetary authorities forbid the granting of long-term credit for expanding coffee acreage, but this prohibition has in fact done little to discourage increases in production at present prices, whether through greater acreage, closer planting, or higher yields. The authorities are now increasingly interested in studies of possible projects to diversify agricultural production in coffee areas.

1/ Some data on costs are shown in Appendix A page 2. For reasonably efficient plantations, production costs might average about US .22 cents per lb. of green coffee equivalent, although there are undoubtedly plantations with substantially lower costs of the order of US .15 cents per lb.

Coffee Diversification and Prospects

10. In the broader sense of agricultural diversification, rather than diversification simply of coffee areas, the Central American Countries have made substantial progress in recent years with the expansion of cotton, meat, and sugar production. The prospects for the lessening of the dependence on coffee for export earnings are good over the next decade, once sufficient improvements can take place in the cattle industry and the development plans for forest products can be implemented. The prospects for diversifying production in areas now devoted to coffee are less certain, however, because for that terrain there are few crops as well suited and as remunerative as coffee. Even at less than average yields, it is still probably significantly more remunerative than other products which could be grown there. The study of the diversification of coffee areas in Guatemala being carried out since the end of 1964 with UNDP/FAO assistance, has found in a preliminary way that low returns in coffee are not principally a function of the ecological conditions of that area, but of the level of management competence in individual farms. Such a finding, if it were applicable to other Central American countries, would already mean that the idea of diversifying "marginal" areas will, with some exceptions, be difficult to implement. The recommendations of the Guatemalan study are not yet available. The Nicaraguan authorities have with their own resources been elaborating a plan to shift coffee cultivation away from low altitude areas and substitute it in those areas with other products, mainly cattle. At the same time, they plan to intensify coffee production in more suitable areas. The generally low level of yields in Nicaragua may justify such an undertaking, although the result could in the end be a substantial increase in coffee production, if the low altitude areas do not in fact reduce their output significantly. El Salvador has received a grant from UNDP for assistance in a study similar to that being made in Guatemala and the study has begun.

11. If the aim of diversification programs is to limit the growth of coffee production and encourage the growth of other products, these programs should not only endeavor to make other products more attractive - the approach of the studies mentioned above - but also, in view of the fact that the returns on coffee production appear to be substantially higher than for other products, endeavor to make coffee less attractive through taxation, especially in periods of higher prices. With the exception of El Salvador, the Governments of the five countries have captured little of the increase in the value and average price of coffee exports in the last three or four years, and the tax burden on the coffee sector is generally low: the level of export taxes at present prices does not exceed 15 percent of f.o.b. prices and the burden of income taxes on the coffee sector is probably rather low. ^{1/} In fact, the coffee export taxes actually paid in recent years appear to have been somewhat lower than what should have been collected (at the rate applicable at a given f.o.b. price):

^{1/} In El Salvador, income from coffee production is free of income taxes, and in Guatemala a large initial deduction for agricultural producers in effect also exempts coffee income from income taxes.

the highest effective coffee export tax rate in 1965 was 10.8 percent in El Salvador, and the lowest 2.5 percent in Nicaragua (Appendix A, para. 12). While the taxes are progressive in relation to price in Guatemala, El Salvador and Costa Rica (the taxes in Honduras and Nicaragua are specific), the progressivity is very mild and they have probably not been significant in diminishing the incentive to expand production in the period of higher prices since 1964. While in 1962 and 1963, export taxes collected were 9.2 percent of export earnings for the three countries, they had risen to only 11.6 percent in 1965.

12. The mission, in projecting exports of coffee from 1970 to 1975 has had to assume that the Governments will have (Table 1) taken action which would adjust production to possible exports under the International Coffee Agreement. More specifically, this means that they would have substantially increased taxation of the coffee sector by the late 1960's, through export or income taxes or both, or taken other steps to restrain a further increase in output. Otherwise the non-saleable surplus is likely to become such that it would be unmanageable and the financing of such surplus stocks would divert substantial funds which could be used for higher priority tasks. The prospects for achieving such an increase in taxation are admittedly very uncertain in view of the vocal political opposition of coffee growers to increased taxation. However, a concerted approach by the five Governments together might help dampen the strong opposition of the coffee growers. Alternatively, coffee growers face the prospect of other and more direct controls on plantings, difficult and arbitrary in enforcement, or the prospect of being unable to dispose of stocks unless they are willing to see the International Coffee Agreement price structure break and prices fall substantially, or forego the advantages accruing from the Agreement, including access to markets of member importing countries.

E. Cotton

13. Substantial expansion of cotton production has provided the major element in the diversification of agricultural production and exports since 1961 for El Salvador and Guatemala. Nicaragua was already a significant producer in the fifties but doubled its output from 1961 to 1964. The cotton boom has been made possible by the completion of the coastal highways in the three countries, which have attracted commercial farmers, many of them professionals from the capital city who are thus within a short driving time from the city to their farm. Transport to the main ports for export has also improved. The development of production has been aided by dynamic private cooperatives, which are responsible for arranging spraying, ginning and marketing, and by an assured foreign market: Japan has in the last four years taken up to 60 percent of Central American exportable production. In addition, the availability of credit for crop planting and also for investment in clearing land has been a key factor: crop financing has been channeled not only by the commercial banks, partly with annual financing from U.S. Banks, but also by the Cotton Cooperatives, particularly that of El Salvador. At the height of the last two cotton planting seasons, or roughly at the end of 1964 and 1965, about \$45 million in bank credit was outstanding for cotton

in Nicaragua, El Salvador and Guatemala, mostly but not exclusively for crop loans. This accounted to about 30 percent of total credit outstanding for agriculture and livestock. In addition, the El Salvador Cotton Cooperative had at the same time about US\$35 million outstanding to growers, mostly financed by acceptance credits from U.S. Banks (Table 14b).

14. The development of production in Honduras has also been rapid after initial reverses in the late fifties, but has been limited by the small area of its coastal plains on the Pacific coast. Costa Rican production for export has begun to expand on a significant scale only in 1964/65: the high local support price for rice, with which cotton partly competes for land, has until now held back the development of cotton production. The support price for rice is being lowered in 1966/67.

15. As a result of the cotton boom, Central America has developed into a significant supplier in the world market, accounting for 7 percent of world exports in 1964/65 compared to an insignificant proportion ten years ago. The rise in production has been accompanied by steadily high yields; although yields have remained steady or declined slightly since 1961/62, they are still the highest for rain-fed plantations in the world and in 1964/65 averaged 778 kg. of seed cotton per hectare, compared to 662 kg. in Mexico and 579 kg. in the U.S.A. for the same year.

16. The cotton boom has shown signs of a slowing down since 1964/65, and in 1965/66 Central American production actually fell by about 10 percent, largely as a result of drought and pests, especially in El Salvador. The deceleration and decline of the last two years have been due, aside from the weather, to rising production costs ^{1/} in the face of the beginning of a decline in world cotton prices. With the boom, less productive lands were brought into use and land rents rose rapidly. This was particularly the case in El Salvador where 60 percent of output is grown on rented land. Although detailed data on the trend of costs are not available, it is generally agreed that the major item of cost increases has been due to an increased use of fertilizers and especially insecticide used without any corresponding increase in output. At present, fertilizer and insecticide commonly account for one-third of production costs in Central America. An increase in contiguous plantations and the consequent spread of disease, poor conservation practices, and lack of precise knowledge on the part of some planters about the amount and kinds of insecticide needed, are some of the interrelated factors which explain the increase in the use of insecticides. In addition, the price of imported fertilizer and insecticide has probably risen in the last three years. All insecticide is imported.

17. The cotton policy in effect in the United States from August 1966 to reduce U.S. cotton stocks, has already led to a slight weakening of world prices. The future outlook for cotton in Central America depends on the extent of the fall in world prices and the degree to which producers will be able to reduce costs. The El Salvador Cotton Cooperative has already engaged a team of foreign technical experts to look into better varieties, possibilities for more economical use of fertilizer and insecticide and other technical problems in cotton production. The application

^{1/} Appendix B, para. 14, gives an estimated breakdown of costs in cotton production

of the results of such research, once they are available, may take some years to take full effect. Lower profit margins have recently caused a decline in the demand for cotton lands and this is resulting in lower land rents, at least in El Salvador. It is likely that the marginal producers will drop out with the disappearance of boom conditions. Central American production in 1969/70 is likely to be only slightly higher than in 1964/65, and with rising consumption by local textile mills producing for the Central American Common Market, the exportable output of cotton is unlikely to exceed 286,000 tons of lint compared to 273,000 tons in 1964/65. With a probable fall in prices, the value of exports in 1970 is unlikely to exceed \$130 million or so, compared to \$147 million in 1965. In the longer run, Central America could by 1975, with a reduction in costs following the elimination of less efficient producers and the utilization of better methods of production, put its eminently suitable natural conditions to further use and expand production by 35 or 40 percent beyond recent levels. The land area available in Guatemala and Nicaragua would be sufficient to accommodate such an increase, but such an expansion will depend on whether the farmer has access to the technical knowledge necessary to reduce production costs.

C. Bananas

18. The prospects after a long period of stagnation in banana exports, for the banana-producing countries - mainly Honduras and Costa Rica - are encouraging; however, bananas are unlikely to provide a major stimulus to the exports of the major cotton-producing countries. Climatic conditions on the Pacific coast of Nicaragua are not favorable for bananas. El Salvador has the same problem and has little land available for bananas. Production prospects in Guatemala are uncertain: as a result of wind damage, transportation costs and dry seasons, the United Fruit Company transferred its Guatemalan plantations from the Pacific coast to the Atlantic area in 1964, but production has been limited because of water-logging, and possibly also because of political unrest in the production area. Exports of bananas from Central America as a whole remained stagnant at about 800,000 tons for fifteen years until 1964; the share of Central America in World banana exports fell from 35 percent in 1948-52 to 18 percent in 1964. The rapid rise of production in Ecuador, whose share in the world exports rose from 9 percent to 25 percent over the same period, is directly related to the stagnation of output in Central America. The major exporters, particularly the United Fruit Company, faced with the cost of managing large plantations in Central America, plus blowdowns, plant disease and political unrest, and the need for large investments to increase output there, preferred to buy in Ecuador, where the responsibility for producing and delivering the banana to the boat was in the hands of a large number of relatively small producers. Both Central America and Ecuador have relative advantages for banana production: Ecuador is below the hurricane belt and could potentially have lower production costs than Central America. On the other hand, internal transportation costs may be lower in Central America, and three of the four major Central American plantations are closer to the larger markets, without the delay and cost of Panama canal crossings. With imperfect competition in the world banana market, the two major exporting and producing companies, with their large investments in Central America, are likely to consider other areas as residual suppliers.

19. As a result of the spread of Panama disease in Ecuador in recent years and the increasing emphasis on quality as a result of excess supplies, the two banana companies, with their continuing stake in Central America, are beginning to turn increasingly toward Central America for new sources of supply. Honduran exports in 1965 reached almost 590,000 tons, compared to an average of about 350,000 tons in the previous four years, and Costa Rican exports reached 320,000 tons, compared to 273,000 tons five years earlier. The rise in production has been made possible by the change-over begun five years ago, except in the United Fruit Pacific coast plantation in Costa Rica, to disease-resistant varieties. These newer varieties produce a smaller more fragile fruit, than that previously grown and needs boxing for shipment. However the introduction of boxing has greatly speeded shipping, reduced its cost, and diminished losses. Virtually all Central American banana exports are now boxed. For the future, both companies are now actively engaged in expanding their acreage on the Atlantic coast areas, where there is still a large accessible acreage available for bananas. In Costa Rica the companies are entering into long-term fixed-price contracts with independent producers, so that by 1970 up to a third of production in Costa Rica may be from independent producers. The reliance on independent producers is much less in Honduras. A number of other U.S. and European firms have firm plans for contracts with independent producers in Costa Rica. If plans already well advanced are carried out, Central America should be able to reach exports of about 1.4 million tons in 1970 or almost 25 percent of projected world imports at that time. The slow projected growth of world imports (about 2 percent to 2.5 percent per year) together with a probably much faster growth in supplies from Central America and from other well-placed suppliers, such as the north coast of Colombia, means that the sale of such a volume will require some reduction in price. In any case, the achievement of the projected growth in Costa Rica will require an expansion of port facilities now under study and implementation of credit programs for independent producers, which will depend in large part on the availability of external credit to the banking system. In the case of Honduras, expansion of port facilities has begun, but the availability of long-term credit to the independent producers will depend largely on preparation and implementation by the Central Bank of an agricultural credit project, part of which is for bananas. The Central Bank has begun to prepare a project with a view to obtaining foreign financing for it.

20. Even with the expansion of banana production, its prospects are that Central America's three major export products will not be able to contribute materially in the next five years to the growth of export earnings. Total Central American exports of coffee, cotton and bananas rose from US \$331 million in 1960 to US \$515 million in 1965: for the next five years, they can be expected to stay at about the same level as in 1965. Only in the case of Costa Rica is a major gain in export earnings of about 30 percent over the period likely, due to the expansion of banana exports and the recovery of coffee output. For El Salvador, the situation is likely to be particularly difficult in the next four or five years since earnings from its major exports-coffee and cotton-are likely to fall and total export earnings are likely to increase only marginally to 1970. In the longer run, looking to 1975, the area as a whole faces probably better prospects for the major exports, since there is a chance that

measures will have been by then applied to reduce cotton production costs and coffee prices are likely to remain stable after 1970. Nevertheless, there is a pressing need in all the countries to begin investigating the existing choice of possibilities for diversification and to develop new export products. In El Salvador, with its limited land area capable of further development, the choice is largely restricted to high value products with a fairly intensive use of land: aware of this limitation, the Salvadorean authorities are advancing rapidly in the study of possible irrigation projects. The choice is wider for the other countries, as indicated below, although such choices will be possible in some cases only if the necessary roads are built, particularly into the Atlantic areas of Guatemala, Honduras and Costa Rica.

D. Minor Export Products

21. The main possibilities for more diversified agricultural development for export over the next ten years center on lumber and wood products (see Volume V - Forestry and Wood-Using Industries), cattle, and certain fruits and vegetables. Sugar, whose production has increased rapidly in recent years, in response to the sharing of the Cuban quota in the preferential U.S. market and to the unusually high world prices in 1963, is an unlikely prospect. Total output of the five countries has risen from about 275,000 short tons in 1960 to 500,000 short tons in 1965: 105,000 short tons of the increase have gone into exports (which rose from \$6.7 million in 1960 to about \$20 million annually and 170,000 short tons annually in 1963-65) and the remainder into the domestic markets, where consumption has grown rapidly and which remain, with protected internal wholesale prices of about US\$0.08 per pound, far more attractive to producers than the export market. Even at world prices of US\$0.04 per pound, over double the present depressed levels, Central American producers would probably be unable to sell at a profit in the world market: the growth of exports will thus be largely dependent upon the quotas in the U.S. market, under the existing U.S. legislation in force until 1971. The combined quota for the five countries, which can exchange surpluses within the Central American quota, varies from 143,000 to 187,000 short tons, depending on U.S. requirements from abroad. With a multiplicity of small mills and fairly high costs of crop production due to the terrain and climate, Central America is thus unlikely to substantially increase its export earnings from sugar, short of unexpectedly large increases in international prices.

22. Possibly the greatest long-term potential for agricultural diversification lies in beef production. Central America, which is free from foot-and-mouth disease, has large areas of land on the Atlantic seaboard, which has a fairly even rainfall throughout the year and is in general well suited for pasture. Until now, commercial livestock production has been concentrated on the Pacific coast, but in the long run the marked dry seasons of the Pacific coast should encourage development of parts of the Atlantic seaboard, especially in Costa Rica and Honduras, where some sizeable cattle operations are already established. Much of this future

Over half of the lending in Costa Rica and Nicaragua has been for investment at terms over one year: the proportion is somewhat lower in the other countries. The increase in credit, particularly medium- and long-term credit has been made possible by foreign loans, mostly from foreign public agencies to the commercial banking systems and to a few development institutions, but also in the case of Guatemala from U.S. commercial banks. Disbursements on foreign loans for livestock, after averaging about \$4 million annually for the five countries between 1962 and 1964, rose to \$10 million in 1965. The effects of these credit programs have not been appraised in detail by the authorities of the various countries, and results probably vary substantially according to the size of farms financed and to the terms of the individual loans, which all too often have been too short to let the farmer build up his herd. In general, loans to small operators (with less than 50 animals) have probably been much less effective, as evidenced by a generally poor repayment record; about one-third of disbursements from foreign loans have gone to these farmers. The larger operators will probably continue being the main recipients of investment credit for livestock: while improved extension services could eventually benefit smaller producers, the larger producers have already in some cases shown they can do well without calling on the very limited public extension services. Substantial livestock development credit projects, suitable for foreign financing, and generally aimed at the larger farmers, are in an advanced state of consideration or are already available for Costa Rica, Nicaragua and Guatemala; the Central Banks of El Salvador and Honduras have such projects under preparation. The purposes towards which such credits should be used differ, since Costa Rica has available a reasonable supply of better quality breeding stock, and should therefore emphasize fencing, water facilities, and disease control. The other countries in addition could use substantial imports of breeding stock, which may be difficult to obtain, and semen.

25. Compared to other agricultural activities for export, the livestock industry is still relatively primitive and low-yielding: there is thus a clear need for a large-scale expansion of improvement of technical services to the industry. With the exception of Costa Rica, technical extension services for livestock are almost non-evident in Central America. Much of the work in disease-prevention is done by OIRSA.^{1/} While Central America has been spared the devastating animal plagues of other countries, quarantine periods for imported animals should be lengthened and a stricter control of ships trading in live cattle with Peru and Italy should be put in effect. As regards the common endemic parasites and diseases, which greatly reduce the rate of reproduction and the weight of animals, a determined attack on the problem could be made through an organization such as OIRSA. Government contributions to OIRSA should be increased, and the success of health programs would then be possible with the increased fencing and separation of animals financed through the credit programs.

^{1/} Organizacion Internacional Regional de Sanidad Agropecuaria, covering Central America, Panama and Mexico, with headquarters located in San Salvador, El Salvador.

26. The future of Central America's meat exports depends on the build-up of herds, access to the U.S. market and the keeping the cattle population free from hoof-and-mouth disease. If the disease appeared, the U.S. market would immediately be closed. It is probable that in the next few years, the volume and value of exports will grow only slowly as governments attempt to increase the meat supply for the local markets; the value of exports from Central America might reach about \$30 million in 1970 compared to \$21.7 million in 1965. If the foreign credits now becoming available are adequately supervised and used to increase herds, the rate of growth of herds could probably accelerate from the present rate of 1.5 - 2.0 percent to 3 percent annually. This increase, together with a feasible increase in productivity per animal, would probably permit a level of production in 1975 from 60 to 100 percent above the approximately 250 million lbs. produced in 1965 by the four exporting countries. With about 25 to 30 percent of output going into exports, exports could thus reach up to 185 million lbs. in 1975, or about \$40 million at prices slightly lower than at present.

27. While some proportion of exports can be placed in Peru and the Caribbean as in the past, and possibly also in the Mediterranean countries to which some shipments have already been made, the main export market and the one which offers the highest prices will continue to be the United States. Under the meat import legislation in effect in the United States since January 1, 1965, the President can establish import quotas if total imports are 110 percent of an adjusted base quantity. While U.S. imports have run well below this level,^{1/} the strict application of the above legislation could within the next five years pose a limitation to meat exports to the U.S., although such a development is probably unlikely in view of the permissive character of the present legislation and U.S. consumer pressure for lower beef prices.

28. The five Central American countries produce a variety of other products which might in time become significant foreign exchange earners. Guatemala, El Salvador, Nicaragua, and Costa Rica have in the last six years developed a prosperous commercial industry which exports shrimp to the United States. The shrimp industry has given rise to the beginnings of a modern trucking industry with refrigerated trailer trucks operating direct from Costa Rica to the Atlantic ports of Guatemala. Exports initially increased rapidly, but have stagnated at a value of about \$7 to 9 million in the last three years because of limited supplies. The largest producer, El Salvador, controls the size of its fishing fleet, but poachers, who catch the young shrimp maturing in coastal creeks, do substantial damage to the catch. If new processes are more widely used to freeze tiny shrimp in blocks, and if the Atlantic coast fisheries of Nicaragua and Honduras are developed, shrimp exports could grow moderately in the next few years. Meanwhile, an UNDP-assisted survey of fisheries resources of Central America and the means of their rational exploitation began in 1966: it will probably in time identify other export possibilities, such as tuna, or development of fishing to supply increasing local consumption needs. It

^{1/} In 1965, the level which would have allowed the President, if he wished, to impose quotas under the legislation would have been 423,000 tons (or 931 million lbs.), but actual U.S. imports were about 335,000 tons (or 737 million lbs.).

It is doubtful if the tropical waters of the area contain the kind of fish necessary for large-scale production of fish meal and other fish products.

29. A number of other minor agricultural exports could be developed in the next few years, but each will require special efforts. A good beginning has been made in Honduras in producing Cuban-type tobacco for the U.S. cigar market and exports have been increasing rapidly. They reached US\$1.5 million in 1964 and US\$1.4 million in 1965. The National Bank of Nicaragua is beginning a special credit program for cigar tobacco, and other countries could also become producers, although development of tobacco production of sufficient quality for export for cigar manufacture will take time. Although U.S. cigar tobacco imports are virtually stagnant, Central America and other nearby countries, such as the Dominican Republic, are well-placed to increase their share of the market. The same could also be true for fruits and vegetables for the U.S. winter season: until now, some fairly successful attempts have been made to export melons, particularly from El Salvador. However, in order to establish such a market-gardening and fruit-growing industry on a commercially significant scale, an assured channel of distribution will be necessary in the U.S. market. No major U.S. food distributors or carriers have up to now expressed active interest in Central America as a source of supply for fruits and vegetables, except for pineapples, largely due to existing closer sources of supply, in particular Mexico. Central America still imports some canned fruits and vegetables: as a beginning, the growing food processing industry can tackle the local markets and gain marketing experience before facing the possibility of exports.

30. The production of other exports might be expanded if costs can be reduced sufficiently. This is the case of cacao in Costa Rica, and of essential oils produced from grasses in Guatemala. Cacao was Costa Rica's third major export in the fifties, but the rapid fall of prices in recent years has led to a reduction in output, particularly in 1965. Since Costa Rica is a very small producer in the world market, and local experimental work to reduce production costs is already advanced, the authorities should seriously consider the possibility of credit to rehabilitate at least part of the existing plantations on the Atlantic coast. Guatemala has traditionally been a producer of oils made from lemon grass and citronella: exports have stagnated in recent years at an annual level of about \$4-3 million, due to competition from synthetics in the U.S.A. and Europe. The strong local producers' association began in 1965 a well-financed program of research to cut costs; initial results suggest that Guatemalan producers may again begin to expand production profitably and assure a regular supply to the major buyers, who use the oils as a base for perfume and certain vitamins. Guatemala also produces chicle and rubber. The increasing use of synthetics will make difficult an increase in chicle exports. At present, not more than a third of Guatemala's raw rubber requirements are met by domestic production; it appears that production is possible in Guatemala at costs competitive with the price of imports. With the farm plans being financed with the help of an AID loan, Guatemala will become self-sufficient in rubber in the early 1970's with possibly a small surplus for export, primarily to other Central American countries.

E. Public Policy and Export Products

31. Altogether, the minor export products, including beef, cannot be expected to provide in the next few years the same stimulus to export earnings as was provided in the last five years by cotton. Looking to 1975, however, it is probable that all the Central American countries will by then have substantially diversified their agricultural exports, particularly into beef and forest products. Substantial progress has already been made in the last ten years, largely as the result of road construction and probably to a lesser extent and more recently, as a result of special credit programs which have channeled foreign assistance together with local resources to the private sector via the banking system. The newer agricultural exports and some traditional exports, such as bananas produced by independent planters will need to be increasingly encouraged and expanded; adequate development credit will be necessary in this process. Since domestic availability of loanable funds will probably stagnate or increase only slowly because of the slower growth of exports, the banking systems and development institutions will need to increase their recourse to foreign long-term development loans. The Costa Rican banking system, with the help of a proposed external loan of US\$5 million, plans to embark on a \$10 million three-year program to expand beef, bananas, pineapple and cotton production. In addition a five-year loan of \$2.5 million has been obtained from a U. S. commercial bank to finance the expansion of banana cultivation. In Guatemala, the Inter-American Bank in 1966 made a \$3.3 million loan to enable the Bank of Guatemala to continue lending on long-term to larger farmers, mostly for livestock. Similar programs, also largely for livestock, are being financed by the Inter-American Bank in Honduras and Nicaragua (see Volume II, Tables 19a-e). The increasing emphasis on lending for the development of export products by medium and large farmers, particularly for livestock, should within a few years contribute to the improvement of the export prospects of all the countries.

32. In El Salvador, the authorities are advancing in the preparation of an agricultural credit project for diversification, also for larger-scale farmers. While the choice of products to which these credits should be channeled in El Salvador will be limited by the restricted availability of land in that country and by the need for accompanying investments, especially in irrigation, in Central America generally the choice of products for development is substantially similar (livestock, various fruits and vegetables, rice, bananas, tobacco). This suggests the possibility that the countries might jointly undertake the necessary research, studies and promotional work on products and on areas for the diversification and expansion of exports. A proposed study of the development of the Gulf of Fonseca area, which would be carried out under the auspices of the Common Market Secretariat could be a useful beginning in this direction. Another area which might benefit from a similar approach is that to the southeast of Lake Nicaragua towards Costa Rica, where some of the best land in Central America for cattle could become accessible with relatively modest investments in penetration roads.

III: FOODSTUFFS

A. General Features of the Peasant Economy

33. The trends and prospects of agricultural products for the domestic market are less clear in general than for export products since less is known about them and statistics on these products are largely estimates subject to wide variations. These products consist largely of foodstuffs, especially corn, beans, rice and sorghum. Wheat is not produced in Central America, **except** for small amounts of soft wheat in Guatemala. With the exception of rice, the basic foodstuffs are produced in small peasant units, mostly on the highland areas. As an exception, there have been some large-scale producers of corn on the Pacific coast of El Salvador: after switching to cotton in recent years, some of them are now returning to corn production as a result of the cotton production difficulties of the last two years.

34. The peasant food production sector has, with the exception of Costa Rica, operated with little credit and assistance for marketing from public or private sources. Credit for basic grains is a very small proportion of total agricultural credit, and has not substantially risen in recent years (Tables 14a-14e) even though the production of basic grains accounts for about 20-25 percent of the value of agricultural output in most countries. The general illiteracy and poverty, and in many cases the lack of title to the land they occupy, of the large number of small farmers is a bar to their being considered credit-worthy by the commercial banking systems. The number of families which are tenants, squatters or have no documented legal title to the land they occupy has undoubtedly increased in most countries (Table 8a for El Salvador). Of the approximately 12 million hectares reportedly in farms for Central America as a whole (out of a total land area of 42 million hectares), probably about 2 million hectares are in grains, but most of this acreage is probably in farms under 5 hectares, which, with the exception of Costa Rica, have little or no access to credit despite the efforts made in recent years to establish peasant credit organizations such as ABC (Administracion del Bienestar Campesino) in El Salvador, or SCICAS (the rural credit agency) in Guatemala.

35. The poverty of the majority of these small farmers does not mean that their production and labor do not enter commercial channels, either through sales of grains, or of a small amount of coffee, or of their work as migrants for the coffee, cotton, and sugar harvests. While the participation of the peasant sector, which comprises half the population, in the money economy is small, probably accounting for no more than 10-15 percent of monetary circulation, the marginal importance of money income to the peasant is much higher than for the urban worker, since the small amount of money income he obtains is, short of barter, the only resource he has to purchase items such as clothing or utensils. The situation is different in some degree in Costa Rica, where a more developed system of peasant credit has existed since the late fifties and the level of rural illiteracy is

much lower than in the other countries, although the general characteristics of the peasant economy still remain.

B. Trends in Output and Imports

36. Even with its dependence on the peasant, production of basic grains has evidently risen in all the countries. In the case of corn, which is the main grain crop, production for the area as a whole has risen from an average of 1.03 million metric tons in 1955-57 to 1.35 million metric tons in 1963-65, or by an annual average of 3.6 percent, slightly ahead of population growth (Tables 7, 7a-e, Volume II). There has probably been no increase in corn output in Costa Rica and only a 1.5 percent average annual increase in Nicaragua over the period: in Costa Rica, however, rice is the major food grain for the bulk of the population, and rice production rose by an annual rate of 8 percent over the period. The increases in the output of basic grains have been achieved almost entirely by extending acreage, mostly in areas contiguous to those already under cultivation, and with little change in cultivation techniques. The data available on yields (Table 13) show that they are approximately equal in the five countries, except for higher rice yields in El Salvador, and that only relatively minor increases in yields have taken place. Yields are generally low in comparison with more developed countries; in the case of corn, yields in Central America appear to be about the same as in Mexico (about 900 kg per hectare), and in the case of rice, they are lower except in the case of El Salvador (Table 13).

37. The increase in production has more or less kept up with the demand, and there is no evidence either of rising grain prices or of a substantial increase in imports from outside Central America. Total imports of cereals from the outside world consist largely of flour, cereal preparations and mainly wheat (hard wheat cannot be grown in Central America, and Guatemala's production of soft wheat meets about one third of its total wheat needs ^{1/} for the flour mills which exist in all the countries except Costa Rica. These are the categories which have shown increases, whereas imports of corn and other basic grains are minor. The sharp rise in wheat imports is partly a reflection of reduced flour imports, as the capacity of local mills has increased, but more important, of the change in consumer preferences towards bread as a result of rising incomes. Changes in wheat prices do not appear to have been important during the period 1962-1965. Imports of corn from the outside averaged about 25,000 metric tons annually, or about 1.8 percent of total Central American production. Imports of rice are more important, but still only totaled 12,000 metric tons in 1964 or about 5 percent of Central American production. The major importer of corn from the outside is El Salvador, which also imports corn

^{1/}: Soft wheat is suitable for making flour for certain kinds of bread only if mixed with hard wheat, so that Guatemala must inevitably rely on some imports of wheat.

from Honduras. Honduran exports of corn to El Salvador account for the bulk of the increase in internal Common Market trade in raw foodstuffs. With a probable rise of commercial corn production in El Salvador, Honduran exports of corn may well decline in the next few years. The major importer of rice has until now been Nicaragua but this may change if the proposed project to expand rice acreage materializes.

CENTRAL AMERICA: IMPORTS OF CEREALS AND PREPARATIONS, ^{1/}1962-1965

	(million U.S. dollars)							
	1962		1963		1964		1965	
	O	R	O	R	O	R	O	R
Wheat	7.8	-	9.8	-	10.6	-	14.9	-
Wheat flour	8.5	-	8.3	-	7.5	-	6.1	0.1
Corn	2.2	2.7	0.9	2.3	1.6	4.4	1.8	6.2
Rice	0.7	0.8	0.9	0.7	1.8	0.2	1.8	1.0
Cereal preparations ^{2/}	3.5	0.3	3.7	0.4	4.4	0.7	3.5	2.2
Other	0.5	-	0.5	0.3	0.6	0.3	0.7	0.4
Total	23.2	3.8	24.1	3.7	26.5	5.6	28.8	9.9

Legend:

O: Imports from outside
R: Regional trade within common market

^{1/} Category 04 of Standard International Trade Classification

^{2/} Includes hops, various other cereal preparations, and cookies

Source: SIECA

IV: PUBLIC POLICY AND PROSPECTS FOR FOODSTUFFS

A. Introduction

38. For the future, the availability of accessible land, the possibilities of improving yields, and improvements in marketing arrangements are some of the factors which will determine the trend of production. There is still enough reasonably accessible land, except in El Salvador, to permit a substantial increase in production without major improvements in techniques. For Central America as a whole, about one-third of the land area is in farms, but only about half the farm area is effectively cultivated or in pastures: there is thus still substantial land available for use in some cases fairly close to areas already farmed. The development of the unused areas, however, may be more difficult than in the past: the best areas closest to population centers in the highlands are probably already in use, and some of the new acreage is in more remote areas or on not as rich as the volcanic soil of the Pacific seaboard. The new acreage in the lowlands, particularly on the Atlantic seaboard, will require the planning and construction of new roads, particularly in Costa Rica and southeastern Nicaragua.

39. For El Salvador, where 73 percent of the total land area is in farms, of which 40 percent is under cultivation, the remainder being mainly permanent pastures, unless techniques improve, the long-run availability of suitable land will fix the limits to the expansion of agricultural output. Irrigation projects already under preparation can be expected to add some 15,000 hectares of intensive cultivation in the next eight years or so, an important area in that country. In the longer run, however, El Salvador will probably have to rely increasingly on imports of basic foodstuffs from its neighbors, even if a moderate improvement in skills and yields in peasant agriculture is achieved through general education and through the expansion of the small program already begun for fertilizer distribution. In the next four or five years, however, El Salvador's imports of basic grains may well fall below recent levels, as lands in cotton until 1965/66 shift back into commercial corn production in view of the recent setback to cotton production.

B. Rural Credit to Small Farmers

40. The improvement of yields in food production in the various countries depends particularly on the success of supervised credit programs (which serve to provide some technical assistance as well as financing for selected groups of "campesinos"),^{1/} and on the level of rural education. The various credit programs for small farmers vary greatly in scope: in Costa Rica, the well-established rural credit system of the National Bank (a commercial bank) has some 35,000 small farms as customers or over half the total number of farms. On the other hand, in El Salvador, the Government Peasant Welfare Agency (ABC), which began operating in 1963, to date has only about 4,000

^{1/} Tables 14a - 14e.

customers, or only about 2 percent of the number of farm units. Credit for the small farmer is virtually non-existent in Honduras. The effectiveness of the various agencies has also varied, and delinquencies are substantial in some cases, particularly for ABC in El Salvador, which has so far lent almost exclusively for annual crop loans. The investment plans of the governments envisage an increase in rural credit programs; to become more effective, these programs, especially in Guatemala, El Salvador and Honduras, will have to be accompanied by substantial increases in field staff, especially in middle-level extension agents. This applies even more to the small land settlement programs which have been started in the last three or four years in some of the countries.

Education

41. The prospects for increasing the level of skills of the small farmer depend in large part on improvements in education. Unfortunately, the present educational situation and programs are inadequate in all the countries. The percentage of rural children in school needs to be substantially raised in all the countries, the proportion of rural children aged 7 to 12 actually in school is about 40 percent in Guatemala, 50 percent in El Salvador, and about 85 percent in Costa Rica. These estimates probably over-state attendance, since they include a significant proportion of children over twelve who have not yet completed primary school. While the national investment programs may in time result in a substantial proportional increase in rural enrollment, a beginning has yet to be made in adapting the content of education in rural primary schools to the needs of pupils who are likely to remain in farming and whose schooling will in most cases be limited to primary school.

C. Colonization and Settlement

42. Costa Rica established a Land and Colonization Institute (ITCO) in 1962: ITCO has wisely decided to concentrate its limited resources into settlements outside the Central Plateau. So far, about 1600 families have been settled, 600 of them on a cooperative plantation to produce bananas. A contract with a foreign buyer has been secured, and banana exports began in 1966. ITCO's activities deserve to be expanded, but adequate operating funds better coordination with the feeder road program and credit agencies, and better internal organization will be necessary. The activities of the Agrarian Settlement Institute (ICR) in El Salvador, created in 1932 following a bloody peasants' revolt, are to some extent hampered by the same factors, and by the limited land available for settlement, although in its first two decades the Institute purchased 100,000 acres of land. In recent years, the Institute, with a small amount of foreign technical and financial assistance, has increased its activities and since 1963 it has distributed on long-term contracts about 3000 parcels of land. The size of the basic units made available to each pioneer may have to be enlarged to provide a sufficient income to the families. Guatemala has had a Land Reform Agency (INTA) since the early fifties:

in recent years, the agency has settled several hundred families in a large project on the Pacific coast, but its plans for large settlements near the south of the Petén have not materialized. The roads into these areas are barely roughed in, additional soil studies are needed and the real cost of the projects is still very uncertain. Nevertheless, the colonization agencies have a useful role to play in pointing the way towards some of the new lands in the Atlantic, as in Guatemala and Costa Rica: the major investments required are in penetration roads and in adequate credit facilities for the settlers. Nicaragua has no settlement program, and the program in Honduras, despite the prospect of an ambitious project in the Aguan Valley on the Atlantic coast, has so far achieved little.

D. Storage and Marketing

43. With the exception of Costa Rica, present grain marketing arrangements (principally for corn, but also for rice and beans,) are primitive and lead the peasant to sell at low prices at harvest time, usually through an intermediary who pays a low price both because of the lack of buyer competition and, possibly more important, because he has to hold the crop without adequate storage until he can realize his gain. Storage capacity and the means to finance storage are obviously inadequate except in Costa Rica. Storage capacity as a proportion of total output of rice, beans and corn is 2.6 percent in Guatemala, 17.5 percent in El Salvador, 2.8 percent in Honduras, 3.3 percent in Nicaragua and 23.0 percent in Costa Rica. Since a part of output is consumed on the farm, these percentages understate the capacity available to store grains in commercial trade. The lack of storage in Western Honduras usually leads to seasonal exports to El Salvador, where storage capacity is available. Inadequate storage facilities result usually in a fairly wide seasonal variation in the prices received by the farmer, with high prices outside the harvest season being about 50 percent higher than during the main harvest. The operation of CMP (the state grain board) in Costa Rica has, compared to the other Central American countries, permitted higher prices to the producer and lower retail prices: this is well demonstrated, for example, in the case of rice, for which the grain board had a purchasing price of about \$5.90 per 100 lbs. in 1965-1966, up to 20 percent above the support price in other countries, whereas the average retail price of \$10.80 in Costa Rica was about 20 percent lower than in the other countries. Indeed, it is probable that price uncertainty and fluctuations at the level of most small farms is greater than indicated above since existing storage capacity is concentrated at one or two cities in each country - which are in some cases operating well below capacity due to the lack of money to pay for grain purchases - and there is little local or regional storage capacity. The present storage capacity of the five countries is about 130,000 metric tons, including warehouses (Table 12). To permit a level of purchases by the grain boards consistent with the maintenance of reasonably stable prices to the producer, the Central American grain study^{1/} estimates that by 1969 total

^{1/} Programa de Fomento de la Produccion de Granos Basicos para Centro-america, 1966-69, Joint Planning Mission, Guatemala, October 1965.

storage capacity should have reached 225,000 tons. The cost of construction of the additional capacity, largely in silos, is estimated at about US \$7 million, the major portion of which would be spent in Guatemala, Honduras and Nicaragua. The storage programs of the various national grain boards are generally consistent with these estimates and would double capacity in the next five years or so, if financing for these investments is arranged and construction carried forward without delay. Unfortunately, none of the countries, except Nicaragua, has so far obtained the necessary funds to begin construction. Moreover, the programs ought probably to be expanded and redesigned to include more storage facilities at the local level. In the meantime, the situation could be improved if the grain boards were provided with sufficient funds for purchase of surplus grains.

The Grain Protocol

44. The pattern of production of basic grains among the various countries may well be influenced by the Special Protocol on Grains, which came into effect for the five countries in mid-1966. As of the same date, the remaining tariff and quantitative barriers on trade in grains between the countries, except for corn between El Salvador and Nicaragua, were eliminated. Thus the five countries now virtually have a free trade area in grains, excluding wheat and flour^{2/}, for which the local flour mills have strongly supported the maintenance of protected national markets. Before the Protocol came into effect, regional trade was largely confined to the traditional trade between El Salvador and Honduras: shortfalls in other countries were met by imports from the outside through the state grain boards. The key provision of the Protocol is that each grain board must give first priority, in meeting shortfalls, to imports from other Central American countries. Imports from the outside can only be made after consultation with the other countries, and will in the future have to pay a duty equal to the difference between the import price and the official internal support price, thus paying duties which they formerly did not pay. The main purpose of the Protocol is thus to provide an incentive for the Central American area as a whole to continue being self-sufficient in grains. A coordinating commission with limited powers has been established to enforce the Protocol: if the commission and the countries can effectively give first priority to imports from within the area, the Protocol could lead to increased competition between Honduras, Guatemala and Nicaragua for corn exports to El Salvador, and between Nicaragua, El Salvador and Guatemala for rice exports to the other two countries. It is at this stage difficult to judge, especially for corn, which

^{2/} At present world prices, the common external tariff amounts to about 140 percent for corn and about 200 percent for milled rice. In fact, imports from the outside are almost exclusively by the state grain boards, which are exempt from the payment of duties.

country, if any, might in the long run become the major supplier for the region. A key question will be what levels of grain support prices will be set in the region by the action of the national grain boards which are to be coordinated by the regional commission established by the agreement. While price policy has not clearly emerged, evidently prices will need to be sufficiently high to induce increased output, although peasant farmers may find themselves competing with newer commercial farmers entering the field if the returns become attractive.

E. Prospects

45. With accessible land still available in the highland areas, and if improved storage and marketing are introduced, the Central American area can probably continue to meet its requirements for corn, beans, rice and sorghum in the next decade. While some improvement in production techniques can be expected to take place on the basis of dissemination of knowledge already under way, especially for rice and corn, it will probably not be sufficient to make a major contribution to output in the next decade. El Salvador, however, will probably over the next decade become increasingly dependent on imports of corn from the rest of the region, although in the next few years imports may fall if corn replaces cotton in some coastal areas. In the case of rice, production on medium and large farms on coastal areas is in particular likely to increase rapidly, as a result of special credit programs in Nicaragua and irrigation projects which could begin to function in El Salvador in the early seventies. However, it is probable that requirements for imported wheat and dairy products will increase noticeably faster than population, since rising incomes in the early 1970's, according to the pattern of recent years, will probably lead at present income levels to a more than proportional increase in bread and dairy products' consumption. ^{1/} Over the next decade, with a rise in population of about 40 percent and some increase in income per head, imports of wheat can be expected to increase substantially. The outlook for dairy products is less clear. Generally the climatic conditions in Central America do not favor efficient milk production. Even with an adequate distribution organization, it is doubtful whether large-scale dairy production might be developed capable of competing with low-cost powdered milk imports. Preliminary plans have been under discussion to develop a dairy production and a

^{1/} The value of wheat and flour imports for the five countries rose from US\$16.3 million in 1962 to US\$21.0 million in 1965, and of condensed and powdered milk imports, mostly from the Netherlands and Denmark from US\$5.7 million to US\$7.4 million. The major importer of dairy products was El Salvador.

powdered milk plant in Nicaragua. A feeder road project in the area has already been started which could contribute to increased livestock production. While the mission could not intensively review the proposed project, it appears that the plant could operate profitably only with a very high level of protection, which would substantially raise the cost of powdered milk to the consumer. In Guatemala, the UNDP/FAO diversification study includes the study of a possible dairy project in existing coffee areas. In general, it is doubtful, however, if in Central America resources which could be used for beef production should be used to encourage dairy farming, given the problems of organizing a dairy industry, the plentiful world supplies of cheap powdered milk, and the encouraging market prospect for beef exports.

46. For the next decade at least, the agricultural sector will continue to provide the bulk of employment and still be the main determinant of growth in the five Central American countries. In the past, the agricultural sector, especially the export sector, has developed with little direct help from the Government. The major contribution from the public sector has been through road construction, especially the opening of the Pacific coastal plain in the last decade in Guatemala and El Salvador, and to a lesser extent in Nicaragua; in other areas, such as the western and northern parts of Honduras, new roads - including feeder road systems - have encouraged agricultural expansion. More recently, the public sector has taken an active role as intermediary or guarantor in channeling foreign credits for investment, particularly for livestock. These programs are in operation and should continue to be expanded and extended to new products, such as certain fruits and vegetables (e.g. pineapples, citrus, avocado and mango) for export (processed or unprocessed), including bananas through independent growers. To make room for these investments, the Governments are now beginning to turn their attention to road investments eastwards towards the Atlantic seaboard, particularly in areas which are likely to be suitable for beef production or for forestry and in the next stages of the road programs, these will need to receive more emphasis than in the past. As for the domestic food sector, the help required from the public sector is more direct, in the form of extension services, storage, supervised credit, and marketing facilities. Most of these services are still inadequate in relation to needs, though the provision of a general agricultural education to an increasing proportion of the rural school-age population could in time help towards the success of the various forms of direct assistance to the peasant sector.

APPENDIX A

COFFEE

1. At least up to the beginning of the Second World War, coffee was - apart from bananas, which were grown by a foreign company - the region's only major export commodity and accounted for more than 80 percent of its export earnings. Although the economies of the Central American countries have since begun to diversify, thanks largely to the rapid rise in cotton production, coffee sales, which in 1965 amounted to more than US\$280 million, still represent about 37 percent of the total value of exports, while the percentage is nearer 50 in the region's three main producing countries, Guatemala, El Salvador and Costa Rica.

2. The entry into force of the International Coffee Agreement in 1963 paved the way for a recovery in coffee prices, whose steady decline since 1957 had contributed to a slow-down of the economic growth of the region. However, this recovery has encouraged increased output and will thus lead to an accumulation of non-exportable surpluses. If these trends continue they may well result in a rapid deterioration of the present favorable situation.

The characteristics of coffee production

3. The combined coffee production of the Central American countries amounted for the 1965/1966 fairly normal crop year to 350,000 tons, equivalent to 7 percent of the total world output. It is made up exclusively of mild coffees which, while priced somewhat lower than similar coffees from Colombia, nevertheless command a high premium in the market not only over the Robusta coffees but also over the Brazilian Arabica types, the mostly highly priced coffees being grown in regions situated in altitudes above 800 and even preferably 1,200 meters.

4. For the most part, production is controlled by large planters. Although in fact there are some 150,000 coffee growers in the area, it is roughly estimated that 5 percent of them own two-thirds of the total area under cultivation and produce 80 to 90 percent of the crop. The situation is somewhat different on the central plateau of Costa Rica, although even there half the area under coffee belongs to only 15 percent of the planters.

5. The levels of production, estimated acreage and average yields in 1965/66 are shown below.

Crop year 1965/1966	Production (1000 tons)	Estimated area under coffee (1000 hectares)	Yield (kg per hectare)
Guatemala	120	224	535
El Salvador	108	125	864
Honduras	29	92	315
Nicaragua	33	86	383
Costa Rica	60	63	952
Total	350	590	593

Although relatively high in countries where land is limited (El Salvador, Costa Rica) and where the planters have therefore sought to modernize their plantations, yields are still very poor in Nicaragua and Honduras, where only the traditional methods of growing are found.

The growth of production

6. The total output of Central America has grown by 75 percent over the past ten years. This expansion averaged an annual rate of 8 percent up to 1962/63, but tapered off considerably thereafter, owing to exceptional circumstances such as the eruption of the Irazu volcano in Costa Rica from March 1963 to December 1964, accompanied by an unusually dry season and plagues in 1964, and a severe leaf miner epidemic in Guatemala in 1964/65.

7. While for El Salvador the expansion of output has largely been the result of higher yields, in the other countries the higher output has been eased through both higher yields and an extension of acreage. During the last ten years the extension of the areas under coffee was fostered to a large extent by the high level of coffee prices that prevailed up to 1957, as well as by the availability of long-term credit that the planters were able to secure from the local banks until that time. The pronounced drop in prices, which fell on average from 66 cents FOB in 1956 to 35 cents in 1963 had the effect of markedly reducing further acreage expansion, although in fact the planting which had taken place at the end of the period of high prices began to result in a larger output in the early 1960's.

8. Despite the paucity of official technical assistance, there has been a steady spread of technical knowledge: yields have already risen substantially in Costa Rica and El Salvador, thanks to the adoption of new varieties, an increase in the planting density, improvements in growing practices, and the more widespread use of fertilizers and insecticides, which have lowered unit production costs. The latter still vary considerably, however, between 15 and 30 cents a pound of green coffee equivalent, including land rent and management costs, the average probably being of the order of 22-23 cents. As a typical illustration, according to calculations made by the Salvadorean Ministry of Agriculture, the following table shows the main components of this cost (excluding management costs and the cost of transportation to the processing plant) on a plantation with a yield of 780 kg (or 1,720 lb) per hectare. Of course, other examples might show considerable varieties above or below this example.

<u>Production cost per hectare (in US\$)</u>	
Land rent	86
Labor	190
Fertilizer	48
Equipment and miscellaneous products	6
Bank interest	30
	<u>360</u> (or approximately 21 US cents per pound)

9. Up to a given yield threshold, which appears to be about 1000 kg per hectare, modernization of growing techniques does not appear to have led to a noticeable reduction of production costs; in the well-run plantations, on the other hand, where yields in excess of 2000 kg per hectare are found, costs can generally be reduced to well below 20 cents a pound. At present prices, therefore, traditional cultivation continues to pay its way, but only the most efficient planters are able to earn large profits from their estates.

Prices to the producer

10. In the absence of any price stabilization organization in Central America, variations in world prices have automatic repercussions on the level of the prices received by the producers. While in Costa Rica the marketing margins are subject to strict controls, and in El Salvador and Nicaragua the production of the small growers is marketed by government or semi-public agencies, the marketing margins on the whole are significant and represent, excluding processing and transportation expenses, close to 10 percent of the FOB prices. The "Compania Salvadorena del Cafe" and the "Instituto Nacional de Comercio Exterior e Interior" (INCEI), which market the production of the small growers (about 15 percent of total output) in El Salvador and Nicaragua respectively, guarantee these growers a fair price but have no mandate to substantially dampen export price fluctuations. The prices for which they buy the coffee vary in the course of the crop year and are almost always comparable with those offered by the trading companies. For example, during the 1964/65 crop year the price paid by INCEI at the country's remotest buying points was 33 cents per pound, green coffee equivalent, at the beginning of the year, but fell at the end of the year to 27 cents. For its part, Compania Salvadorena bought the coffee for an average price of 29 cents a pound and, following the example of the trading concerns, extended slightly better terms to planters who agreed to stagger their deliveries.

11. In view, however, of the relatively moderate level of taxes on exports, discussed below, the price to the producer represents between three-fourths (in Nicaragua, where there is now only a specific tax, at a low rate) and two-thirds (in El Salvador) of FOB prices. As an illustration, in the latter country the difference between the f.o.b. export price and the price to the producer is made up of the following components:

	(in U.S. cents)
FOB Price	44.0
Freight and shipping costs to ship	1.1
Bagging	0.4
Sorting	1.0
Processing	3.0
Export duties	6.4
Interest costs (4 months)	0.9
Marketing costs	1.5
	<u>14.5</u>
Difference: Producers' price	<u>29.5</u>

At the level of the average FOB prices over the past two years, i.e. 44 US cents a pound, prices to the grower evidently were of the order of 30 US cents a pound and the return earned by Central American planters was appreciably higher than that of growers in the other producing countries. It is generally recognized that coffee growing is once more providing a much higher profit than other crops, even on plantations which do not have high yields.

Levels of Taxation

12. Although it is true that in the three main coffee producing countries the export tax scales are progressive, with the rates of the ad valorem taxes increasing with each price level, the duties actually paid are still relatively moderate.

Effective % tax at price of US cents:	35	40	44 ^{1/}	45	Export taxes 2/ collected 1965 (million US\$)	Export tax receipts as percentage of export receipts
<u>Ad valorem</u>						
Guatemala	8.5	11.5	13.5	14.0	8.4	9.2%
El Salvador	11.4	13.1	14.5	15.0	10.3	10.8%
Costa Rica	0.5	5.0	7.5	10.0	3.3	7.1%
<u>Specific</u>						
Honduras	17.0	15.0	13.0	13.0	1.3 ^{3/}	10.0%
Nicaragua	<u>3.25</u>	<u>2.85</u>	<u>2.5</u>	<u>2.5</u>	<u>0.7 ^{3/}</u>	<u>2.5%</u>
Total Central America					24.0	8.5%

^{1/} Average price in 1965.

^{2/} Excludes minor taxes collected for coffee office etc.

^{3/} Estimate on basis of budgetary returns.

While there are a few additional minor taxes on coffee which are not included in the computation in the attached table, it appears that the amount actually collected from the main export tax on coffee in the cases of Guatemala and El Salvador was substantially below the statutory tax rate at that price. While there may be some lags in payment which may account for some of the difference, the consistent disparity in recent years suggests that there may be a degree of under-invoicing or some other form of evasion, except in the case of Costa Rica, where controls are more advanced.

13. In fact, despite the progressive nature of the applicable taxes, the recovery in coffee prices has not led to any appreciable increase in fiscal revenue, since the general tendency in recent years has

been for the duties imposed to decrease. In Nicaragua, the rate of taxation on coffee exports was substantially reduced in 1958, when a differential exchange rate tax on coffee was abolished. In Guatemala, the price used for computing the tax was changed from the quoted New York MAMS price to the local contract price in October 1962: this arrangement probably permits underinvoicing, and may account for the fact that Guatemalan coffee tax revenues have fallen despite a higher volume and higher prices. In Costa Rica, strong pressure was brought to bear on the new Government in mid-1966 to reduce the level of export duties. 1/

14. The taxation of coffee exports has the double function of obtaining revenues for the government and the anti-cyclical function of capturing some of the larger profits during periods of high prices and, by implication, reducing the rate of taxation in periods of low prices. In addition, proportionally higher taxes in periods of higher prices would reduce the main incentive to expand production, since in fact the increases in planting have taken place during such periods, with the increased production coming on the market after the downturn in prices (such was the case in the period 1958-62). While tax revenues from coffee exports have increased, especially in El Salvador, since 1963, it is doubtful if the progressivity of the rates and their actual application have been sufficient to noticeably affect the incentive to expand production. For the reasons developed in the following section, the Central American countries should consider in the immediate future the possibility of increasing taxation of the coffee sector. With present tax rates, the incentive to expand coffee production rather than that of other products would still be high, even at world prices 10 percent below the present ones (about US 42 cents for Central American coffees). The most effective and rapid way to achieve this would be to increase the rates and the progressivity of coffee export taxes: it is probable, however, that such a move would meet with strong opposition. It might also be criticized as unfair to the small producers, although these account for a fraction of production. A less direct measure would be to enforce the income tax much more strictly in the coffee sector; as a beginning, the exemptions granted to the coffee sector in El Salvador and Guatemala could be reduced or abolished. 2/

Trends in future production

15. The recovery in coffee prices from 35 cents at the end of 1963 to 44 cents in 1965 is once again providing an incentive for stepping up production. While the acreage devoted to coffee is unlikely to expand very much in the next few years, there is still considerable scope for raising yields, especially in Guatemala, Honduras and Nicaragua. In

1/ The Costa Rican coffee tax is not strictly an export tax since it applies to all coffee purchased by coffee processing mills.

2/ In El Salvador, income originating in the coffee sector is not subject to income tax, and in Guatemala the 15,000 quetzal basic exemption for agricultural income tax returns in effect includes the majority of coffee growers who therefore do not pay income tax. The government of Guatemala has been considering plans to substantially reduce this exemption.

view of the quotas fixed for exports, it seems virtually certain that the non-exportable surpluses will assume large proportions in the future. Until 1964/65, the stocks held at the end of the crop year in Guatemala, El Salvador and Nicaragua have not reached the volume that could not be exported during the first quarter of the following year. This was the result not only of exceptional factors that affected production but also of exports either authorized under the International Coffee Agreement (waivers) or effected in violation of its terms (some exports via Honduras, then not a signatory to the Agreement), or to supposedly "new markets". On the basis of present trends, substantial surpluses would accumulate from the crop year 1966/67 onward and, more important, they would progressively build up in subsequent years.

CENTRAL AMERICA: PROJECTED COFFEE SURPLUSES
(thousand 60 kg. bags)

Country	Actual 1964/65			Projected 1970-71 2/				ICO Production Goals 3/
	1/ Total Output	Quota	Exports	Total Output	Local Consump.	Quota	Surplus	
G	1,752	1,257	1,298	2,490	290	1,680	520	1,863
ES	2,075	1,561	1,618	2,360	160	1,786	414	1,844
H	488	266	404	580	120	450	10	542
N	634	455	468	880	80	524	276	549
CR	783	888	702	1,375	175	1,187	13	1,232
Total	5,732	4,427	4,490	7,685	825	5,627	1,233	5,730
Total in 000 met- ric tons	345.3	266.7	270.5	463.0	49.7	339.0	74.3	345.2

1/ G = Guatemala; ES = El Salvador; H = Honduras; N = Nicaragua;
CR = Costa Rica.

2/ Mission projections.

3/ International Coffee Organization for 1971/72

Source: Table 1

16. For the future, assuming that world imports and hence also the basic quotas of the Central American countries are likely to increase at the rate of 2.5 percent a year, and that local consumption is likely to grow at least as fast as the population, or by 3.5 percent a year, the excess of exportable production over the probable export quota levels is likely to reach about 20 percent of the quotas. The surplus in relation to the exports is likely to be particularly large in Nicaragua, although the government's diversification program may by 1970 have a small impact on production, and also for Guatemala and El Salvador.

17. While the calculations of future output and potential surpluses in 1970 can only be taken to show general trends, they suggest two generalizations, aside from the magnitude of the surplus itself. The first is that the Central American countries would probably benefit from a common quota arrangement under the Coffee Agreement, which would allow a surplus country to use any unfilled quotas of other Central American countries. The surpluses of Costa Rica and Honduras are likely to be small and could easily disappear with bad weather or disease and thus release an unfilled quota for use by the surplus countries. The second generalization is that the Coffee Agreement, particularly if such a common quota arrangement is instituted, is the best safeguard of the Central American countries: while the likely surplus is not small, its size in relation to the quota is probably smaller than the drop in coffee earnings which would result if there were no international agreement. In such a case, the production levels of major world exporting countries could well bring about a drop in prices proportionately larger than the 20 percent surplus.

18. The government agencies directly responsible for regulating the coffee industry ^{1/} in the various countries have so far taken few measures to cope with the impending surpluses, although the three surplus countries (Guatemala, El Salvador and Nicaragua) have in effect systems to assign a quota to each producer. These systems have so far done little to reduce the volume of coffee that is delivered to the mills. The authorities have not so far reached decisions on whether the burden of future surpluses will be borne by the producers (in the form of unpicked coffee or through a lower internal purchase price) or by a combination of other interests (such as by the coffee regulatory agencies). A beginning has been made in diversification studies, although the implementation of the results of such studies is likely to require an accompanying policy of increasing the taxation of the coffee sector, to lessen its attractiveness compared to other products. Since decisions have yet to be taken by the governments on these issues, projections beyond four or five years are highly uncertain. However, the impact of a growing surplus in the next five years is likely to be to reduce somewhat the incentive to expand coffee production. The mission projections of output and exports in 1975 (Table 1) assume in addition that the authorities will also by the end of the 1960's have implemented some of the measures discussed here, or measures with an equivalent effect, to adjust coffee output to world market conditions. On this basis, the bulk of the surplus projected in 1970/71 would have disappeared by 1975/76 and surpluses over likely quota levels would have been reduced to above 10 percent of exportable production.

^{1/} The Asociacion Nacional del Cafe in Guatemala; the Departamento Nacional del Cafe and the Compania del Cafe in El Salvador; the Ministry of Agriculture in Honduras; the Instituto del Cafe and the Instituto Nacional de Comercio Exterior e Interior (INCEI) in Nicaragua; and the Oficina del Cafe in Costa Rica. The Asociacion Nacional in Guatemala is a private organization.

APPENDIX B

COTTON

1. Cotton growing, for which the natural conditions along the Pacific coast of the region are eminently suitable, has expanded very rapidly in the sixties. Such a rapid expansion, however, has been accompanied in the last two or three years with a steady increase in production costs which in several countries (notably El Salvador) has already led to a certain curtailment of cultivation. Uncertainty still exists as to when and on what conditions cotton growing will be able to resume its expansion.

2. During the agricultural year 1964/65 cotton production in the region reached 290,000 tons of cotton fiber, equivalent to 2.5 percent of world production. The percentage represented by exports is much higher, since local industries at present absorb only a small proportion of the output. In 1965, exports (60 percent of which went to Japan and more than 30 percent to the EEC countries) amounted to 289,000 tons (approximately 7 percent of the volume traded in world markets), and were valued at US\$147 million, thus accounting for 19 percent of the total exports of the region. Cotton has thus become the region's second export product, and the primary one in the case of Nicaragua.

3. The areas under cultivation vary considerably from country to country, but yields are uniformly high, particularly in Nicaragua, as shown in the tabulation below. In fact, they are the highest in the world for rain-fed plantations (Mexico 662 kg; USA 579 kg, for the same year).

CENTRAL AMERICAN COTTON PRODUCTION AND YIELDS: 1964/65 1/

<u>Country</u>	<u>1964/65 production</u> <u>(1000 metric tons)</u>	<u>Area cultivated</u> <u>(1000 ha)</u>	<u>Yield (kg) per</u> <u>hectare</u>
Guatemala	71.7	97.6	735
El Salvador	80.5	121.8	661
Honduras	11.3	13.9	813
Nicaragua	122.8	133.4	921
Costa Rica	<u>3.2</u>	<u>5.0</u>	<u>639</u>
Total	<u>289.5</u>	<u>371.7</u>	<u>779</u>

1/ Source: Table 3

4. The cottons produced are of standard quality. They are Upland Middlings, 85 to 90 percent of them of the Delta Pine variety, which yields fibers with a staple length of 1-1/8" and of acceptable resistance. Quality on the whole is satisfactory although it has tended to deteriorate in Nicaragua owing to the lack of storage facilities and the inadequacy of the labor force. Because of apparent shortage of labor skilled in cotton picking, the workers there have not given all the care that cotton harvesting calls for, while mechanization, on which the growers have been forced to rely to an increasing extent, also affected its quality. This should not, however, prove to be a permanent adverse factor.

5. Cottonseed, the production of which rose to 490,000 tons for Central America in 1965, is utilized for the most part by local oil plants; Nicaragua, however, continues to export two-thirds of its cottonseed output to Japan.

Structure of production and marketing organization

6. A recent survey ^{1/} of a total of 13,000 cotton plantations in Central America shows that production is largely controlled by medium and large planters. Planters cultivating less than 35 hectares account for 80 percent of the total number of cotton growers, but only for 20 percent of the harvest. In Guatemala, which has the largest plantations in the world, there are less than 300 planters. The boom in cotton production has in part taken place on rented land, especially in El Salvador, where 60 percent of the acreage is rented land.

7. The rapid expansion of cotton production has largely been the work of private individuals and the large planters, who have adopted the most up-to-date farming methods in use in the U.S.A. and have become highly mechanized, except in picking. Active cooperatives have been established for processing and marketing of cotton. In El Salvador, as in Honduras, a single cooperative is responsible for both ginning and selling the entire crop. The cooperatives have also obtained advances from foreign firms and banks in order to cover part of the crop financing needed by their members.

Developments in cotton production

8. About ten years ago, the cotton production of the region barely exceeded 20,000 tons. Encouraged by the high level of world prices which prevailed up to 1957, that is, until the U.S. Government decided to dispose of its stocks of cotton on the market, production increased steadily

^{1/} Informe sobre la fibra del algodón, SIECA, March 1965 and March 1966.

from 1955 to 1957 in Nicaragua, Honduras and El Salvador. While production dropped sharply in 1959 as a result of the drop in prices, the growth of production resumed at a rapid pace in 1960 as a result of the effects of the drop in coffee prices, and the opening of new roads on the Pacific slopes. Output from 1960 to 1964 trebled, largely from an increase in the area cultivated, although there was a particularly marked increase in yields in Nicaragua.

9. The steady increase in output kept up until 1964/65, but production in the 1965/66 crop year declined, as a result of drought conditions, the persistence of pests and rising costs. Yields in Guatemala, Nicaragua, Honduras and El Salvador, fell substantially (Table 3).

10. Worried by the rise in production costs, production difficulties and the possibility of a drop in prices due to the new cotton policy introduced by the U.S. Government, many planters, faced with a sharp reduction in profits, are considering going out of cotton. The indications are that in the 1966/67 crop year, the area cultivated in El Salvador, which had reached 122,000 hectares in 1964/65, is unlikely to exceed 50,000 hectares in 1966/67. In Honduras, too, the area under cotton may fall from 18,000 to 14,000 hectares, and in Guatemala from 164,000 to 140,000 hectares. In Costa Rica and Nicaragua, on the other hand, the land under cotton may increase if the plans to provide a larger volume of finance for expansion materialize.

11. Although the new cotton policy of the United States does not justify the fears held by certain planters in Central America, there does appear to be much more cause for apprehension regarding increases in production costs, the reasons for which are both numerous and complex.

12. First, wage costs have risen, probably due to a greater demand for labor and possibly also due to the introduction by the authorities in El Salvador and Nicaragua of a minimum wage. Because of the profitability of cotton growing, the land rent, particularly in El Salvador, has increased sharply and this has affected the profit margins of many producers who rent acreage for cultivation. Attracted by the prospect of a quick and large return, planters have in some cases indiscriminately used increased quantities of fertilizers and insecticides without giving enough attention to the economic returns from increased applications and often neglecting soil conservation or possible crop rotation which is needed over the longer view. As a result, yields have not increased proportionately and costs have risen. The lack of crop rotation has, together with contiguous plantations, encouraged the proliferation of insects, while the use of insecticides has in some instances probably enhanced the resistance of certain varieties of insects to normal dosage levels. The authorities have not taken sufficient elementary remedial measures, such as ordering the burning or ploughing-in of the plants after the harvest or ensuring that treatments are applied at the same time.

13. The increased virulence of pests and disease is regarded today as the main factor responsible for the recent increases in production costs. Whereas the number of applications of insecticides during the last crop year was still about ten annually in Costa Rica, in Nicaragua and Guatemala it already averaged over twenty-five, and it was as high as forty in El Salvador. The cost of these applications, which in El Salvador used to represent one-fourth of total production costs, now accounts for one-third. With bad weather and a reduction in yields, it is probable that many planters have on balance lost money in 1965/66 in El Salvador. However, profit margins are still attractive in Costa Rica, where the industry is more recent, and in Nicaragua, where the poor 1965/66 crop was largely the result of bad weather.

14. While data on changes in costs are not available, recent official data on the main components of production costs show the relative magnitude of land rent and insecticides in costs. These estimates are not fully comparable, but the general conclusion that costs in 1964/65 were highest in El Salvador and lowest in Nicaragua is probably correct. Management costs are not included.

COTTON PRODUCTION COSTS IN U.S. DOLLARS PER HECTARE, 1964/65

	<u>El Salvador</u>	<u>Nicaragua</u>	<u>Guatemala</u>	<u>Honduras</u>
Land rent	60	40	32	40
Seeds	3	4	3.5	3.5
Fertilizers	40	30	30	40
Insecticides	96	60	75	64
Air spraying	32	20	25	35
Cultivation costs	80	50	90	75
Harvesting costs	56	70	80	75
Bank interest	20	20	17.5	25
Total	387	294	353	359.5
Yields (kg.) per hectare 1964/65 crop	661	921	735	813
Unit cost (US cents)				
Per kg. of seed cotton	58.5	32	48	44
Per lb. of seed cotton	26.5	14.5	21.7	20

Source: Documentation for the Central American Cotton conference San Salvador, March 1966.

The product of the sale of cotton seed (for every pound of lint the cotton seed has a sale value of about 3 U.S. cents) is slightly more than the cost of processing, transportation and marketing (2.5 U.S. cents per pound) so

that the unit costs shown for seed cotton are more or less equivalent to what it costs the farmer to produce lint cotton, after taking into account processing, transportation and marketing. At an f.o.b. price of 24 cents, the average price for 1965, it appears that cotton cultivation remained highly remunerative in Nicaragua but not in El Salvador, at the level of yields obtained in 1964/65.

15. The recovery in production is essentially dependent on a reduction in production costs, which in turn depends on the outcome of research and experimental work. The cotton producers of Central America met in El Salvador in March 1966 to arrive at a common diagnosis of their problems, and to devise a common approach to the research necessary to reduce production costs. So far, the Cooperative of El Salvador has taken an active interest in this research aspect. It is receiving the assistance of France from the "Institute de Recherches du Coton et des Fibres Exotiques" (IRCT); an IRCT mission has been at work since 1964 but will not be able to present all its findings for some months yet.

Production outlook

16. In the next two years or so further reductions in the area cultivated will probably take place. Since the areas likely to be taken out of production are marginal ones, the reduction in acreage will have a less than proportional impact on the level of production. Production fell by close to 50,000 tons in 1965/66 to about 240,000 tons, that is, 16 percent below the level of the preceding crop year.

17. For the seventies, the prospects of a renewed upswing in production at rates anything like those in the late 1960's are not favorable. However, important increases can still be obtained in all likelihood. The Pacific coastal lands are eminently suitable for cotton production, although a resumption of growth in output will depend in part on the effectiveness with which costs can be reduced. In a short period, Central American producers have shown that they could attain the highest yields in the world for non-irrigated cotton; with a beginning already being made in research to cut costs, there are reasonable prospects that, in time, costs could be reduced sufficiently to make production profitable even at somewhat lower market prices. Some drop in prices is likely to result from the United States' new cotton policy; the extent of such a drop is difficult to forecast, but the mission has taken as a basis for its projections a decline to about 20-21 cents per pound in the early 1970's. Such a decline would particularly affect marginal producing countries with their very low yields, but it may serve to bring about a gradual degree of equilibrium between supply and demand in the world market in the future, particularly as the United States' long-range policy is aimed at the gradual elimination of its stocks.

18. Providing Central American producers can adjust costs to prospective price levels, there would still be opportunities for increasing production in existing areas, except in El Salvador, where production has spread to marginal areas. Limited suitable areas for cotton growing are still available in Honduras (Choluteca Valley) and Costa Rica. Whereas the construction of new access roads could permit the cultivation of an additional 40,000 hectares in Nicaragua, it is above all in Guatemala - where the area under cotton on the Pacific coast could reasonably be doubled - that cotton growing is capable of expanding the most. On the basis of these assumptions and those in the above paragraph, the mission has estimated that cotton production in Central America could reach some 400,000 metric tons by 1975 (Table 3a). Some 10-15 percent would be needed for local consumption, leaving about 375,000 tons for export. These quantities, assuming stability in prices, would represent an annual average rate of increase in cotton export earnings of some 5.5 to 6.0 percent between 1970 and 1974.

APPENDIX C

BANANAS

Introduction

1. Banana production in Central America began on a noticeable scale in the 1880's in Costa Rica and Honduras. This was then followed at the turn of the century by the granting of large concessions of land to the United Fruit Company. As a result, the company opened up various areas providing them railroads, ports, housing, and various social services. The performance of some economies of the region, particularly Honduras, was until recently dependent on the varied fortunes of the industry, in which the spread of Panama disease played a key role. Until now, virtually the whole production for export has been by the United Fruit Company and the Standard Fruit Company, or marketed through them.

2. The introduction of new disease-resistant varieties and of boxing placed Honduras, Costa Rica and Panama on a new growth plan. The foreign companies' increasing interest in expanding output through private planters is also changing the nature of the industry, giving nationals a greater direct stake in its future.

Production trends

3. Many areas of Central America afford soil and climatic conditions that are highly favorable for banana growing. This is particularly true of the regions along the Atlantic seaboard of Costa Rica and Honduras, which are usually not affected by hurricanes and have the additional advantage of being better situated than the Pacific coast areas in relation to the major consumption centers of the eastern United States and Western Europe.

4. Despite these eminently suitable conditions, banana exports from the region have remained stagnant ever since the end of the Second World War. World banana imports almost doubled between the period 1948-52 and 1963, rising from 2.3 to 4.4 million tons, but it was only through the development of banana growing in other countries, notably Ecuador, that Western Europe's greatly increased demand could be met. Central America's share in the world's banana trade has shown a steady decline: the average of 800,000 tons exported during the period 1948-52 represented 35 percent of total world exports; the 1963 export tonnage, which has always remained more or less identical, represented however no more than 18 percent. During the same period, Ecuador's share of the world market rose from 9 to 25 percent.

5. This stagnation followed the spread of the Panama disease, which rendered the areas affected unusable for the production of the Gros Michel variety and forced plantations to undertake expensive relocation.

The United Fruit Company in 1942 gave up its Limon plantation on the Atlantic Coast of Costa Rica; in 1956, it phased out the Quepos plantation on the Pacific coast in favor of the Bolfit plantation, also on the Pacific. In Guatemala, the company shifted its plantation from the Pacific coast to the Atlantic side; a contributing factor to this decision was the high cost of transportation from the former site.

Changes in production patterns

6. The industry, originally based on the Gros Michel variety has switched in favor of the Giant Cavendish variety because of higher yields, less vulnerability to damage by hurricanes and, above all, its resistance to Panama disease. However, because this variety is more fragile than the Gros Michel, in order to transport the Cabanas (brand name of Standard Fruit's Giant Cavendish bananas) it was necessary to develop an entirely new system of packaging in cardboard boxes instead of the old system of shipping on the stem. The new system simplified the shipping of bananas, greatly reduced losses and resulted in better financial returns. Consequently it has already gained virtually complete acceptance in the Western Hemisphere, creating a great local demand for cardboard for boxes.

7. The United Fruit Company has been switching to the Valery variety (brand name: Chiquita), which is closely akin to the Giant Cavendish. Accomplished very quickly in Honduras, this switchover is taking place slowly in Costa Rica; the changeover has been even slower in Guatemala, owing to unexpected difficulties with the terrain and climate and to continuing political instability in the region where the plantations are situated. These changes have helped to increase banana exports from 340,000 to 590,000 tons in Honduras and from 260,000 to 320,000 tons in Costa Rica, between 1963 and 1965. Guatemala's production, on the other hand, has slackened off while Nicaragua's Gros Michel plantations, established a few years ago under government sponsorship on the Pacific coast, have suffered from hurricanes.

Emergence of independent growers

8. The banana companies are increasingly looking to the independent planters as a source of supply for their rising shipments from Central America. The independent planters in turn are obtaining the benefit of technical assistance from the banana companies in their production problems, and they are also able to take advantage of the fruit companies' transportation and marketing networks. This development has increased the interest of the governments in expanding banana cultivation.

9. The Government of Nicaragua has sponsored a crop diversification program on the Pacific coast and secured an undertaking from United Fruit in 1961 to purchase for five years and at relatively high prices the bananas grown on the new plantations of independent planters. Production has so far been hindered by various setbacks, especially blow-downs, and it remains to be seen whether the agreement can be renewed on

the same basis. The Government also hopes to extend banana plantings to the land that had been scheduled for irrigation in the Rivas region (bordering Lake Nicaragua). However, this decision will depend largely on the outcome of further studies and field tryouts now in process.

10. The Costa Rican Government, anxious to restore the sagging economy of the Atlantic region which has been hit by the drop in cocoa prices and output, has been developing plans for financing independent banana growers. The conditions for bananas in that area are favorable - the even rainfall eliminates irrigation costs, railroad infrastructure is adequate and hurricanes are relatively infrequent. The plans of the Government mesh with those of the Standard Fruit Company which, having earlier met difficulties in securing land concessions, is now seeking to expand its activities by signing agreements with independent planters to purchase their entire output. Under the arrangements between Standard Fruit and the independent producers, the planters are provided with young plants of the Giant Cavendish variety and receive considerable technical assistance at low cost, both in preparing the land and in the maintenance and operation of the plantations. The company assumes responsibility for establishing and operating packaging stations. Given this assistance to the planters, the dollar price paid of US\$1.25 per 42-lb. cardboard box FOB, which is guaranteed for a 10-year period, is sufficient to yield an ample return to plantations that are adequately managed and laid out. On an independent producer's plantation with a yield of 36 tons per hectare, not an unusual yield in Central America, the total value of sales per hectare would average about \$2,350, and leave a return, before income taxes and debt service, of possibly about \$400 per hectare. The return left after servicing the cost of land purchase, is evidently still attractive. These favorable results are made possible by the high yields generally obtainable due to rich soils and the generally high level of the skills of workers in the banana industry. A major factor in future prospects to maintain this competitive edge will be the cost of boxing materials, which now account for about one-third of the cost of the product delivered in containers at the port.

11. The interest being shown by the Costa Rican Government in the expansion of banana growing has led other companies to follow the lead given by Standard Fruit. The West Indies Company and its subsidiary Bandeco, as well as two European firms, are at present establishing themselves in Costa Rica. The prices offered, especially in the case of the contract signed between the West Indies Company and the Government Institute of Land and Settlement, are higher than those of Standard Fruit, but the services provided are generally less extensive and the terms of the contract less specific regarding the grounds on which fruit can be rejected by the purchaser.

12. The efforts of the Costa Rican authorities seem likely at all events to result in a considerable expansion of banana growing in that country, provided that adequate financing is made available to the independent growers. The Government has included financing for such activity

in a project submitted for consideration by an external financing agency. However, the present port facilities at Puerto Limon do not appear capable of coping with a rapid growth of exports. The plans for temporarily improving present facilities and constructing adequate new port facilities at Puerto Limon should be given top priority; the IBRD is therefore giving assistance to Costa Rica for technical and engineering studies of new port facilities in the region.

13. The efforts of the Costa Rican authorities to promote the development of an industry of independent banana producers in Costa Rica are in sharp contrast with the case of Honduras whereas credit facilities generally have not so far been available for associate producers. Until now, the Honduran authorities have not been inclined to encourage an increase in the country's dependence upon bananas, which, in 1965, constituted almost 45 percent of total exports.

Marketing Characteristics

14. Whereas in banana-producing countries in other parts of the world, such as Ecuador, the independent growers have been responsible for expanding the crop, banana production in Central America has continued to be controlled by the two major fruit companies.

15. The entire system is fully integrated: the bananas are carried in company ships and the companies have extensive networks at their disposal in the USA. In fact, they enjoy close to 90 percent of the U.S. market. However, in view of the limited scope for further expansion of the U.S. market, they are endeavoring to extend their distribution networks throughout Western Europe, particularly in West Germany and the Benelux countries, and generally to those countries that are still open to international competition.

16. Under these circumstances it is evident that these companies are in a good position to market the produce of independent growers, by providing nearby producers with the necessary technical knowledge and at the same time entering long-term purchase contracts at stable price levels. Temporary fluctuations in world prices would thus in all probability be absorbed by marketing margins.

Production prospects

17. Now that the technical problems that had halted the expansion of banana growing in Central America have largely been solved, countries of the region will be in a much better position to regain their former position in the world market. This applies equally to Panama, which in 1965, reached total exports of about 360,000 tons, valued at US\$31 million. The market to absorb the increased production is severely limited, however, and increased sales by Central America will in part be possible only because of stagnation in the output of Ecuador. In the United States, per capita consumption seems to have reached saturation levels. Despite a short-lived recovery brought on by the adoption of new packaging methods

and the increased emphasis on marketing (e.g. more advertising), 1965 imports, at 1.82 million tons, were slightly below those in 1961. In Western Europe, too, consumption levels are now becoming stabilized, except perhaps in Italy, where imports are still subject to quota and prices to consumers are still high. However, Great Britain, France and Italy will probably continue to import preferentially from countries with which they have political and trade ties. Consumption in Japan has increased considerably in recent years, but future demand is likely to be met by imports from such neighboring countries as Formosa and the Philippines.

18. In such a highly compartmentalized market, supply seems far more likely to increase than demand. However, the major banana companies already have substantial investments in Central America and have agreed to ten-year contracts at fixed prices for a growing share of their output. It is thus likely that they will give first priority to disposing of their Central American output. Nevertheless, the uncertainty of market prospects over coming years seems to generate different responses among the larger firms. Thus it appears that United Fruit at present plans to limit its plantations in Honduras to about 12,000 hectares, as compared to 8,000-10,000 hectares in recent years, and is proceeding only slowly with the conversion of its Costa Rican plantations to the high-yield Valery variety. (This may reflect management's decision to capitalize on its present investments on the Pacific coast). Moreover, it is signing association agreements only with planters whom it formerly employed, and their operations continue to be closely integrated with its own. Other competing firms are, however, pursuing a more expansionist policy which may reflect a more favorable assessment of the region's capacity to compete favorably against banana producers in other regions of the world.

19. On the basis of plans for expansion, total Central American exports, excluding Panama, could well reach between 1.3 and 1.4 million tons in 1970, including 750,000 tons from Honduras and 500,000 tons from Costa Rica (see Table 6). In Honduras, the anticipated increase would come from completion of United Fruit's current expansion plans and from the cultivation of an additional 2,000 ha. belonging to two large planters who have signed agreements with Standard Fruit. In Costa Rica, the areas being cultivated by independent growers, which at present do not exceed 1,000 ha., would probably reach 4,000 ha. in the next two or three years and might expand still further in subsequent years.

20. In the other countries of the region there is only limited scope for development. In Nicaragua, the soil conditions in the Atlantic region do not appear particularly conducive to banana growing; experimental work is being carried out to determine what conditions are required to expand banana growing on the Pacific coasts. In Guatemala, the plantations on the Pacific coast have been abandoned. Plantations on the Atlantic side have been maintained at low level, and plans for expansion are still very uncertain.

21. These projections are consistent with the world market outlook, but they assume that within the total market, which cannot be expected to grow much over 2 percent per year on average over the next decade or so, the Central American countries will be able to obtain a larger share because of relative stagnation in Ecuador and their ability to compete, both in production costs and in geographical location for quick shipping to major markets.

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Table 1: CENTRAL AMERICA: COFFEE PRODUCTION AND EXPORTS, 1965-1975
(Volumes in thousand 60 kg. bags, Values in million U.S. dollars)

	Actual 1965					Projection 1970 or 1971					Projection 1975 or 1976				
	Production 1964/65	Local Cons.	Export- able Production	Exports		Production 1970/71	Local Cons.	Export- able Production	Exports ^{1/}		Production 1974/75	Local Cons.	Export- able Production	Exports ^{1/}	
				Q	V				Q	V				Q	V
Guatemala	1,752	250	1,502	1,588	91.3	2,490	290	2,200	1,680	92	2,600	350	2,250	1,880	103
El Salvador	2,075	125	1,950	1,644	95.6	2,360	160	2,200	1,786	98	2,400	185	2,215	2,000	109
Honduras	488	90	398	422	23.2	580	120	460	450	25	650	140	510	505	28
Nicaragua	634	60	574	470	26.4	880	80	800	524	29	850	95	755	590	32
Costa Rica	<u>783</u>	<u>140</u>	<u>643</u>	<u>805</u>	<u>46.6</u>	<u>1,375</u>	<u>175</u>	<u>1,200</u>	<u>1,187</u>	<u>65</u>	<u>1,550</u>	<u>215</u>	<u>1,335</u>	<u>1,330</u>	<u>73</u>
Total	5,732	665	5,067	4,929	283.1	7,685	825	6,860	5,627	308	8,050	985	7,065	6,305	345
Surplus over likely quota levels									1,233					760	
Average Price (US cents per lb.)						44.0					41.0				41.0

Q=Quantity; V=Value

^{1/} Equivalent to likely export quotas. Mission projection.

Source: Mission projection.

Table Ia: CENTRAL AMERICA: VOLUME OF COFFEE EXPORTS, 1962/63-1965/66
(thousand 60 kg. bags)

	Crop Years							
	1962/63		1963/64		1964/65		Estimate 1965/66	
	effective quota	actual exports	effective quota	actual exports	effective quota	actual exports	effective quota	exportable production
Guatemala	1,331	1,762	1,511	1,514	1,257	1,298	1,403	1,700
El Salvador	1,415	1,530	1,685	1,719	1,561	1,618	1,573	1,680
Honduras	282	334	334	318	266	404	269	300
Nicaragua	415	479	435	437	455	468	464	470
Costa Rica	<u>940</u>	<u>901</u>	<u>970</u>	<u>921</u>	<u>888</u>	<u>702</u>	<u>896</u>	<u>860</u>
Total	<u>4,383</u>	<u>5,006</u>	<u>4,935</u>	<u>4,909</u>	<u>4,427</u>	<u>4,490</u>	<u>4,605</u>	<u>5,010</u>

Source: International Coffee Organization and mission estimates.

Table 2: CENTRAL AMERICA: COTTON PRODUCTION
(Thousands Metric Tons)

Crop Year	Total	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
1952/53	27.0	3.1	10.5	.5	12.7	.2
1953/54	42.1	5.6	12.8	.5	22.9	.3
1954/55	75.5	8.1	20.1	.8	46.2	.4
1955/56	76.6	9.1	30.2	.7	36.3	.4
1956/57	87.2	9.4	31.7	1.3	43.9	.9
1957/58	103.7	13.4	35.3	4.1	49.6	1.3
1958/59	108.1	15.3	38.9	4.3	48.4	1.2
1959/60	78.5	13.7	33.1	1.6	29.1	1.0
1960/61	96.1	19.1	41.1	1.3	33.4	1.2
1961/62	144.2	24.1	59.7	3.5	55.6	1.2
1962/63	204.7	52.0	71.5	7.2	72.4	1.5
1963/64	241.5	65.9	74.2	6.8	92.9	1.7
1964/65	291.0	71.7	80.5	11.3	124.3	3.2
1965/66 (Prelim.)	236.8	71.4	45.0	10.2	105.1	5.1

Source: Secretaria Permanente del Tratado General de Integracion Economica Centroamericana (SIECA), and staff estimates 1965/66.

Table 3: CENTRAL AMERICA: COTTON AREA, PRODUCTION AND YIELDS

Crop Year	Area 1000 Hectares	Production 1000 Metric Tons	Yields Kg per Hectare
<u>Guatemala</u>			
1960/61	25.8	19.1	741
1961/62	44.7	24.1	538
1962/63	71.6	52.0	727
1963/64	90.0	65.9	732
1964/65	97.6	71.7	735
1965/66 (Prelim.)	163.9	71.4	688
<u>El Salvador</u>			
1960/61	56.5	41.1	728
1961/62	81.6	59.7	732
1962/63	93.3	71.5	767
1963/64	118.6	74.2	625
1964/65	121.8	80.5	661
1965/66 (Prelim.)	81.7	45.0	551
<u>Honduras</u>			
1960/61	2.0	1.3	665
1961/62	4.2	3.5	844
1962/63	9.2	7.2	786
1963/64	9.1	6.8	750
1964/65	13.9	11.3	813
1965/66 (Prelim.)	18.1	10.2	564
<u>Nicaragua</u>			
1960/61	60.8	33.4	550
1961/62	74.9	55.6	742
1962/63	93.7	72.4	773
1963/64	115.0	93.0	808
1964/65	133.4	122.8	921
1965/66 (Prelim.)	159.5	105.1	659
<u>Costa Rica</u>			
1960/61	3.4	1.2	346
1961/62	2.8	1.2	430
1962/63	2.7	1.5	548
1963/64	2.9	1.7	589
1964/65	5.0	3.2	639
1965/66 (Prelim.)	6.4	5.0	791

Source: Secretaria Permanente del Tratado General de Integracion Economica Centroamericana (SIECA), and mission estimates for 1965/66.

Table 3a: CENTRAL AMERICA: COTTON PRODUCTION AND EXPORTS, 1965-1975
 (Volumes in thousand metric tons, Values in million U.S. dollars)

	Actual 1964/65					Projection 1969/70				Projection 1974/75			
	Production	Local consumption	Exportable Production	Exports 1965		Production	Local consumption 1/	Exports 1970		Production	Local consumption 1/	Exports 1975	
				Q	V			Q	V			Q	V
Guatemala	71.7	4.8	66.9	70.6	36.6	75	8	67	30.2	120	11	109	49.1
El Salvador	80.5	7.2	73.3	73.1	37.8	70	12	58	26.2	95	20	75	33.8
Honduras	11.3	1.0	10.3	11.4	6.5	15	3	12	5.4	22	5	17	7.7
Nicaragua	124.3	2.5	121.8	125.1	66.1	150	5	145	65.3	180	8	172	77.5
Costa Rica	<u>4.6</u>	<u>2.5</u>	<u>2.1</u>	<u>2.1</u>	<u>1.0</u>	<u>11</u>	<u>7</u>	<u>4</u>	<u>1.8</u>	<u>15</u>	<u>11</u>	<u>4</u>	<u>1.8</u>
TOTAL	292.3	18.0	273.0	281.0	147.4	311	35	286	128.9	432	55	377	169.9
Average f.o.b. (US cents per lb.)													
					23.8				20.5				20.5

Q=Quantity; V=Value

1/ Includes consumption for manufacture of textiles for export to other Central American countries and the outside.

Source: Mission projections.

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Table 4: CENTRAL AMERICA: U.S. SUGAR IMPORT QUOTAS AND EXPORTS, 1963 - 1971
(thousand metric tons)

	Actual Exports			U.S. Quotas 1966-71 ^{1/}	
	1963	1964	1965	(1)	(2)
Guatemala	46.8	62.0	38.7	30.9	40.2
of which to U.S. market	(46.3)	(37.7)	(38.2)		
El Salvador	20.4	19.4	23.0	22.5	29.5
of which to U.S. market	(16.9)	(19.4)	(19.5)		
Honduras	1.7	5.5	1.5	3.7	4.8
of which to U.S. market	(-)	(na)	(na)		
Nicaragua	44.1	48.9	53.5	36.5	47.6
of which to U.S. market	(44.1)	(48.9)	(44.6)		
Costa Rica	34.0	36.8	45.9	36.5	47.6
of which to U.S. market	<u>(34.0)</u>	<u>(36.8)</u>	<u>(38.4)</u>		
TOTAL	147.0	172.6	162.6		
of which to U.S. market	(141.3)	(142.8)	(140.7)	142.9	186.7

^{1/} Based on the 1965 U.S. Sugar Act in effect until 1971, about half of the quota allocations shown here would revert to Cuba if Cuba were to regain its preferred access to the U.S. market. The quota projections shown here were based on (1) a level of total U.S. consumption of 8.8 million metric tons (or 9.7 million short tons) and (2) of 9.5 million metric tons (or 10.4 million short tons). Total U.S. requirements in 1966 are expected to be about 9.3 million metric tons.

Source: IBRD Economic Department

Table 5: CENTRAL AMERICA: BEEF CATTLE HERDS AND PRODUCTION, 1960 - 1975
(thousand head of cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection 1970	Projection 1975
Cattle population	5,430	5,538	5,653	5,745	5,895	6,023	7,121	8,590
Extraction	656	678	689	825	793		1,007	1,235
- as % of herds	12.1	12.2	12.2	14.4	13.5		14.1	14.4
- of which sold domestically	532	519	465	563	534		664	798
- sold for export	124	159	224	262	259		343	437
Approximate beef volume sold for export (million lbs.) ^{1/}	40.4	44.3	67.1	93.5	84.4		130.0	185.0
- of which sold to U.S.A.	28.9	30.7	45.5	63.8	61.6		89.0	115.0
Total value of meat exports to outside world (million U.S. dollars) ^{2/}	11.0	12.7	17.4	21.8	21.7	19.3	27.7	39.1
Average annual rates of herd increase	1960-1964		Projected 1964-1970			Projected 1970-1975		
	2.1%		3.0%			3.6%		

^{1/} Beef only; excludes exports of live cattle, which are minor, except within Central America, which is excluded.

^{2/} Includes live cattle, but excludes Central American regional trade in live cattle, mostly from Honduras to El Salvador and Guatemala.

Source: See following Tables 5a - 5e.

Table 5a: GUATEMALA: BEEF CATTLE HERDS AND PRODUCTION, 1960-1975
(Thousand Head of Cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection	
							1970	1975
Cattle population:	1,170	1,202	1,232	1,263	1,296	1,345	1,603	1,951
Average annual increase 1960-64:	2.6%							
Projected annual increase 1964-70:	3.6%							
Projected annual increase 1970-75:	4.0%							
Extraction	140	144	148	207	206		240	293
- as % of population	12.0	12.0	12.0	16.4	15.9		15.0	15.0
- of which for domestic market	131	134	104	153	161		175	213
- for export	9	10	44	54	45		65	80
Volume of beef exports (million lbs.)	-	2.8	17.8	21.4	17.2		27.0	35.0
- of which to U.S.A.	-	1.9	12.3	14.8	11.8		20.0	25.0
Value of exports (US\$ million)	0.2	0.8	3.8	4.4	3.7	4.4	6.0	7.3

Source: Ministry of Agriculture, Planning Council, and U.S. Department of Agriculture:
The Beef Export Trade of Central America (1965). Mission projections.

Table 5b: EL SALVADOR: BEEF CATTLE HERDS AND PRODUCTION, 1960-1975
(Thousand Head of Cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection	
							1970	1975
Cattle population:	906	916	926	938	949	960	1,030	1,137
Average annual increase 1960-64:	1.2%							
Projected annual increase 1964-70:	1.4%							
Projected annual increase 1970-75:	2.0%							
Extraction	117	123	122	121	126		139	159
- as % of population	12.9	13.4	13.2	12.9	13.3		13.5	14.0
- of which for domestic market	100	97	104	121	126		139	159
Value of imports of live animals (US\$ million)	2.2	1.9	2.5	2.6	2.4	1.7	3.5	6.0
Meat products (US\$ million)	0.4	0.4	0.4	0.4	0.4	0.4	-	-
Total c.i.j.	2.5	2.3	2.9	3.0	2.8	2.1	3.5	6.0

Source: Mission estimates, and Direccion General de Estadistica y Censos.

Table 5c: HONDURAS: BEEF CATTLE HERDS AND PRODUCTION, 1960-1975
(thousand head of cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection	
							1970	1975
Cattle population	1,233	1,237	1,238	1,242	1,266	1,266	1,453	1,684
Average annual increase 1960-64	0.7%							
Projected annual increase 1964-70	2.3%							
Projected annual increase 1970-75	3.0%							
Extraction	106	121	132	133	126		174	211
- as % of population	8.6	9.8	10.7	10.7	10.0		12.0	12.5
- of which for domestic market	62	73	63	62	54		99	120
- for export	44	47	69	71	72		75	91
Volume of beef exports (million lbs.)	5.2	7.6	14.4	14.5	13.3		20.0	35.0
- of which to U.S.A.	3.4	5.5	9.3	9.3	8.6		14.0	20.0
Value of exports (million US \$)	3.5	4.6	5.8	5.8	5.2	4.6	5.8	8.3
Beef	1.1	1.5	2.6	2.9	2.5	2.8	4.2	7.3
Live cattle <u>1/</u>	2.4	3.1	3.2	2.9	2.7	1.8	1.6	1.0

1/ Largely exports to Guatemala and El Salvador.

Source: Planning Council, Plan Nacional de Desarrollo, 1965-69; mission projections.

Table 5d: NICARAGUA: BEEF CATTLE HERDS AND PRODUCTION, 1960-1975
(Thousand Head of Cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection	
							1970	1975
Cattle population:	1,214	1,226	1,239	1,251	1,264	1,277	1,525	1,856
Average annual increase 1960-64:	1.0%							
Projected annual increase 1964-70:	3.0%							
Projected annual increase 1970-75:	4.0%							
Extraction	153	154	153	192	195		229	278
- as % of population	12.6	12.6	12.3	15.3	15.4		15.0	15.0
- of which for domestic market	118	101	103	108	113		134	160
- for export	35	53	50	84	82		95	118
Volume of beef exports (million lbs.)	14.5	21.3	23.1	36.6	35.0		41.0	50.0
- of which to U.S.A.	10.1	14.6	15.6	24.5	23.6		30.0	35.0
Value of exports (US\$ million)	4.8	5.7	6.9	8.9	7.8	7.0	8.5	10.5
- Beef	3.1	4.1	6.0	8.4	7.5	6.7	8.5	10.5
- Live cattle	1.7	1.6	0.9	0.5	0.3	0.3	-	-

Source: Ministry of Agriculture, 1963 Agricultural Census, and mission. projections.

Table 5e: COSTA RICA: BEEF CATTLE HERDS AND PRODUCTION, 1960 - 1975
(thousand head of cattle)

	1960	1961	1962	1963	1964	Prelim. 1965	Projection 1970	Projection 1975
Cattle Population	908	957	1018	1051	1120	1175	1,501	1,962
Average annual increase 1960 - 1964	5.4%							
Projected annual increase 1964 - 1970	5.0%							
Projected annual increase 1970 - 1975	5.5%							
Extraction	140	136	134	157	140		225	294
- as % of population	15.4	14.2	13.2	14.9	12.5		15.0	15.0
- of which for domestic market	112	104	91	108	93		117	146
- for export	28	32	43	49	48		108	148
Volume of beef exports (million lbs.)	22.2	12.6	11.8	22.0	25.6		42.0	65.0
- of which to U.S.A.	15.3	8.7	8.1	15.2	17.7		25.0	35.0
Value of exports (million U.S. dollars)	4.9	4.7	4.1	5.6	7.7	5.1	9.0	14.0
- beef	4.3	2.8	2.7	5.0	6.0	3.2	9.0	14.0
- live cattle ^{1/}	0.6	1.9	1.4	0.6	1.7	1.9	-	-

^{1/} Traditionally to Peru, Curacao and Aruba. In 1964 shipments were begun to Italy.

Source: Planning Office: Plan Nacional para Fomento Ganadero, and mission projections.

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Table 6: CENTRAL AMERICA: BANANA EXPORTS 1960-1975
(Volume in thousand metric tons^{1/}, Values in million U.S. dollars)

	Actual Exports				Projected Exports			
	1960		1965		1970		1975	
	Q	V	Q	V	Q	V	Q	V
Honduras	363	28.1	590	54.1	750	63.8	850	72.3
Costa Rica	273	20.3	320	29.3	500	42.5	675	57.4
Guatemala	198	17.3	28	2.5	75	6.4	150	12.8
Nicaragua	<u>2</u>	<u>0.1</u>	<u>15</u>	<u>0.7</u>	<u>50</u>	<u>4.3</u>	<u>75</u>	<u>6.4</u>
Total	836	65.8	953	86.6	1,375	117.0	1,650	148.9
Total f.o.b price per kilo (U.S. cents)		<u>7.9</u>		<u>9.0</u>		<u>8.5</u>		<u>8.5</u>
-of which bananas		<u>7.6</u>		<u>6.5</u>		<u>6.0</u>		<u>6.0</u>
-cellophane bag		0.3		-		-		-
-cardboard box ^{2/}		-		2.5		2.5		2.5

Q=Quantity; V=Value

^{1/} Metric ton=approximately 52 42-lb. boxes=approximately 34 stems of 65 lbs. each, an average.

^{2/} Based on a price for boxes of US\$28 per ton.

Source: Volume II, Tables 25a, c, d, e, and mission projections

Table 7: CENTRAL AMERICA: LAND USE
(Thousand Hectares)

	<u>Central America</u> ^{1/}	<u>Guatemala</u>		<u>El Salvador</u>		<u>Honduras</u>	<u>Nicaragua</u>		<u>Costa Rica</u>	
		1950 ^{2/}	1962 ^{3/}	1950 ^{2/}	1961 ^{2/}	1952 ^{2/}	1952 ^{2/}	1957 ^{3/4/}	1950 ^{3/}	1963 ^{2/}
Total land area	43,207	10,889		2,139		11,209	13,900		5,070	
Area in farms	<u>14,997</u>	<u>3,721</u>	<u>5,315</u>	<u>1,140</u>	<u>1,561</u>	<u>2,507</u>	<u>2,372</u>	<u>2,944</u>	<u>1,500*</u>	<u>2,670</u>
- % of total land area	<u>34.7</u>	<u>34.2</u>	<u>48.8</u>	<u>53.3</u>	<u>73.0</u>	<u>22.4</u>	<u>17.1</u>	<u>21.2</u>	<u>29.6</u>	<u>52.7</u>
Used for annual crops	(3,737	656	1,175	(230*	(488	296	287	343	100*	169
- fallow or crops lost	(3,737	429	241	(230*	(488	425	149	361	121	241
- perennial crops	1,130	159	416	120*	160	175	128	178	150*	201
- improved pastures	(4,930	232	406	(790*	101	(823	(637	(1,383	(1,130	(936
- natural pastures	(4,930	582	777	(790*	504	(823	(637	(1,383	(1,130	(936
- forest and waste	5,200	1,663	2,300	(309	309	789	1,170	679	(1,130	1,123

General note: The data shown here are meant to indicate general trends only, and changes in individual items from one period to another may reflect changes in definition as much as real changes.

* → Estimated.

^{1/} Total of the most recent years shown for the five countries.

^{2/} Census data.

^{3/} Estimates based on data supplied by country.

^{4/} Data from 1963 Agricultural Census not yet fully available.

Source: Dirección General de Estadística y Censos of the five countries (as summarized in Inventory of Information Basic to the Planning of Agricultural Development in Central America, Pan American Union, 1965).

Table 8: CENTRAL AMERICA: ESTIMATES OF FARM SIZE

Type of Farm ^{1/}	"Sub- Family"	"Family"	"Multi-family"		Total
			Medium	Large	
<u>Central America</u>					
- No. of farms (thousands)	620.7	99.5	55.5	2.2	777.9
- Average size (hectares)	2.4	15.3	90.6	1,781.5	153.6
- Total area covered (1000 hectares)	1,482.4	1,521.4	5,034.8	3,919.4	11,956.0
<u>Guatemala (1950)</u>					
- No. of farms (thousands)	308.1	33.0	7.1	0.5	348.7
- Average size (hectares)	1.7	12.2	165.4	2,921.9	106.7
- Total area covered (1,000 hectares)	533.1	500.8	1,167.6	1,519.4	3,720.9
<u>El Salvador (1950) ^{2/}</u>					
- No. of farms (thousands)	160.7	6.3	7.0	0.1	174.2
- Average size (hectares)	2.3	21.2	103.7	2,104.1	87.8
- Total area covered (1000 hectares)	366.0	134.7	724.5	305.1	1,530.3
<u>Honduras (1952)</u>					
- No. of farms (thousands)	120.3	22.2	13.3	0.4	156.1
- Average size (hectares)	4.2	18.6	83.1	1,107.3	160.6
- Total area covered (1000 hectares)	505.9	413.3	1,101.0	487.2	2,507.4
<u>Nicaragua (1952)</u>					
- No. of farms (thousands)	17.9	19.3	13.5	0.8	51.6
- Average size (hectares)	3.0	15.7	75.7	1,182.5	459.9
- Total area covered (1000 hectares)	54.4	302.9	1,021.5	993.3	2,372.1
<u>Costa Rica (1955)</u>					
- No. of farms (thousands)	13.6	18.6	14.8	0.3	47.3
- Average size (hectares)	1.7	9.1	69.1	2,457.6	386.4
- Total area covered (1000 hectares)	23.0	169.7	1,020.2	614.4	1,827.3

^{1/} The classification is intended to relate the size of the farm with the productive capacity of its land. For example, sub-family farms are considered to be too small to support a family of five: the gross income from such farm would vary from an average of about US\$140 per year in Guatemala to about US\$750 in Costa Rica.

^{2/} Table 8a shows the changes which took place from 1950 to 1961.

Source: Study on "Las relaciones entre la tenencia de la tierra y la eficiencia del uso de los recursos agrícolas en Centro America", joint ECLA-FAO-ILO project, prepared by Ing. S. Maturana (FAO).

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Table 8a: EL SALVADOR: FARM SIZE AND LAND TENURE, 1950 AND 1961

Farm Size (Hectares)	1950			1961		
	No. of Farms ('000)	% of Total	% of Farm Area	No. of Farms ('000)	% of Total	% of Farm Area
0-3	125.5	72.0	8.6	175.6	78.2	11.0
3-10	29.1	16.6	10.4	29.1	12.9	10.4
10-100	17.6	10.2	31.1	17.5	7.9	32.4
100 and Over	<u>2.0</u>	<u>1.2</u>	<u>49.9</u>	<u>2.1</u>	<u>1.0</u>	<u>46.2</u>
Total	174.2	100.0	100.0	224.3	100.0	100.0

Land Tenure	1950		1961	
	No. ('000)	% of Number	No. ('000)	% of Number
Owners	107.9	61.9	88.1	39.3
Colonos <u>1/</u>	33.4	19.2	54.8	24.4
Others <u>2/</u>	<u>32.9</u>	<u>18.9</u>	<u>81.4</u>	<u>36.3</u>
Total	174.2	100.0	224.3	100.0

1/ Depending on the individual arrangement, a "colono" can be a share-cropper or virtually a squatter.

2/ Mostly renters and squatters.

Source: El Salvador, 1965-69 Development Plan, Chapter XV.

Table 9: CENTRAL AMERICA: ESTIMATES OF LAND TENURE^{1/}
(Thousands of Farmers)

Type of Farm ^{2/}	"Sub-family"	"Family"	"Multi-family"		Total
			Medium	Large	
<u>Central America</u>	<u>620.7</u>	<u>99.5</u>	<u>55.5</u>	<u>2.2</u>	<u>777.9</u>
Owners	293.7	68.8	42.7	1.8	407.0
Renters	110.0	2.4	0.6	-	113.0
Others ^{3/}	216.9	28.3	12.3	0.3	257.9
<u>Guatemala (1950)</u>	<u>308.1</u>	<u>33.0</u>	<u>7.1</u>	<u>0.5</u>	<u>348.7</u>
Owners	159.0	28.1	6.3	0.5	193.9
Renters	58.0	1.1	0.1	-	59.2
Others ^{1/}	91.1	3.8	0.7	0.1	95.6
<u>El Salvador (1950)</u>	<u>160.7</u>	<u>6.3</u>	<u>7.0</u>	<u>0.1</u>	<u>174.2</u>
Owners	94.8	6.1	6.8	0.1	107.9
Renters	32.6	0.2	0.2	-	32.9
Others ^{1/}	33.4	-	-	-	33.4
<u>Honduras (1952)</u>	<u>120.3</u>	<u>22.2</u>	<u>13.3</u>	<u>0.4</u>	<u>156.1</u>
Owners	21.3	6.1	5.7	0.3	33.3
Renters	18.6	0.7	0.3	-	19.7
Others	80.4	15.4	7.3	0.2	103.2
<u>Nicaragua (1952)</u>	<u>17.9</u>	<u>19.3</u>	<u>13.5</u>	<u>0.8</u>	<u>51.6</u>
Owners	9.4	14.9	11.3	0.7	36.3
All Others ^{1/}	8.6	4.4	2.2	0.1	15.3
<u>Costa Rica (1955)</u>	<u>13.6</u>	<u>18.6</u>	<u>14.8</u>	<u>0.3</u>	<u>47.3</u>
Owners	9.4	13.5	12.6	0.2	35.7
Renters	0.8	0.3	-	-	1.2
Others ^{1/}	3.5	4.8	2.1	-	10.4

^{1/} See also Table 10.

^{2/} See Table 8 for explanation of classification.

^{3/} Including "All others" from Nicaragua.

Source and Classification: See Table 8.

Table 10: CENTRAL AMERICA: PERCENTAGE OF FARMS OCCUPIED UNDER
DIFFERENT SYSTEMS OF TENURE

	Guatemala (1950)	El Salvador (1950)	Honduras (1961)	Nicaragua (1952)	Costa Rica (1955)
	<u>Percentage of Number of Farms</u> ^{6/}				
Owners	55.0	61.9	21.3	44.8	75.5
Renters	17.0	18.9	8.6	9.3	2.5
"Ejidatarios" ^{1/}	-	-	33.9	14.6	-
"Colonos" ^{2/}	12.4	19.2 ^{3/}	4.1	-	0.3
Squatters	10.0	-	11.0	18.2	1.7
Others	5.6	-	21.1 ^{4/}	13.1	20.0 ^{5/}
	<u>Percentage of Area in Farms</u> ^{6/}				
Owners	80.0	92.2	46.2	66.8	88.9
Renters	2.8	5.7	3.1	2.6	0.4
"Ejidatarios"	-	-	24.6	8.1	-
"Colonos"	1.6	2.1 ^{3/}	0.5	-	0.1
Squatters	2.6	-	5.3	21.6	0.6
Others	13.0	-	20.2 ^{4/}	0.9	10.0 ^{5/}

^{1/} A form of co-operative village ownership.

^{2/} Range from share croppers to squatters, depending on individual.

^{3/} Probably includes squatters.

^{4/} Includes sharecroppers.

^{5/} Probably chiefly squatters.

^{6/} Total numbers and areas are same as in Table 9, except for Honduras.

Source: Direccion General de Estadistica y Censos of each country.

Table 11: CENTRAL AMERICA: SUPPORT PRICES FOR GRAINS, 1965 - 1966 ^{1/}
(C.A. pesos per 100 lbs.)

	Actual 1965/66	Proposed 1966/67	
<u>Corn (yellow)</u>			
Guatemala	3.25	3.25	
El Salvador	3.60	3.60	
Honduras	3.25	3.25	
Nicaragua	3.00	3.00	
Costa Rica	3.46		
			<u>Actual Retail Price</u>
			<u>milled rice in 1965</u>
<u>Rice (unmilled, large grain)</u>			
Guatemala	4.25	4.40	12.30
El Salvador		4.80	12.60
Honduras	4.50	4.70	13.60
Nicaragua	5.05	5.05	10.89
Costa Rica	5.92	5.77	10.81
<u>Beans (red)</u>			
Honduras	5.25	5.25	
Nicaragua	5.10	5.10	
Costa Rica	8.25		

^{1/} Stated prices at which grain boards will purchase at given sites.

Source: SIECA

Table 12: CENTRAL AMERICA: STORAGE CAPACITY FOR FOOD GRAINS, 1962
(Thousand Metric Tons)

	Silos	Ware- houses	Other ^{1/}	(1) Total	(2) Output of Corn, Rice and Beans, 1965	(1) as % of (2)
Guatemala	14.7	3.1	-	17.8	685	2.6
El. Salvador	21.4	8.9	13.4	43.7	251	17.4
Honduras	7.6	1.9	3.7	13.2	456	2.8
Nicaragua	5.5	1.4	-	6.9 ^{2/}	213	3.2
Costa Rica	<u>19.8</u>	<u>17.0</u>	<u>-</u>	<u>36.8</u>	<u>158</u>	<u>23.3</u>
Total	69.0	32.3	17.1	118.4	1,763	6.7

^{1/} Includes private enterprise storage, and some smaller warehouses.

^{2/} In addition, Nicaragua has storage for about 14,750 metric tons under construction in Managua.

Source: Joint Planning Mission for Central America, Program for the Development of Basic Grain Production in Central America (Guatemala, October 1965). Text in Spanish.

Table 13: CENTRAL AMERICA: MAJOR FOOD CROP YIELDS
(in kg. per hectare)

Three-Year Averages	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica	Mexico	Panama 1964/65	Peru
<u>Corn</u>								
1957-59	890	720	725	695	1,110			
1963-65	830	905	835	865	960			
1964-65						1,090	840	1,390
<u>Beans (dry)</u>								
1957-59	730	410	415	450	480			
1963-65	490	525	485	785	400			
1964-65						430	280	1,000
<u>Rice (rough)</u>								
1957-59	1,250	2,640	1,820	1,390	1,215			
1963-65	1,950	2,665	1,545	1,470	1,190			
1964-65						2,070	1,060	4,310 ^{1/}
<u>Sorghum</u>								
1957-59	n.a.	(1,035)	805	(805)	n.a.			
1963-65	n.a.	1,185	(810)	(850)	n.a.			
1964-65						2,100	n.a.	n.a.
<u>Wheat</u>								
1957-59	620	-	-	-	-			
1963-65	670	-	-	-	-			
1964-65						2,550	-	990

1/ 1963/64 data; largely irrigated.

Source and Note: The above yield data are calculated from the total national food crop productions shown in Tables 7a-e, Volume II, and estimates of the areas under each crop, as shown by the Direccion General de Estadistica y Censo of each country. Comparisons with Mexico, Panama and Peru taken from FAO Production Yearbook, 1965.

Table 11a: GUATEMALA: AGRICULTURAL CREDIT, 1960 - 1965

	1960	1961	1962	1963	1964	1965
<u>Credit by the Banking System 1/</u>						
Outstanding at end of period	38.9	52.4	50.5	57.9	66.2	60.8
for coffee	11.9	22.1	15.2	14.0	17.8	13.6
for cotton	6.3	9.5	14.0	18.4	19.5	12.8
for other crops	7.9	10.3	9.7	10.5	12.1	14.2
for livestock	12.8	10.5	11.6	15.0	16.8	20.2
of which poultry	(na)	(0.7)	(0.7)	(0.8)	(1.2)	(2.9)
Gross lending during period	27.4	36.6	41.4	45.1	50.0	47.4
for coffee	(na)	18.7	14.6	13.4	15.5	14.5
for cotton	(na)	10.1	16.5	19.6	20.5	18.0
other crops	(na)	4.6	4.5	6.5	5.5	7.3
for livestock	5.4	3.2	5.8	5.6	8.5	7.6
Maturity of gross lending						
Up to 1 year's original maturity				40.3	42.4	40.8
1 - 3 years				3.3	3.1	2.7
over 3 years				1.4	4.5	4.1
<u>Supervised Credit (SCICAS)</u>						
Outstanding at end of period	-	1.4	1.2	1.5	1.9	3.0
Number of loan recipients (approximately)						3,700

1/ Includes State Banks, but excludes INFOP (the government grain stabilization board and development agency).

Source: Banco de Guatemala, Boletín Estadístico, and SCICAS (Servicio Cooperativo Interamericano de Crédito Supervisado).

Table 14b: EL SALVADOR: AGRICULTURAL CREDIT, 1960-65
(Million C.A. Pesos)

	1960	1961	1962	1963	1964	1965
<u>Commercial Banks^{1/}</u>						
Agricultural Credit	40.6	32.4	31.6	33.0	41.2	47.0
For Agriculture	39.6	27.6	30.9	32.0	49.5	44.8
- of which cotton	12.5	7.9	12.3	10.7	14.5	12.6
- of which coffee	21.4	17.4	13.2	16.1	16.8	19.5
- of which sugar	0.5	0.8	1.0	0.8	2.3	4.1
- of which cereals	1.0	0.5	0.5	0.5	0.7	1.0
For Livestock	1.0	4.8	0.7	1.0	1.7	2.2
ABC (Peasant Welfare Agency)	-	-	n.a.	0.5	2.3	3.0
No. of loan recipients				880	2,511	3,543
<u>FCH (Co-operative Credit)</u>						
Total gross credit crop year ending	n.a.	n.a.	0.7	0.9	1.3	1.5
<u>Credit by Producer and Export Organizations^{2/}</u>						
Coffee Company (gross credit granted crop year ending)	5.8	9.3	8.4	5.4	n.a.	n.a.
Cotton Co-operative (net outstanding as of Oct. 31)	n.a.	n.a.	31.4	36.6	38.4	39.8

^{1/} Including government-owned Mortgage Bank.

^{2/} Almost entirely crop credit to producers and commercial credit to mills or exporters. Financed almost entirely by lines from U.S. commercial banks.

Source: Central Bank, El Salvador.

Table 14c: HONDURAS: AGRICULTURAL CREDIT, 1961-65
(million C.A. pesos; amounts outstanding at end of period)

	1961	1962	1963	1964	1965
National Development Bank	3.3	5.3	5.6	7.5	8.8
Other Banks	<u>3.6</u>	<u>3.5</u>	<u>4.5</u>	<u>5.0</u>	<u>8.8</u>
Total Credit	6.9	8.8	10.1	12.5	17.6
<u>National Development Bank</u>					
Loans under 1 year	2.2	3.2	3.4	4.6	6.2
Loans over 1 year	1.0	2.1	2.3	2.9	2.6
Loans for livestock	0.7	1.8	1.9	1.8	2.0
Loans for agriculture	<u>2.6</u>	<u>3.5</u>	<u>3.7</u>	<u>5.8</u>	<u>6.8</u>
of which for - cotton	<u>1.7</u>	<u>1.6</u>	<u>2.0</u>	<u>2.9</u>	
- coffee	0.6	0.6	0.7	1.7	
- corn	0.2	0.2	0.3	0.5	
- tobacco	0.1	0.2	0.1	0.4	

Source: Central Bank of Honduras

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Table 14d: NICARAGUA: AGRICULTURAL CREDIT, 1961-65
(million C.A. pesos; amounts outstanding at end of period, excluding frozen portfolio)

	1961	1962	1963	1964	1965
Commercial Banks	33.5	35.3	31.0	32.7	47.2
INFONAC	<u>2.3</u>	<u>1.6</u>	<u>3.0</u>	<u>2.8</u>	<u>2.8</u>
Total Credit	35.8	36.9	34.0	35.5	50.0
<u>Commercial Banks</u>					
Loans under one year	13.9	15.8	21.8	20.7	28.5
Loans over one year	19.6	19.5	9.2	12.0	18.7
Loans for Livestock	9.4	7.7	7.5	12.0	17.5
Loans for Agriculture	<u>24.1</u>	<u>27.6</u>	<u>23.5</u>	<u>20.7</u>	<u>29.7</u>
of which for - Cotton	<u>7.6</u>	<u>8.1</u>	<u>9.4</u>	<u>11.3</u>	<u>12.9</u>
- Coffee	4.7	4.4	4.6	5.6	5.1

Source: Central Bank of Nicaragua.

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Table 11e: COSTA RICA: AGRICULTURAL CREDIT 1960-65
(million C.A. pesos; amounts outstanding at end of period)

	1960	1961	1962	1963	1964	1965
Commercial Banks - Total	<u>61.8</u>	<u>62.8</u>	<u>65.0</u>	<u>66.5</u>	<u>74.7</u>	<u>84.9</u>
Loans under one year	39.2	37.5	36.9	42.1	39.4	39.6
Loans over one year	22.6	25.3	28.1	24.4	35.3	45.3
Loans for Livestock	17.0	18.1	20.0	20.7	24.4	30.0
Loans for Agriculture	<u>44.8</u>	<u>44.7</u>	<u>45.0</u>	<u>45.8</u>	<u>50.3</u>	<u>54.9</u>
of which for - Coffee	29.8	28.6	27.0	28.8	29.6	30.0
- Other crops	15.0	16.1	18.0	17.0	20.7	24.9
Loans by Juntas Rurales ^{1/}	<u>9.9</u>	<u>11.5</u>	<u>14.8</u>	<u>15.4</u>	<u>16.2</u>	<u>20.0</u>
Loans under one year	1.8	2.0	2.0	1.7	1.7	1.7
Loans over one year	8.1	9.5	12.8	13.7	14.5	18.3

^{1/} Credit to small farmers by Banco Nacional de Costa Rica.

Source: Banco Central and Banco Nacional de Costa Rica.

Table 15: CENTRAL AMERICA: MAIN AGRICULTURAL
EXTENSION SERVICES, 1965

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica	
Number of farm units	348,687	224,289	156,135	61,901	64,625	
Year of Census or Estimate	1950	1961	1952	1965	1963	
Agency	MAG ^{1/} SFEI ^{2/}	MAG ^{1/}	MAG ^{1/}	MAG ^{1/}	MAG ^{1/}	
No. extension offices	30	15	31	19	18	33
<u>Extension Personnel:</u>						
Supervisors	6	--	9	7	3	8
Specialists	5	--	--	9	--	--
Extension agents	31	15	70	26	18	33
Assistant agents	0	48	--	5	14	8
Juvenile club agents	--	--	--	--	44	40
Home economists	<u>8</u>	<u>--</u>	<u>30</u>	<u>--</u>	<u>--</u>	<u>20</u>
Total Personnel ^{3/}	50	63	109	47	79	109
<u>Budget for extension (C.A. pesos)</u>						
Approximate 1965 total	267,000	214,000	354,000	500,000 ^{4/}	362,000	364,000
<u>Estimated percent of farms served</u>	5	n.a.	4	n.a.	n.a.	15

^{1/} Ministry of Agriculture or specialized agencies within it.

^{2/} Servicio de Fomento de la Economía Indígena.

^{3/} Excluding secretaries and service workers.

^{4/} For entire DESARRURAL programs, including research and other activities.

Source: Inventory of Information Basic to the Planning of Agricultural Development in Central America, Pan American Union, 1965.