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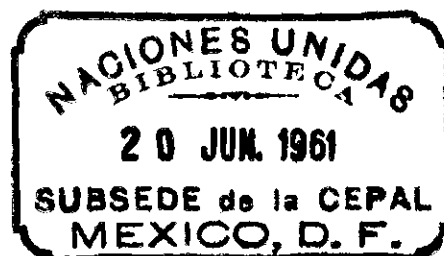
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ANALYSIS AND PROSPECTS
OF
INTER-CENTRAL-AMERICAN TRADE

1. The first part of the document is a list of the names of the persons who have been named in the proceedings.

2. The second part of the document is a list of the names of the persons who have been named in the proceedings.

NOTE BY THE SECRETARIAT

Since the Second Meeting of the Central American Economic Co-operation Committee, and in accordance with a resolution adopted at that Meeting, the secretariat has been studying the question of inter-Central-American trade, which the governments of the countries concerned considered to be of vital importance to the present programme of economic integration. The attached report - Analysis and Prospects of Inter-Central-American Trade (1934-38 to 1946-52) - was the outcome of these studies, and was submitted to the Extraordinary Meeting of the Committee on Economic Co-operation held at San Salvador, El Salvador, in May 1955. (See also document E/CN.12/366.) The Committee postponed discussion of the report until the Third Ordinary Meeting, to be held in Managua, Nicaragua, at the end of this year. The ECLA Secretariat feels it opportune to present the document for the consideration of the Commission during its sixth session, in view of the bearing of the subject-matter on those problems of inter-Latin-American trade which will be discussed at the Conference. Apart from this consideration, the distribution of the report will aid member governments to gain fuller insight into the work of the Economic Integration Programme.

ANALYSIS AND PROSPECTS
OF
INTER-CENTRAL-AMERICAN TRADE

E/CN.12/CCE/10

11 October 1954

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INTRODUCTION

1. Background

The Second Meeting of the Central American Economic Co-operation Committee, held in San José, Costa Rica, in October 1953, adopted Resolution 19 (AC.17), in which the Secretariat was requested to make a study of inter-Central American trade, in view of its fundamental importance in the Central American economic integration programme. In compliance with that Resolution, the Secretariat has the honour to submit the present report to the Committee. It consists of an analysis of the foreign trade of Central America, and of inter-Central-American trade proper, during two periods: the pre-war years from 1934 to 1938, and the post-war and present-day period from 1946 to 1952. It includes also a preliminary survey of trade prospects in certain selected products.

The trade policy of the Central American countries and their recent tendency to conclude free trade agreements among themselves form the subject of a separate report.^{1/}

2. Structure and content of report

The first part of the present report contains an analysis of the direction of the over-all import trade of the five Central American countries, broken down by four zones of origin, viz.: United States, Western Europe, Latin America and the rest of the world. There follows a study of the pattern of imports from Latin American countries, by groups and principal products. At the same time, indication of the trade balances of Central America with those zones serves to throw into relief the channels of trade as a whole, in their dual aspect of exports and imports.

It will be seen from this first part of the report that trade with two principal areas, the United States and Western Europe, represents more than 80 per cent of the total trade of Central America. Similarly, it is

^{1/} See Commercial Policy and Free Trade in Central America (E/CN.12/CCE/11, Sept. 1954)

/clear that

clear that the Central American states, considered as a group, have trade deficits with Western Europe, Latin America and the rest of the world, whereas in their trade with the United States they have succeeded in recording very large surpluses. Such indeed is the magnitude of the latter, that, in addition to covering the debit balances already mentioned, the five countries have been enabled to obtain over-all trade surpluses as large as that of 1950, when it exceeded 69 million dollars. Finally, as regards the composition of imports from Latin America, attention is drawn to the great importance of foodstuffs and manufactured goods, both of which groups represented from 1946 to 1952 more than 70 per cent of the external purchases made by Central America in Latin American countries.

The second part of the report which is solely devoted to an analysis of inter-Central-American trade, takes account of such salient aspects as its relative importance, its channels and its composition. Lastly a study is made of trade prospects in a limited number of products: cement, footwear, edible fats, forest products, maize (corn), beans, fruits, fresh vegetables, cattle and meat.

Although actual economic conditions in the Central American states and the nature of the products mutually traded among them preclude any likelihood that inter-Central-American trade will ever play a major part in their total commerce, it is nevertheless possible to foresee significant increases, greater than those recorded, for example, in the periods 1934-38 and 1946-51. These will be largely a consequence of the efforts undertaken by the five countries in the course of regional integration, in concluding free trade agreements and taking other co-operative measures in which the Central American Economic Co-operation Committee has had a share.

In this connexion, the report analyses inter-Central-American trade flows and their breakdown by groups of commodities and principal products, thus highlighting the effect of integration efforts in increasing mutual trade, and vice versa. Special attention should here be drawn to the position of El Salvador, a country which has concluded free trade agreements with the other four Central American countries; it now conducts the greater part of regional reciprocal trade through such agreements and, mainly as a result of its imports, has been largely responsible for the increased trade to which reference has been made.

I. FOREIGN TRADE OF THE CENTRAL AMERICAN COUNTRIES

A. Direction of import trade

Two geographical areas - the United States and Western Europe - have traditionally constituted the supply markets of the Central American countries. Between them they are responsible for rather more than 80 per cent of the total imports into those countries. This situation, which is shown clearly in the period from 1934-1938, has altered with the passage of time only as regards the percentage distribution between the two areas. In pre-war times 48.7 per cent of the imports came from the United States and 36.9 per cent from Western Europe. Since the war, and more particularly in the years 1946-51, the percentage distribution between the two areas was 73.4 and 9.8 per cent respectively. (See table 1.)

Notwithstanding their gradual revival in recent years, exports from Western Europe to Central America have not succeeded in regaining their pre-war position. In 1952, for example, they managed to achieve only 17.7 per cent of the total (see table 1). However, imports from the United States, from 1950 to 1952, lost some of their relative importance, approximately to the same degree as imports from Western Europe recovered. In other words, during these post-war years, although imports from both zones showed a considerable increase, those from Western Europe increased somewhat faster.

Table 1

Central America: Sources of imports

Period	United States	Western Europe	Latin America	Other countries	Total
<u>C.I.F. values, in thousands of dollars</u>					
1934-1938	24,745.8	18,771.1	3,007.6	4,291.4	50,815.9
1946-1951	154,786.5	20,626.4	21,697.4	13,883.8	210,994.1
1950	163,808.1	27,616.2	20,692.2	17,869.0	229,985.5
1951	187,895.8	44,477.8	22,981.9	22,325.1	277,680.6
1952	210,628.3	55,899.0	25,196.6	24,579.3	316,303.2
<u>Percentage of total</u>					
1934-1938	48.7	36.9	5.9	8.5	100.0
1946-1951	73.4	9.8	10.3	6.5	100.0
1950	71.2	12.0	9.0	7.8	100.0
1951	67.7	16.0	8.3	8.0	100.0
1952	66.6	17.7	8.0	7.7	100.0

Source: ECLA, on basis of official statistics. /Individually, each

Individually, each Central American country imports from different sources. In the pre-war period the proportion of imports originating in the United States was predominant in Honduras and Nicaragua. In Honduras 64.1 per cent of external purchases came from that country, while in Nicaragua the figure was 56.3 per cent. On the other hand, in Costa Rica, Guatemala and El Salvador the proportion was only slightly greater than 40 per cent. Purchases made in Western Europe by Honduras and Nicaragua represented 13.5 and 32.1 per cent respectively, whereas in Costa Rica, Guatemala and El Salvador they reached percentages very similar to those of imports entering from the United States.

In the post-war period, however, there was a strong diminution in the proportion of imports of European origin entering Honduras and Nicaragua, and this tendency was even more marked in the other three countries, which in earlier times had closer connexions with Europe than the two first-mentioned. The proportion barely reached 11.7 per cent in Costa Rica during 1946 to 1951, 14.7 per cent in El Salvador and 9.8 per cent in Guatemala.

The decline in imports from Europe has been mainly due to the situation, in the immediate post-war years, of the three principal European supplier countries of Central America - Germany, Britain and France. Germany, which before the war provided 48 per cent of the region's purchases from Continental Europe, has succeeded only in the last three years in overcoming her own difficulties resulting from the war and in staging a firm recovery of her former external markets. At the same time Britain and France, two large-scale exporters to Central America, lost some of their earlier position relative to the total figure.

During the war a change became evident also in the trend followed by Central American exports. The outcome was that, despite the slow modification manifested in recent years, Western Europe's share in the exports of the Central American countries, amounting in 1934-38 to 35 per cent, reached a figure of no more than 8 per cent during the period from 1946 to 1951. These percentages are very similar to those of Central American purchases from the same area during those periods. There is no direct connexion between the two facts, particularly since the trade and payments policy is non-discriminatory as between the origin of imports. Moreover, there /are regular

are regular shipping lines plying between Europe and Central America, mostly under the British and Norwegian flags, at approximate intervals of 15 days per ship.

However, the importance of the coffee and banana shipments to the United States, carried in United States vessels and ships of the fruit companies - at roughly weekly intervals - facilitates the transport in these fleets of return cargoes of general merchandise for importation into Central America, thus tending to link the five countries still more closely with the United States for purchasing purposes.

But here there is one important fact which should be borne in mind: it concerns the trade policy of the European countries. The difficulties undergone by the latter since the war in regard to exports and the scarcity of hard currencies are well-known. They were the reason why, in their trade relations with the outside world, these countries sought to obtain at the very least a balance between their dollar receipts and payments. In general, therefore, they tried, where payments were in free currencies, to keep their imports from each zone down to the same level as their exports to that zone. Central America did not escape the application of this self-imposed trade policy of the main European countries. In addition, certain treaties recently concluded with a number of West European countries are basically no more than clearing agreements, such as those signed by El Salvador and Guatemala, for example, with Italy and France. There is an obvious relationship here between the values of imports and exports to and from that part of Europe.

In contrast to the relative magnitude of imports from the United States and Western Europe, those from Latin America - including trade between the Central American countries themselves - succeeded at most (1946-51) in reaching 10 per cent of the total. The Latin American countries which played the largest part were Mexico (35 per cent), Peru (9 per cent) and Chile (4 per cent). However, the high proportion of imports emanating from the Central American countries themselves should be noted. In Costa Rica imports from Nicaragua and El Salvador represented, in 1946-1951, 24 per cent of all imports from Latin American sources. In El Salvador 55 per cent of those external purchases were made in Honduras,

/Guatemala and

Guatemala and Nicaragua. In Guatemala 24 per cent of imports from Latin America were received from El Salvador, Honduras and Nicaragua. In Nicaragua the figure was 25 per cent, made up of imports from El Salvador, Costa Rica and Honduras. On the other hand, in Honduras only imports from El Salvador were of importance (42 per cent of total purchases from Latin America).

As a whole, the total imports of the five Central American countries among themselves represented, from 1934 to 1938, 36 per cent of all their imports from Latin America. (See table 2.) In the period 1946-51 they remained at approximately the same percentage, but increased significantly from 1950 to 1952 as a reflection of better mutual trade, which in absolute figures rose to about ten times the pre-war figure.

Table 2

Central America: Imports from Latin America
(C.I.F. values in thousands
of dollars)

Period	Total imports from Latin America	Imports from Central America	Percentage (2):(1)
	(1)	(2)	
Average			
1934-38	3,007.6	1,079.9	36
1946-51	21,702.6	8,032.3	37
1950	20,692.2	8,189.8	40
1951	22,981.9	10,133.0	40
1952	25,196.6	10,491.9	42

Source: ECLA, on the basis of official statistics.

In this connexion it is interesting to relate the direction of import trade with that of exports, as reflected in the trade balances.

In pre-war times the Central American countries as a whole traditionally had trade surpluses with the United States and Western Europe and a deficit with the remaining countries. (See table 3.) The only deviation from this rule in post-war days was provided by Western Europe, which had balances in its favour from 1946 onwards. This

/circumstance was

circumstance was largely due to the trade policies of certain European countries, already mentioned.

A further important fact is that the trade surpluses with the United States increased to an extraordinary extent from the period 1934-38 to the post-war years, since they rose from 702,000 dollars to 92 million in 1951, the most favourable year in this respect (see table 3.) Such a large trade surplus with the United States enabled Central America to cover her trade deficit with the rest of the world and at the same time enabled the region to build up a high over-all surplus position, as in 1950 when the figure was almost 70 million dollars.

Table 3

Central America: Trade balances, by areas
(Thousands of dollars)

Period	With the world	With Western Europe	With Latin America	With the United States	With other countries
1934-38	701.5	537.9	- 1,590.9	4,656.0	- 2,901.5
1946-51	38,333.5	- 5,389.1	- 6,264.1	55,821.4	- 5,834.7
1950	69,917.4	- 2,939.9	- 7,728.7	91,797.4	-11,211.4
1951	62,729.3	-17,312.5	- 1,890.9	92,139.2	-10,206.5
1952	52,801.2	- 8,871.6	- 2,461.5	79,009.3	-14,875.0

Source: ECLA, on the basis of official statistics.

Taking account of the above changes in the sources of imports, i.e. the absolute and relative increase which occurred between the periods 1934-38 and 1946-51 in imports from the United States and the trade surplus accumulated by Central America in its trade with that country, a clear picture may be obtained of the vast increase in exports to the same area. Seventy-three per cent of the coffee and banana exports, which in 1952 represented 88 per cent of the total exports from the five countries, are now sent to the United States, and their value has considerably increased - that of coffee because of larger shipments and higher prices, that of bananas almost exclusively for the latter reason.

/As regards

As regards trade between Central American countries and the remainder of Latin America, it should be mentioned that trade deficits were the rule during the whole of the period under consideration, but these increased considerably in the period 1946-51, particularly in 1950. The increase is due to the general behaviour of exports from Central America to the Latin American countries as a whole, especially in 1950, when there was a drop of 2.5 million dollars in the value of exports, whereas imports fell by only 1 million. (See table 4.)

Table 4

Central America: Trade balances with certain
zones of Latin America

(Thousands of dollars)

Country	1934-38	1946-51	1950	1951	1952
Southern Zone ^{a/}	- 604.6	- 2,952.9	- 2,312.6	- 745.7	- 100.2
Greater Colombia	- 13.4	1,662.1	1,045.7	1,272.2	3,734.5
Mexico	- 509.7	- 7,255.6	- 7,695.9	- 1,603.1	- 7,065.6

Source: ECLA, on the basis of official statistics.

a/ Argentina, Bolivia, Brazil, Chile, Paraguay, Peru and Uruguay.

Central America is a net importing region so far as its trade with the Southern Zone and Mexico is concerned. Its trade with the latter country is by far the most important and it is here that its deficits show the greatest increase, since they exceed 7 million dollars. On the other hand, its trade with the Southern Zone of the Continent, which had some importance in the period 1946-51, particularly between 1946 and 1948, has tended to be confined to lower levels, maintained only by the petroleum imported from Peru and by certain manufactured products. In addition, Central America's trade deficits with the Southern Zone, which were considerable in the period from 1946 to 1951, show signs of disappearing as a result of a relatively large reduction in imports.

/In its

In its trade relations with Greater Colombia, Central America constitutes a net exporting region, with a positive balance of over 1 million dollars in 1946-51, rising to nearly 4 million dollars in 1952.

B. Pattern of imports originating in Latin America

Two groups of commodities - foodstuffs and manufactured goods - represent more than 70 per cent of the Central American imports of Latin American origin which have been selected for the purposes of the present study, including imports from the Central American countries themselves. Foodstuffs amounted to 30.5 per cent in 1946-51 and 36.6 per cent in 1952, while for manufactured articles the figures were 42.2 and 40.3 per cent respectively.^{1/} (See table 5.)

1. Foodstuffs. An especially high proportion of the total is represented by sugar, beef-cattle and maize (corn). They are followed in importance by pigs, beans and rice (see table 6). Other foodstuffs such as edible oils and fats (whose importance has been decreasing in recent years), cheese, butter, cocoa and fresh fruits represent varying percentages of total purchases, but the figures are of lesser significance.

^{1/} This section deals with a group of selected products which together make up the bulk of the imports of Latin American origin. The main reason for using this method of analysis was to weed out from the general import picture, in the interests of simplification, the large number of products having little or no significance in trade between Central America and the other Latin American countries. The following figures show the importance of the products selected in relation to the total:

	Selected imports	Total imports from Latin America	Ratio %	(2)
	(1)	(2)		(1)
1946-1951	14,857.9	21,697.4	68.5	
1951	15,712.4	22,981.9	68.4	
1952	13,319.6	25,196.6	52.9	

/Table 5

Table 5

Central America: Structure by groups of imports
of Latin American origin

Period	Total selected imports	Foodstuffs	Raw materials of agricultural origin	Raw materials of mineral origin	Fuels	Manu- fact- ured goods
<u>C.I.F. values in thousands of dollars</u>						
1946-51 a/	14,857.9	4,535.5	2,187.2	86.7	1,777.9	6,270.6
1950	15,182.9	4,362.1	2,824.1	60.2	2,302.3	5,634.2
1951	15,712.4	5,825.4	2,422.2	165.2	1,375.9	5,923.7
1952	14,742.0	5,003.8	1,940.2	459.9	1,444.3	5,893.8
<u>Percentages of total</u>						
1946-51	100.0	30.5	14.7	0.6	12.0	42.2
1950	100.0	28.7	18.6	0.4	15.2	37.1
1951	100.0	37.1	15.4	1.0	8.8	37.7
1952	100.0	33.9	13.2	3.1	9.8	40.0

Source: ECLA, on basis of official statistics.

a/ Excluding data on Guatemala for 1946.

The high figures for foodstuffs are largely due to imports by El Salvador, which were occasioned by the peculiar position of that country in regard to the production of food for its domestic needs. Eighty per cent of these food imports come from the Central American countries themselves. Imports of sugar, beef-cattle and pigs, maize, beans and other miscellaneous products are the basis of inter-Central-American trade.

Table 6

Central America: Imports of foodstuffs from
Latin America

Period	Total	Sugar	Beef cattle	Maize	Pigs	Beans	Rice	Miscella- neous b/
<u>C.I.F. values in thousands of dollars</u>								
1946-51 a/	4,535.5	1,050.1	909.8	509.8	277.7	174.2	248.0	1,365.9
1950	4,362.1	1,168.1	817.7	633.3	297.8	279.0	239.0	927.0
1951	5,825.4	1,201.1	1,000.1	1,233.6	537.7	172.7	561.1	1,119.1
1952	5,003.8	996.0	922.6	701.1	513.6	537.3	40.9	1,292.3
<u>Percentages of total</u>								
1946-51	100.0	23.2	20.1	11.2	6.1	3.8	5.5	30.1
1950	100.0	26.8	18.8	14.6	6.8	6.4	5.5	21.1
1951	100.0	20.7	17.2	21.2	9.2	3.0	9.7	19.0
1952	100.0	19.9	18.4	14.0	10.3	10.7	0.8	25.9

Source: ECLA, on the basis of official statistics.

a/ Data for Guatemala in 1946 was not available.

b/ Mainly consisting of: leaf and prepared tobacco, cocoa, oil-seeds, salt, edible oils and fats, alcoholic beverages, wheat, cheese and fruits. These products represent 90 per cent of the total included in this group for 1946-51 and 85 per cent for 1952.

Sales from the Caribbean Republics together make up 10 per cent of Central American imports, sugar being the chief product concerned. The remaining zones - South America and Mexico - have also succeeded, at most, in providing 10 per cent of such imports. But in the last few years a falling-off in their relative importance has been recorded.

2. Manufactured goods. The principal group of manufactures consists of cotton fabrics, which in 1950 reached 68.9 per cent of the imports of manufactured articles selected for the purpose of this analysis. (See table 7.) Fertilizers and pharmaceutical products are also of some importance, the latter in 1950 especially when imports reached the exceptionally high figure of 23.5 per cent of the total. Clothing and cotton yarn, on the other hand, were of smaller significance.

Imports of manufactured articles from Latin America were of no great
/consequence, in

consequence, in absolute figures, despite the heavy requirements of such products in Central American countries. There were two main reasons for this state of affairs: on the one hand, the great dependence of Central America, for foreign purchases, in the United States and Europe, and, on the other hand, the present production pattern of the Latin American countries, most of which are not in a position to export any significant quantities of manufactured products. Strictly speaking, the first of these reasons is the weightier, since certain countries of Latin America, such as Argentina, Brazil, Chile and Mexico could supply a larger proportion of Central America's requirements of manufactured goods.

Table 7

Central America: Imports of manufactured goods from Latin America

Period	Total	Cotton fabrics	Pharmaceutical products	Fertilizers	Clothing	Cotton yarn	Miscellaneous b/
<u>C.I.F. values in thousands of dollars</u>							
1946-51 a/	6,270.6	4,110.1	465.1	788.3	361.3	91.5	454.3
1950	5,634.2	3,883.3	441.7	707.8	306.7	62.1	232.6
1951	5,923.7	3,879.7	557.7	700.9	350.9	50.4	384.1
1952	5,893.8	3,166.3	1,383.0	540.4	423.9	59.8	320.4
<u>Percentages of total</u>							
1946-51	100.0	65.5	7.4	12.6	5.8	1.5	7.2
1950	100.0	68.9	7.8	12.6	5.4	1.1	4.2
1951	100.0	65.5	9.4	11.8	5.9	.8	6.6
1952	100.0	53.7	23.5	9.2	7.2	1.0	5.4

Source: ECLA, on the basis of official statistics.

a/ Data on Guatemala for 1946 were not available.

b/ Principally wool and rayon fabrics, paper and cardboard, iron piping, hard fibre sacking and soap.

However, within the total of imports from Latin America, manufactured goods hold first place, with percentages varying between 37 and 42. Seventy per cent come from Mexico, which is the principal Latin American supplier of
/Central America.

Central America. Next in order of importance are purchases effected in the seven countries of the Southern Zone (8 per cent) and mutual trade within Central America itself (8 per cent), although imports from the Southern Zone have been losing in both absolute and relative importance, since they fell from a 900,000 dollars average in 1946-51 to a little over 500,000 in 1952. On the other hand, trade between the Central American countries themselves rose from 1 million dollars in 1946-51 to nearly 1.3 millions in 1952.

This reciprocal trade in manufactured goods has its centre in El Salvador. But, in contrast to its position with regard to foodstuffs, El Salvador is in this case an exporting country: it supplies the four other countries with articles such as clothing, hard fibre sacking, cotton fabrics, straw hats, etc.

Table 8

Central America: Raw material imports of agricultural origin from Latin America

Period	Total	Hides and leather	Timber	Cotton	Non-edible oils and fats	Miscellaneous ^{b/}
<u>C.I.F. values in thousands of dollars</u>						
1946-51 ^{a/}	2,187.2	701.8	306.6	1,085.9	69.2	23.7
1950	2,824.1	683.2	594.2	1,425.8	109.0	11.9
1951	2,422.2	1,224.0	692.1	409.7	78.2	18.2
1952	1,940.2	878.0	845.1	161.8	21.7	33.6
<u>Percentages of total</u>						
1946-51	100.0	32.1	14.0	49.6	3.2	1.1
1950	100.0	24.2	21.0	50.5	3.9	.4
1951	100.0	50.5	28.6	16.9	3.2	.8
1952	100.0	45.3	43.6	8.3	1.2	1.6

Source: ECLA, on the basis of official statistics.

^{a/} Data for Guatemala in 1946 were not available.

^{b/} Wool and tanning extracts.

3. Raw materials of agricultural origin. Imports of these commodities - in reality the only raw materials of any importance in

/Central America

Central America (see table 5) - amounted in 1946-51 to 14.7 per cent of the total imports originating in Latin America; the percentage increased in 1950 and 1951, but fell again in 1952 to only 11.8 per cent. Thus the figures show no definite trend. However, if the four principal component groups (representing over 90 per cent) are analysed, they show some very interesting changes.

For instance, hides and leather, which in 1946-51 represented 32.1 per cent of raw material purchases of agricultural origin from the Latin American countries, rose to 45.3 per cent in 1952. (See table 8.) This is largely the result of the increase in footwear manufactures recorded in all these countries. Imports of timber present a similar picture; here the percentage rose from 14 in 1946-51 to 43.6 in 1952. In this connexion it should be explained that the main supplier of timber is Honduras; thus such imports properly belong to inter-Central-American trade.

On the other hand, cotton and non-edible oils and fats show the opposite trend. Cotton, which in 1946-51 constituted 50 per cent of the total raw material purchases of agricultural origin from Latin American countries, reached a figure of no more than 8.3 per cent in 1952. The reason lies in the considerable expansion of cotton production in El Salvador and Nicaragua, and later in Guatemala, which enabled domestic production to take the place of imports. The same has applied to the over-all importation into Central America of non-edible oils and fats, of which the principal supply regions were, in 1951, South America (30 per cent), Mexico (10 per cent) and the Central American countries themselves, whose mutual trade accounted for the highest percentage (55).

Table 9

Central America: Fuel imports from Latin America

Period	Total	Gasoline	Kerosene	Diesel	Others b/
<u>C.I.F. values in thousands of dollars</u>					
1946-51 a/	1,777.9	1,144.5	199.1	253.3	181.0
1950	2,302.3	1,356.7	194.6	280.6	470.4
1951	1,375.9	702.3	88.3	326.7	258.6
1952	1,444.3	611.0	53.9	91.9	687.5
<u>Percentages of total</u>					
1946-51	100.0	64.4	11.2	14.2	10.2
1950	100.0	59.3	8.5	12.3	19.9
1951	100.0	51.3	6.4	23.8	18.5
1952	100.0	42.6	3.8	6.4	47.2

Source: ECLA, on the basis of official statistics.

a/ Data on Guatemala for 1946 were not available.

b/ Mainly fuel oil, greases and lubricating oils.

4. Fuels. Imports of fuels^{1/} from Latin America, which represented 12 per cent in 1946-51 and 15.2 per cent in 1950, fell sharply in 1951 and 1952 (see table 9). This is the result of the shift which has occurred in the source of supply from Venezuela - the main provider in the earlier period - to the Dutch West Indies (even though essentially the origin is the same). Conversely, there was an increase in Central American purchases from Peru and Mexico.

^{1/} It has not been possible to assemble representative figures for imports of fuel wood.

II. INTER-CENTRAL-AMERICAN TRADE

A. Relative importance

The basic economic conditions of these countries and the nature of the products actually or potentially traded among them preclude any likelihood that inter-Central-American trade will ever play a major part in the total trade of these countries.

There is a great disparity between the volume of staple export products - with traditional markets in the United States and in Europe - and that of the products which are the mainstay of inter-Central-American trade. In addition, some considerable time will elapse before there is any possibility of the domestic production of many manufactured articles, fuels, raw materials and capital goods, which constitute the bulk of Central America's total imports.

The aggregate population of the five countries is slightly over 8,300,000^{1/} and the income per capita is extremely low. Wide sectors of the population are permanently outside the exchange economy. All these factors conspire to make the purchasing power of the Central American markets, composed of the sum of the local markets, a very modest one. Furthermore, many industrial and agricultural activities on which the future of this trade will depend must remain within the confines of the Central American markets themselves and of a few other Latin American countries, as is generally the case with the products which make up this traffic at present.

In other words, the quantitative importance of inter-Central-American trade will never be very great in comparison with the traditional traffic in basic commodities carried on with external regions.

There is no need to take a pessimistic view of these prognostications, since, once effective steps are taken to facilitate reciprocal trade and achieve some degree of integration among the five countries, with all its beneficial effects on the development of old and new activities and the growth of income, significant increases may well be recorded in the trade

^{1/} As at 31 December 1952.

in certain products, increases in their turn would facilitate the attainment of economic integration.

Table 10

Central America: Percentage significance of trade among Central American countries

Countries	Percentage of exports to:				Percentage of imports			
	Latin America		World		Latin America		World	
	1934-38	1946-51	1934-38	1946-51	1934-38	1946-51	1934-38	1946-51
Total for Central America	65.6	51.7	1.8	4.4	35.7	37.3	2.1	3.8
Costa Rica	14.2	14.2	0.4	1.2	36.0	30.5	2.3	1.4
El Salvador	77.5	68.6	2.5	6.2	45.6	38.1	3.3	4.0
Guatemala	56.4	41.4	0.4	0.3	19.5	23.8	1.0	2.6
Honduras	96.8	67.0	2.9	14.0	67.9	45.9	2.9	6.2
Nicaragua	74.0	39.0	4.4	5.0	18.5	27.1	1.4	2.4

Source: ECLA, on the basis of official statistics.

Be that as it may, the value of exports from these countries to the Central American area increased strongly between the periods 1934-38 and 1946-51, since they rose from 900,000 dollars to 8,200,000. The figure has become even higher in the last few years, rising in 1952 to 10,800,000 dollars, largely as a result of the greater effort made by these countries to achieve the integration of their own region by the conclusion of free trade agreements, and similar measures. In addition, although neither exports nor imports within the Central American area are of any great importance in comparison with the over-all trade figures, they were of greater significance during the period 1946-51 than in 1934-38, particularly as regards El Salvador and Honduras and especially insofar as exports are concerned (see table 10). A principal cause is to be found in the trade relations linking the two last-named countries, which are governed by a long standing free trade agreement.

The relative share of inter-Central-American trade in the total trade of the five countries with Latin America presents a different picture.

/From the

From the point of view of exports that share is a large one. Nevertheless, from 1946-51 - particularly in the years 1946 and 1947 - for reasons connected with international supply difficulties, exports to other Latin American countries outside the Central American area increased, with a corresponding drop in the importance of mutual trade. This situation has shown a tendency to change again in the last two years, as the traditional channels of world trade have returned to normal.

B. Inter-Central-American trade channels

In the reciprocal trade which has developed within Central America, it is possible to distinguish three countries which are net importers - Costa Rica, El Salvador and Guatemala - and two net exporters, Honduras and Nicaragua. (See table 2.)

In the first group, El Salvador far outstrips the rest, since its purchases from the remainder of Central America, in 1946-51, represented 38.7 per cent of total intraregional imports. This high volume of imports was composed chiefly of foodstuffs.

The case of Guatemala and Costa Rica is somewhat different, since light manufactured goods, raw materials and foodstuffs alternate in their imports from other Central American countries. In Guatemala beef cattle form the principal commodity.

The two countries which are net exporters occupy this position on account of the extensive purchases made from them by El Salvador.

The position of El Salvador is especially interesting because, on the one hand, it has trade surpluses of some size with Costa Rica and Guatemala, but these are more than offset by the purchases which it makes from Honduras and Nicaragua. (See table 11.)

/Table 11

Table 11

Central America: Totals and balances of visible trade among the five countries

(F.O.B. values in thousands of dollars)

Average 1934-1938

Exporting countries	<u>I m p o r t i n g c o u n t r i e s</u>					Total exports to the area	Percentage of total exports of the area
	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua		
Costa Rica	-	3.4	7.9	1.3	27.5	40.1	4.4
El Salvador	13.1	-	78.1	184.7	6.9	282.8	30.8
Guatemala	4.3	47.9	-	8.9	3.6	64.7	7.0
Honduras	-	238.9	22.5	-	20.3	281.7	30.6
Nicaragua	63.6	15.9	51.0	119.2	-	249.7	27.2
<u>Total imports from the area</u>	81.0	306.1	159.5	314.1	58.3	919.0	
<u>Percentage of total imports of the area</u>	8.8	33.3	17.4	34.2	6.3		100.0
<u>T r a d e b a l a n c e s</u>							
Costa Rica	-	+ 9.7	- 3.6	- 1.3	+36.1		
El Salvador	- 9.7	-	-30.2	+54.2	+ 9.0		
Guatemala	+ 3.6	+30.2	-	+13.6	+47.4		
Honduras	+ 1.3	-54.2	-13.6	-	+98.9		
Nicaragua	-36.1	- 9.0	-47.4	-98.9	-		
Surpluses	4.9	39.9	-	67.8	191.4	304.0	
Deficits	45.8	63.2	94.8	100.2	-	304.0	
Net balance	-40.9	-23.3	-94.8	-32.4	+191.4		

/ (Continued)

Table 11 (continued)

Central America: Totals and balances of visible trade among the five countries

(F.O.B. values in thousands of dollars)

Average 1934-1938

Exporting countries	<u>Importing countries</u>					Total exports to the area	Percentage of total exports of the area
	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua		
Costa Rica	-	57.8	540.1	218.1	214.4	1,030.4	11.5
El Salvador	220.2	-	1,343.3	1,664.2	92.2	3,319.9	37.3
Guatemala	25.3	199.9	-	51.7	4.6	281.5	3.2
Honduras	136.9	2,473.6	193.8	-	54.5	2,858.8	32.1
Nicaragua	424.1	712.2	185.3	95.4	-	1,417.0	15.9
<u>Total imports from the area</u>	806.5	3,443.5	2,262.5	2,029.4	365.7	8,907.6	
<u>Percentage of total imports of the area</u>	9.0	38.7	25.4	22.8	4.1		100.0
<u>Trade balances</u>							
Costa Rica	-	+162.4	+514.8	-81.2	+209.7		
El Salvador	-162.4	-	-1,143.4	+809.4	+620.0		
Guatemala	-514.8	+1,143.4	-	+142.1	+180.7		
Honduras	-81.2	-809.4	-142.1	-	+40.9		
Nicaragua	-209.7	-620.0	-180.7	-40.9	-		
Surpluses	81.2	1,305.8	514.8	951.5	1,051.3	3,904.6	
Deficits	886.9	1,429.4	1,466.2	122.1	-	3,904.6	
Net balance	-805.7	-123.6	-951.4	+829.4	+1,051.3		

/In addition

In addition to this linking of El Salvador, through its imports, with Honduras and Nicaragua, there is another link formed by exports from El Salvador to Honduras and Guatemala. In the latter case an important factor is the trade in El Salvador's manufactured goods, which are sent in considerable quantities to the other two, chiefly to Honduras.

Less importance attaches to the trade relations between Costa Rica, Guatemala, Honduras and Nicaragua. Furthermore, the great increase in inter-Central-American trade observed between the periods 1934-38 and 1946-51 can safely be attributed to the position occupied by El Salvador, which is, so to speak, the hub around which the greater part of the reciprocal trade revolves.

C. Pattern of inter-Central-American trade

Inter-Central American imports, i.e. imports by any one of the five countries from the other four, consist predominantly of foodstuffs. Of the articles selected for analysis in this section, over 50 per cent were made up of foodstuffs,^{1/} which in 1951 reached 72 per cent of the total (see table 12).

They were followed in decreasing order of importance by raw materials of agricultural origin, represented in the total by percentages fluctuating between 15.6 in 1951 and 34.4 in 1950. Such raw materials and foodstuffs together composed about 80 per cent of all inter-Central American imports.

^{1/} The following figures show the percentage ratio which exists between the selected imports and the total inter-Central American imports:

<u>Period</u>	<u>Selected imports</u>	<u>Total imports</u>	<u>Percentage ratio</u> (2)
	(1) (thousands of dollars)	(2)	(1)
1946-1951	5,840.8	8,032.3	72.7
1950	6,237.6	8,189.8	76.2
1951	7,013.7	10,133.0	69.2
1952	6,335.6	10,491.9	60.4

The fall in the ratio observed in 1951 and 1952 results from the fact that other products in which there was little traffic in earlier years were beginning to assume greater importance in reciprocal trade, as was the appearance of new products within that trade.

/Manufactured goods,

Manufactured goods, except for the average recorded in the period from 1946 to 1951 (16 per cent), hardly exceeded 10 per cent in the remaining years included in the table, and in absolute figures remained at under 1 million dollars.

Negligible significance has attached to imports of fuels and raw materials of mineral origin. The large increase observable in the latter in 1952 was the consequence of exceptional imports of cement by El Salvador. As regards the former, it should be noted that figures on imports of firewood are not included because insufficient information was available on this subject; on the other hand, imports of fuels originally imported from areas outside Central America are included (border trade).

The structure of inter-Central American imports, as stressed in the foregoing remarks, naturally follows the countries' internal production structures and therefore reflects each economy's requirement of goods and its potential production capacity. In addition, since El Salvador is the country which has the highest proportion of inter-Central American imports and its requirements of foodstuffs and raw materials of agricultural origin are known, to a certain extent the import structure of these countries as a whole is determined by the peculiar situation of El Salvador.

Table 12

Central America: Structure by groups of inter-
Central American imports

Period	Total	Foodstuffs	Agricultural raw materials	Mining raw materials	Fuels	Manu- factured goods
<u>C.I.F. values in thousands of dollars</u>						
1946-51	5,840.8	3,593.2	1,256.0	17.5	23.8	950.3
1950	6,237.6	3,407.8	2,143.9	2.9	7.0	676.0
1951	7,013.7	5,065.6	1,092.3	8.4	8.8	838.6
1952	6,335.6	4,342.9	1,123.1	107.3	29.8	732.5
<u>Percentages of total</u>						
1946-51	100.0	61.5	21.5	0.3	0.4	16.3
1950	100.0	54.6	34.4	-	0.1	10.8
1951	100.0	72.2	15.6	0.1	0.1	11.9
1952	100.0	68.5	17.7	1.7	0.5	11.6

Source: ECLA, on the basis of official statistics.

/1. Foodstuffs.

1. Foodstuffs. The most important are beef cattle, the main exports coming from Nicaragua, their chief destination being El Salvador. The inter-Central American cattle trade shows a tendency to increase (see table 13).

Maize (corn), a product of some importance in inter-Central American imports, although it has shown signs of increasing in recent years, is subject to considerable fluctuations as a result of the changes in output both in the importing and the exporting countries. This is the more pronounced in the case of El Salvador, in that it is the main importing country.

Rice is another product of some significance as an inter-Central American import (10 per cent), and it shows an upward trend until 1951 inclusive. In 1952 the figure dropped considerably, as a result of the scanty imports by El Salvador in that year. In fact, this country is usually rather a marginal importer so far as rice is concerned, the quantities depending on whether the harvest has been good or bad. In addition, Costa Rica, formerly a rice importer, has latterly been developing its own production, thus enabling it to cover its internal consumption and even to build up a certain exportable surplus.

As regards vegetable oils and fats, the large inter-Central American imports in the period 1946-51 (22.8 per cent of the total) have sharply declined in the last few years (see table 13). There has been a marked increase in all five countries in the production of oil-seeds, which has meant that capacity in each of them has been adjusting itself to consumption requirements.

Table 13
Central America: Inter-Central American food imports

Period	Total	Livestock	Edible oils and fats	Maize	Rice	Misce- llaneous a/
<u>Thousands of dollars</u>						
1946-51	3,593.2	1,186.1	818.9	480.3	395.3	712.6
1950	3,407.8	1,115.0	69.9	481.6	445.8	1,295.5
1951	5,065.6	1,532.6	93.6	1,232.9	517.8	1,688.7
1952	4,342.9	1,426.0	41.0	701.1	40.8	2,134.0
<u>Percentages of total</u>						
1946-51	100.0	33.0	22.8	13.4	11.0	19.8
1950	100.0	32.7	2.0	14.1	13.1	38.1
1951	100.0	30.2	1.8	24.3	10.2	53.5
1952	100.0	32.8	0.9	16.1	0.9	49.3

Source: ECLA. on the basis of official statistics.

a/ Mainly sugar, beans, oil-seeds, leaf and prepared tobacco.

2. Raw materials of agricultural origin. Traditionally, three products - cotton, hides and timber - have constituted more than 80 per cent of imports of this type in inter-Central-American trade. Important changes were, however, observed between the period 1946-51 and the year 1952. While the figure for cotton fell from 65.4 per cent in 1950 to 12.3 per cent in 1952, that for timber rose from 25.5 per cent in the former year to 64.6 in the latter. Hides and leather, which in 1950 represented 1.7 per cent of that total, reached almost 10 per cent in 1952. (See table 14.)

The decline, both absolute and relative, recorded by inter-Central American cotton imports is explained by the expansion of production in Guatemala, which in the last few years has succeeded in covering its domestic demand. There was similarly an expansion in Nicaragua. Guatemala's present self-sufficiency in regard to cotton fibres (except in certain qualities) has given rise, together with the increased Nicaraguan production, to the decline in inter-Central American imports, the main source of which
/was originally

was originally El Salvador.

Among hides the rising trend manifested by imports from the Central American area was due to the development of the footwear industry in El Salvador and Guatemala, whose domestic leather supplies were inadequate and had to be supplemented by greater imports from Honduras and Nicaragua. Costa Rica, although it has developed its footwear industry, is in a somewhat different case, since, while its raw hides requirements are covered by domestic production, its demand for tanned leather is largely satisfied by the United States. Thus the increase in inter-Central American imports of hides and leather has been the reflection only of the purchases of El Salvador and Guatemala.

Finally, the increases in timber imports, which are the largest in both relative and absolute figures, are mainly due to the housing programme in El Salvador, the purchases being made in Honduras and Guatemala.

Table 14.

Central America: Inter-Central American imports
of agricultural raw materials

Period	Total	Cotton	Hides	Wood	Miscellaneous a/
<u>Thousands of dollars</u>					
1946-51	1,256.0	792.9	47.0	231.9	184.2
1950	2,143.9	1,402.7	35.6	547.4	158.2
1951	1,092.3	289.8	56.0	436.8	309.7
1952	1,123.1	138.5	111.2	726.1	147.3
<u>Percentages of total</u>					
1946-51	100.0	63.1	3.8	18.5	14.6
1950	100.0	65.4	1.7	25.5	7.4
1951	100.0	26.5	5.1	40.0	28.4
1952	100.0	12.3	9.9	64.6	13.2

Source: ECLA, on the basis of official statistics.

a/ Mainly non-edible oils and fats and unspecified extracts.

/3. Manufactured goods.

3. Manufactured goods. These, as has already been shown, are of lesser importance within the inter-Central-American import trade. Three commodities - cotton fabrics, clothing and pharmaceutical preparations - represent about 80 per cent of imports of this kind. The leading position is held by cotton fabrics, which reached 56 per cent of the selected imports in the period 1946-1951 and in the year 1951 (see table 15), although they fell to 39 per cent in 1952. Both in this sphere and in that of clothing the position of El Salvador is very different from that observed in regard to foodstuffs and raw materials. In this case El Salvador appears as an exporting country, its main purchaser being Honduras. However, between various countries there are imports of clothing, though these are of no great consequence.

Table 15

Central America: Inter-Central American imports
of manufactured goods

Period	Total	Cotton fabrics	Clothing	Ferti- lizers	Pharma- ceutical products	Miscellan- eous a/
<u>Thousands of dollars</u>						
1946-51	950.3	535.6	190.6	6.9	47.0	170.2
1950	676.0	323.8	147.2	30.4	53.1	121.5
1951	838.6	475.1	178.6	3.6	51.2	130.1
1952	732.5	286.0	211.6	0.2	120.6	114.1
<u>Percentages of total</u>						
1946-51	100.0	56.3	20.0	0.7	4.9	18.1
1950	100.0	47.9	21.8	4.5	7.8	18.0
1951	100.0	56.6	21.3	0.4	6.1	15.6
1952	100.0	39.0	28.9	-	16.5	15.6

Source: ECLA, on the basis of official statistics.

a/ Mainly paper and board, hard fibre sacks and soap.

/Pharmaceutical products

Pharmaceutical products, imports of which are clearly tending to increase (see table 15), are traded among the five countries, although not in very large quantities. The development which is taking place in the production of these articles in all the countries has the result that the trade is mainly a question of different proprietary brands.

Trade in fertilizers is extremely small and is confined to the organic fertilizers produced and exported by El Salvador.

D. Prospects of reciprocal trade in selected commodities

Even though inter-Central-American trade has no short or medium-term prospect of playing a prominent role in the aggregate trade of these countries, a significant increase may be achieved for some commodities. It will not, however, be possible to increase reciprocal trade on a sound basis without an intensification of the efforts made to integrate and co-ordinate the economic development of Central America. There is still a strong tendency towards self-sufficiency in these countries, which leads to a duplication of efforts. Thus each country establishes similar activities, thereby foregoing the obvious advantages to be derived from a co-ordination of these activities on the Central American level. This statement will be made clear by the analyses we shall make of some commodities, and especially of cement, the trade in which seems likely to reach vanishing point in the very near future.

These considerations, however, refer specifically to current output, which already is, or might become, the subject of reciprocal trade, although with little possibility of expansion. But in fact the greatest opportunities for reciprocal trade and integration lie in those activities which have not yet been established in Central America, if and when they are initiated on the basis of a rational plan localizing them and ensuing intrarregional mobility for their products; that is, within a broad framework of Central American integration.

However, the commodities which may be produced in future fall outside the scope of this paper and will therefore not be analysed.

1. Manufactured goods

- a) Cement. The Central American cement output supplies about
/50 per cent

50 per cent of the total consumption of these countries. Imports amount to 100-110 thousand tons yearly, mainly for Costa Rica (40,000), El Salvador (40,000) and Honduras (20,000). With the plants under construction, El Salvador will be able to cover its present deficit and the cumulative shortages up to the time the new plant enters into operation, but will not have a substantial export surplus. Nicaragua is the only country offering immediate scope for the intraregional cement trade. It consumes about 25,000 tons (1954) yearly and by the beginning of 1955 will have a capacity of 49,000 tons. The surplus capacity (24,000 tons annually) could be utilized to cover part of Costa Rica's and Honduras' demand, on an adequate competitive basis.

The construction of the projected plants would give Guatemala a surplus capacity and together with other expansions Central American production might for some years fully supply the region's demand, with Guatemala and Nicaragua as exporters and Costa Rica and Honduras as importers.

The trend towards meeting each country's demand from domestic production, however, if it continues, will make these trade prospects of relatively short duration, since a considerable reduction of imports from outside the area can be forecast on a medium term, together with greater domestic self-sufficiency and fewer trade possibilities within the area. Only a radical change in the trend and in conditions governing the traffic and transport of goods among the Central-American countries could in time begin to alter this state of affairs and promote the installation of plants of more economic size, capable of supplying two or more countries.

Guatemala is currently the main cement producer of Central America and the only country to export small tonnages in certain years. In 1952, owing to a decline in private building together with a small rise in production, Guatemala was able to do without imports. Its current total capacity is 70,000 tons. Under favourable conditions this might be expanded to 140,000 tons by 1955, leaving small surpluses for export.

El Salvador's cement industry started in 1950 with an output of 27,000 tons. Current capacity is 49,000 tons, to be doubled by the installation of an additional kiln in 1955. Imports are sizeable; in 1952, for

1952, for example, they amounted to 40,500 tons. The new factory and the kiln to be added will enable this country to supply all its domestic requirements and even to export small tonnages.

Nicaragua has a factory working at full capacity, but output is insufficient for domestic demand. Imports are at a low level (1,300 tons in 1951 and 2,800 in 1952) so that when a new 30,000-ton kiln is installed (1954) Nicaragua will presumably have the largest exportable surplus of the Central American countries.

Honduras and Costa Rica produce no cement and are therefore the two possible markets to absorb the exportable surpluses of other Central American countries. However, this is only a short-term prospect with regard to Honduras, since that country already plans to install a 30,000-ton factory. It is estimated that the factory could supply domestic consumption, leaving only a small gap to be filled by imports from El Salvador and Nicaragua.

Costa Rica has at present no plans for cement manufacture. Thus it is the only possible importer of the area, with current demand standing at 40,000 tons annually.

b) Footwear. Central America imports about 150,000 pairs of leather shoes annually, with an estimated value of 500,000 dollars. The principal importer is Honduras, followed by Nicaragua and Guatemala. El Salvador and Costa Rica import insignificant amounts, generally of high quality. Honduras imports a substantial quantity from El Salvador (see table 16) while the remaining countries do so from the United States. The only sizeable inter-Central-American trade movement is that between Honduras and El Salvador, the remaining trade being of no importance.

Table 16

Honduras: Leather shoe imports
(Kilogrammes)

Years	Total	From El Salvador	Percentage
1948-49	77,701	46,519	56.9
1949-50	104,261	49,298	47.3
1950-51	90,022	33,886	37.6
1951-52	108,069	30,321	28.1

Source: ECLA, on the basis of official statistics.

In contrast to the traditional system of handmade shoes in Central America, El Salvador has already installed two mechanized shoe factories, and two others are being established in Costa Rica. The Guatemalan industry has not yet attained complete mechanization, while shoe manufacture has remained stationary in Honduras and Nicaragua.

A conservative estimate indicates that 60 per cent of the population in Central America goes shoeless. This is not merely a question of habit but is also largely determined by income levels, especially of rural dwellers, and by the market price of this commodity. Thus, as the growth and distribution of income gradually benefit the bulk of the population and the tradition of not wearing shoes is broken, there will be a considerable improvement in the reciprocal trade prospects of the mechanized factories of El Salvador and Costa Rica. The future of the foreign trade in this commodity, however, is largely dependent on the treatment it is given in free trade agreements and by tariff systems and regulations. Leather shoes are not included in the agreement signed by El Salvador and Guatemala, as the latter has banned imports of this commodity; it is included in the El Salvador-Nicaragua and El Salvador-Costa Rica agreements, although it is subject to import and export controls. It is of course included in the Honduras-El Salvador treaty.

As will be seen below, production prospects will become really favourable for El Salvador and Costa Rica if the conditions outlined are met.

/The more

The more important of the two new factories established in El Salvador started operations in July 1953. It is a completely mechanized factory with United States and English machinery. Its capacity is 1,000 to 1,200 pairs daily, but it manufactures only 300. It utilizes domestic sole leather, which is produced in sufficient quantities for present needs, but would prove inadequate for an expanded output. Hides are imported. The factory employs 110 specially trained workers. Part of its power requirements are generated by its own diesel plant.

The other plant had started operations some time before, in November 1952. Some processes are done by hand, but the most important are mechanized. The machinery is modern: Danish, German, United States and Spanish. The real capacity of the plant is estimated at 350 pairs daily, per 8-hour shift, but output is only 200-250 pairs. Domestic and Uruguayan sole leather is used and the hides are imported from Mexico and other countries. There are 75 specially trained skilled workers and 24 apprentices. As this plant operates on public power supplies it has met with constant interruptions and drops in voltage.

Output from these two factories could supply half of El Salvador's requirements, estimated at 900,000 pairs annually. Both factories are competing on the domestic market by raising output and lowering costs. Shoe prices have not dropped significantly. Both concerns, however, have considered the possibilities of the Central American market, particularly Nicaragua and Honduras.

The two Costa Rica projects which were expected to start production in the course of 1954 are behind schedule. One of the factories had already received part of the machinery by October 1953, and was waiting for the remainder. Canvas shoes with rubber soles have been manufactured for years and a modern tannery has also been installed. The purpose of the factory is partly to use the tannery hides for the manufacture of leather shoes with rubber soles, by using a Spanish patent. The factory's capacity will be 500 pairs daily.

The other plant will be established at Río Segundo, Province of Alajuela. By the end of 1953 the machinery had already been shipped and the buildings were under construction. The plant will have a capacity of 500 pairs daily. As Costa Rica's estimated consumption is 313,000

/pairs yearly,

pairs yearly, the two factories (working at full capacity) could in theory supply this demand. The mechanized industry of Costa Rica will have to wrest the domestic market away from handicraft industries. It is estimated that these factories will be able to sell the machine-made shoes at 30 colones a pair, which is cheap in comparison with current prices of 50-60 colones. Costa Rica might find a market in Nicaragua, where it has already exported canvas, rubber-soled shoes.

A country which achieves greater industrial integration, that is, which is able to obtain an adequate domestic supply of good hides and sole leather, will have a great advantage. Costa Rica has started its own leather production, after overcoming numerous difficulties, but many problems are still to be solved.

c) Edible oils. Central America has the capacity to produce edible oils in sufficient quantities to supply regional oil and fat requirements. Equipment and machinery have been partially modernized in recent years and could supply a greater share of the regional edible oil demand if market conditions and composition justified an expansion.

The raw materials for oil - mainly cotton and sesame seed - are all grown in the region and there is already a trade movement in seeds between Costa Rica (importer) and El Salvador (exporter) and to a lesser degree Nicaragua and Guatemala (also exporters). The supply of imported raw materials is normal and accounts for only a small share of the total cost of the commodity.

Despite these circumstances, Central America imports sizeable tonnages of fats and edible oils, amounting in 1952 to 10,791 metric tons and 3,743,600 dollars. In principle it seems feasible partially to replace imports by the domestic output of the most efficient regional centres, in view of the fact that the oil industry has idle capacity and that the area supplies all its own raw materials. In recent years a remarkable improvement in seed supply conditions has taken place in El Salvador and Guatemala, while expansions and improvements in capacity have been introduced. Moreover, Nicaragua is building a modern factory with relatively large capacity, which is expected to start operations by 1954/55.

/All this

All this seems to ensure a greater degree of regional self-sufficiency in the coming years, but the possibility of a substantial increase in the trade between Central American countries is not so certain. The main consumer countries are also those with the greatest capacity and it can be noted that the regional distribution of productive capacity coincides with the consumption pattern of the different areas. Nicaragua will shortly be able to supply the bulk of its requirements from domestic production; Guatemala and El Salvador have expanded their productive capacity considerably in recent years and the deficit of vegetable oils of all kinds amounts to only 300,000 or 400,000 dollars annually. Thus Honduras and Costa Rica - the two countries with the largest oil deficit - have the only unutilized trade margin which might become useful. The former might be economically supplied by El Salvador and the latter by Nicaragua, while there is also the possibility of a substitution of animal oils and fats. These imports from outside the area reached a level of 9,300 tons, worth 3 million dollars, in 1952. For any of these two trade movements to work under favourable conditions it will be necessary to modify the operating costs of production units, to improve production techniques and to raise the standard of quality and presentation of the products.

d) Forest products. Under present circumstances the position of the inter-Central American wood trade - which is limited and tends to decline - is due to a lack not of markets but of adequate supplies and transport. For the moment the possibilities of Central American trade are very limited because, broadly speaking, all countries, except El Salvador, produce the same kinds of wood and there is no regional supply of the finished products, which have to be purchased outside the area. The integration of the forest industry would improve these prospects considerably, but the most important current possibility for the wood trade lies in the plywood factory at La Quebrada, Guatemala, located in Izabal near the IRCA railroad and close to an important export harbour. The factory has a maximum capacity of 795,000 linear feet of 3-ply wood, which is adequate to supply the Central American demand for this commodity. To date the only inter-area exports have been to El Salvador,

/and the

and the plant works at a low capacity. There is sufficient idle capacity to increase the plywood trade.

Any further expansion of trade would have to be preceded by the implementation of a forestry integration programme designed to ensure the optimum location of wood processing plants. This programme should also include a link-up of communications in order to facilitate the inter-Central American movement of commodities.

The size of the Central American market, estimated partly on the basis of imports, is shown in the following table:

Table 17

Central America: Total imports of timber and
wood products

Years	Tons	Thousands of dollars
1950	19,335.0	1,030.1
1951	17,167.1	1,267.9
1952	26,471.1	1,601.2

Source: ECLA, on the basis of official statistics.

If other purchasing markets in Latin America are considered - mainly Venezuela and Cuba - the production of wooden commodities would have still more favourable prospects. These countries are more or less regular importers of Central American unprocessed lumber.

2. Agricultural products

a) Maize (corn). The reciprocal maize (corn) trade between Central American countries is limited to the imports of El Salvador from the others (11,681 tons in 1952) in order to fill the gap between its domestic production and consumption. Guatemala and Costa Rica have occasionally imported small tonnages, mainly from countries outside the Central American area. Several of the countries, however, could expand /their maize

their maize export trade - under the production conditions outlined below - as their market could be extended to several Latin American and European countries.

Guatemala. Current maize production in this country, 500,000 tons, is only sufficient to supply domestic consumption, although small incidental exports are made to Mexico and El Salvador. Moreover, taking into consideration the consumption projections for the future and present conditions of cultivation, domestic supply can be maintained only by continuous clearance of new lands, in conjunction with genetic improvements.

At present maize plantations are concentrated in areas with very dense populations and with soils depleted by prolonged cultivation. Maize is grown on small lots of 0.55 to 6.1 hectares, employing a great deal of family labour. Yields are very low. Therefore, even present consumption levels would be endangered in poor years. Exportable surpluses may only be expected in those years when weather conditions are exceptionally favourable to maize.

Apart from the fact that it would not be advisable in the interests of Guatemala's economic development, to plan an expansion of maize production beyond domestic requirements, because of the low productivity, it would seem practically impossible to obtain exportable surpluses of sufficient volume to attract a continuous and favourable foreign trade demand from neighbouring countries under present conditions of yield, type of enterprise and agricultural techniques.

Nevertheless, the topography, soils and climate of the areas of Costa and Boca Costa are favourable to maize crops. It has often been said that if the maize belt were shifted to these areas and modern agricultural techniques adopted, production could be greatly increased without employing larger tracts than are at present under cultivation, or even with a reduction of these areas.^{1/}

^{1/} I.E. Melhus and Antonio Berríos Mendoza: Producción y Conservación del Maíz en Guatemala, and ECLA document E/CN.12/218/Add.4, p.22, May 1951: The Economic Development of Guatemala.

Only if these important changes were made could maize production be increased economically beyond present requirements, in order to obtain permanent exportable surpluses on which to base a stable and active foreign trade to the advantage of Guatemala's economy.

Moreover, it should be borne in mind that genetical advances could increase yields per hectare and facilitate the production position of this country.

Nicaragua. Maize crops are spread all over the country and yield about 120,000 tons annually. This is sufficient for domestic requirements, leaving a variable export surplus, which in 1952 reached a record 31,000 tons. The main foreign market is found in El Salvador, which absorbs about 50 per cent of exports.

Production, which grows steadily, rose from 85,000 tons in 1947/48 to 120,000 tons in 1952/53. This was due to the greater area under cultivation and to the impetus given by government credits and the construction of new means of transportation in the agricultural areas. Another factor which may contribute to an increased production is the newly installed silo at Managua, built under the new trade policy for grain.

Current maize cultivation is very primitive; yields, however, average 21.34 quintals per hectare, which shows that they could be increased with modern techniques and by using hybrid maize resistant to drought and with a more uniform development of grains. With government credit it would be possible to guide small farmers away from subsistence farming; new lands can be adapted for maize cultivation, but these are remote from means of transportation.

Traditionally Nicaragua finds a market for maize in El Salvador, and if production were to increase as a consequence of the factors listed above, it might find other foreign markets in countries which occasionally have production deficits.

Costa Rica. Maize cultivation in Costa Rica shows poor yields, mainly due to erosion and deficient farming. Production, however, has increased steadily because larger areas have been sown. The crop rose from 23,000 tons in 1947/48 to 69,000 tons in 1953/54. This increase was not in fact consumed by the population but was used as fodder. One of

/the points

the points of the government programme is to promote cattle production by using maize as fodder. The creation of the National Production Council has helped to solve the insufficiency of grain supplies. Among its objectives is that of stock-piling for the purpose of regulating the domestic and export markets.

By means of a programme for the expansion of the area sown to maize, transferring cultivation to suitable areas, mechanizing farm work and introducing suitable seeds, Costa Rica could regularly export to foreign markets, and, within the area, to El Salvador.

Honduras. Honduras has traditionally exported some tonnages of maize to El Salvador, and as there are relatively large tracts available for cultivation, the possibility should be considered of increasing maize production for export.

In Honduras, as in the rest of Central America, maize is a traditional crop, grown on small farms with primitive methods. In the poor soil of the south and west shifting cultivation methods are used for maize to the detriment of pinewoods. Consequently, yields are low and costs, especially in terms of labour, are high.

The country has relatively large areas of fertile alluvial soils, particularly on the northern coast. Many of these lands are still virgin, or are areas abandoned by banana companies, and would be suitable for mechanized cultivation of maize. At present they are largely devoid of means of communication, but certain road projects currently under consideration would make some of them accessible to agriculture and to modern maize cultivation. The maize experiments made at El Zamorano, at the experimental station of the La Lima fruit company and at the experimental station of the Banco Nacional Fomento in Comayagua might profitably be used in planning maize expansion in these areas.

Under a programme of maize expansion based on the clearing of new areas and the improvement of agricultural techniques, Honduras could count on regular exportable surpluses of a much larger volume than at present to supply El Salvador's market regularly, as well as other international markets.

/b) Fruit.

b) Fruit. Fruit exports are an important item of Guatemala's foreign trade. Bananas are the main product, exported to the United States and some European countries.

Other fruits - which are more important for inter-Central-American trade - are: pineapples, apples, avocado pears, plums, coconuts, peaches, oranges, grapes, etc. The temperate zone products, such as apples, find their main market in El Salvador. Exports (table 18) from Guatemala to El Salvador have increased steadily, which indicates that the former has tried to supply the requirements of the latter, taking advantage of the fact that El Salvador cannot grow temperate zone fruits.

Table 18

Guatemala: Fresh and dried fruit exports
(metric tons and thousands of
quetzals)

Year	<u>To El Salvador</u>		<u>To other countries</u>		<u>Total</u>	
	Volume	Value	Volume	Value	Volume	Value
1947	875.8	16.8	290,051.4	11,687.2	290,927.2	11,704.0
1948	847.2	16.2	273,431.3	10,319.9	274,278.5	10,336.1
1949	878.3	26.5	157,082.5	7,585.8	157,960.8	7,612.3
1950	853.9	24.7	160,149.9	7,647.2	161,003.8	7,671.9
1951	1,805.5	62.2	123,970.3	6,008.9	125,775.8	6,071.1
1952	4,309.7	156.1	93,267.8	4,628.9	97,577.5	4,785.0

Source: ECLA, on the basis of official statistics.

Note: Exports to El Salvador mainly comprise temperate zone products such as apples, peaches, etc. Exports to other countries are mainly of bananas, the United States being the principal market for this commodity.

According to the data of the 1950 Agricultural Census, fruit crops occupy 3,501.7 hectares, lemons being the most important.

In spite of the country's smallness, Guatemala's climate ranges from the tropical to the temperate and alpine. This circumstance places it in an enviable position for the production of a great variety of fruits, but at the same time it creates various problems, transport being the most

/serious. The

serious. The quality of the produce is relatively low, but in recent years the National Agricultural Institute, through its Pomology Section, has set about the reproduction of selected fruit strains and has distributed them among interested fruit farmers. In the cold lands of the country there has been an increased cultivation of fruits such as apples, peaches and plums. Wine-grape cultivation has never succeeded because the climate is too tropical; but lately North American varieties have been introduced with satisfactory results. Some varieties of strawberries and raspberries are found wild in Guatemala. If due attention were paid to these berries they might become a highly attractive crop.

There are considerable opportunities for expanding fruit production in Guatemala and of increasing exports to other Central American markets besides El Salvador. This is due to the fact that Guatemala's climate is suitable for temperate zone fruits, and because land and labour are available. The prime need is to introduce modern techniques and improved strains, and to establish communications.

c) Fresh vegetables. Before the Second World War, Guatemala had been exporting small quantities of fresh vegetables mainly to El Salvador and Mexico. During the war, when United States troops were stationed at Guatemala City, Puerto Barrios and San José, a strong demand for fresh vegetables was created, in excess of traditional production. During this period not only did the country supply the demand of the United States troops stationed there and export relatively large tonnages to the United States, but it also increased exports to its traditional purchasers, Mexico and El Salvador. The expansion of market garden production resulted in improved farming techniques and higher standards for the products. The country was able to continue producing relatively large amounts of vegetables, since in many areas it has suitable soils and climate, while a great number of farmers have acquired the necessary techniques.

After the war, when the demand of the United States Army had disappeared, the Guatemalan market was glutted with these commodities and prices dropped so severely that production fell to pre-war levels.

/There are

There are no data on vegetable production in Guatemala. Table 19 shows the fluctuations of foreign trade between 1937 and 1952. As an illustration it should be noted that in 1950 the Census listed 3,035 vegetable farms with a total area of 1,920 hectares. Production is mainly in the Departments of Guatemala, Sacatepéquez and Quezaltenango.

Table 19

Guatemala: Exports of fresh vegetables

(Thousands of Spanish quintals
and thousands of dollars)

Years	El Salvador		Other countries		Total	
	Amount	Value	Amount	Value	Amount	Value
1937	-	-	-	-	-	-
1938	-	-	-	-	-	-
1939	0.3	0.3	1.1	0.5	1.4	0.8
1940	0.1	0.2	0.4	0.4	0.5	0.6
1941	0.9	1.2	0.4	0.7	1.3	1.9
1942	6.3	7.2	1.8	3.0	8.1	10.2
1943	8.3	12.6	25.4	111.3	33.7	123.9
1944	0.1	0.3	35.9	177.1	36.0	177.4
1945	..	0.1	31.4	110.1	31.4	110.2
1946	0.7	1.9	2.4	9.7	3.1	11.6
1947	1.0	1.6	0.1	0.3	1.1	1.9
1948	1.5	2.0	0.2	0.0	1.7	2.0
1949	4.2	8.5	0.3	0.6	4.5	9.1
1950	3.2	4.9	0.0	0.0	3.2	4.9
1951	5.4	9.1	0.0	0.2	5.4	9.3
1952	30.6	75.2	1.9	3.6	32.5	78.8

Source: ECLA, on the basis of official statistics.

In recent years, the traditional market for Guatemala's market garden produce, that is El Salvador, has undergone an economic development which has raised the income level of the population and permitted a more varied diet. As El Salvador has no land or climate suitable for large-scale production of vegetables, it has depended on the production of neighbouring countries to supply its increased demand. Guatemala has made efforts to

/supply El

supply El Salvador's requirements and has achieved a continuous growth of exports, with the result that its exports to El Salvador in 1952 almost reached the peak war-time level of total exports.

Since Guatemala has the land, the climate and the techniques needed for large-scale production of vegetables, of which there is a shortage in El Salvador, it would be advisable for her to seek an expansion of exports to the latter country and to explore the possibilities of exporting vegetables to other regions outside the Central American area.

d) Beans. El Salvador is the consumer market for beans, as it is for many other foodstuffs. Foreign purchases in 1952 amounted to 4,336 tons, which gives some idea of the size of the market open to countries such as Honduras and Costa Rica which are producers and exporters of this pulse. It can also be forecast that with the growth of population and the rise in income, El Salvador will increase its imports, since there is little possibility of its expanding domestic bean production.

Honduras is already a substantial exporter of beans. Exports in 1949/50 reached a level of 2,700 tons, 99 per cent of which went to the Salvadorean market. As to future possibilities of increasing bean production in Honduras and therefore of expanding exports, the country has vast land and labour reserves which might be used for this crop. It is true that present forms of cultivation - small farms scattered all over the country, and old-fashioned methods - result in stationary and rather poor yields and excessive costs, but this circumstance might be modified through the application of modern agricultural techniques and genetic improvements. Under those conditions, current bean production estimated at 23 to 25,000 tons would receive a new impetus and rapidly expand. This increase could be absorbed not only by the Salvadorean market but also by countries outside the Central American area.

Costa Rica also exports beans. In recent years its export level has been very similar to that of Honduras, and its exports have also expanded rapidly, although only a small share went to the Salvadorean market.

The problems of bean production in Costa Rica are very similar to those of Honduras and their solution lies, as was the case with Honduras,

/in the

in the clearing of richer lands, improvement of agricultural techniques and efficient government aid for numerous small farmers. The National Production Council, whose objective is to solve the grain supply shortage, has already initiated this kind of help. Under these conditions, Costa Rica would be in a position to obtain larger export surpluses, not only for the Salvadorean market, but it could also increase its sales to countries outside the Central American area.

e) Cattle and beef. Nicaragua has traditionally been considered the major cattle-raising country of the region and that which has the greatest possibilities for expansion in this field. Firstly, the ratio of cattle to population is the highest of any Central American country, with 1.05 head per inhabitant. This is higher than the second main producer, Costa Rica, which has 0.80. Secondly, Nicaragua is a traditional and regular exporter of cattle on the hoof. In recent years it has exported small volumes of carcass meat and other livestock products, especially raw hides. From 1947 to 1952, for example, this country exported an average of 17,000 head annually.^{1/}

The main import markets for Nicaragua within the region are El Salvador and Guatemala. The actual absorption capacity of both markets cannot be determined concretely, because for some years statistics show El Salvador as a net exporter of cattle on the hoof, a situation which is in fact due to re-exports from this country to Guatemala.

Nevertheless, from a knowledge of Guatemala's net imports - imports minus exports - which reached a level of 40,000 head annually in 1947 and 1952, and taking into consideration El Salvador's beef requirements,

^{1/} It should be emphasized that although Honduras' official statistics reported exports of more than 30,000 head of cattle in any one of the years 1947-52, a sizeable share of this figure represents re-exports originally coming from Nicaragua. Unfortunately available data do not permit an estimate of the exact number of head re-exported, but this fact is sufficient to justify considering Nicaragua as the main cattle exporter of the region.

/it is

it is possible to conclude that both markets together are of particular interest to Nicaragua's cattle industry, especially in view of future prospects of a rise in income and population levels and some changes in the diet of the inhabitants brought about by higher income levels.

Thus, from the standpoint of demand it is evident that prospects are favourable for greater and more regular trade in beef and cattle. The problem is therefore that of Nicaragua's possibilities of expanding its livestock industry.

An analysis of the conditions of Nicaragua's cattle stocks, of the state of pastures and of domestic meat requirements shows that a substantial and sustained expansion of exports is necessarily a long-term project, requiring the adoption of a national livestock improvement programme.

Nicaragua's cattle stocks have grown very slowly in recent years (2.594 per cent annually), at an even slower rate than that of demographic growth (3.06 per cent annually). This would appear to indicate that, under present conditions of cattle raising, livestock are being slaughtered at the maximum capacity of existing herds. This situation has arisen despite the fact that annual culling (slaughtering plus exports on the hoof) amounts to only about 9 per cent of stocks, while in other cattle raising countries of Latin America, such as Argentina, it exceeds 20 per cent; in the United States it reaches almost 30 per cent.

The main reasons are:

i) A low birth rate of only 17 per cent of total stocks, resulting from low fertility of breeding cows. Only 35-50 calves are born to every 100 cows, against 85 or more in the United States.

ii) Slowness in reaching maturity. Cows calve for the first time when they are more than three years old and bull calves are not ready for market until they have reached the age of four or five years. This situation is due not only to lack of specialization (cattle being used indiscriminately for milk, meat and transport) but also to the fact that, since the herds are bred mainly for dairy purposes, the cows are milked dry (although only a very poor daily average of 1-2 litres of milk per animal is obtained). Thus the calves which do not die of malnutrition are sent to pasture in such a poor physical condition that they take a long
/time to

time to recuperate and to reach maturity.

iii) A high death rate which exceeds 6 per cent of stocks annually. The highest mortality is among calves under one year old. It is estimated that from 20 to 30 per cent of all calves born alive die before reaching that age. Their physical weakness makes the animals an easy prey to nutritional deficiency and intestinal diseases and they are unable to resist the hard six months' dry season in the ranches on the Pacific Coast. Other diseases also play their part in the high death rate.

Given such conditions, it is understandable that the percentage of utilizable cattle is very low and that the average weight of the slaughtered animals is only 250 kilogrammes, yielding 135 kilogrammes of carcass meat.

The state of the pastures and the standard of livestock management are further determining factors. As in almost all tropical areas with a heavy rainfall, Nicaragua's soil is lacking in nitrogen. As a result, grasses are poor in protein and there is a noticeable scarcity of leguminous plants in the natural pasture lands.

Furthermore, because the year is divided into six months of rain and six months of almost absolute drought, there is a super-abundance of green fodder in the former season and an almost complete dearth in the latter. Since cattle raisers do not store fodder in silos or haystacks, the animals suffer from loss of weight through inadequate feeding. Moreover, the abundance of thorny shrubs, small trees and inedible plants in the pastures results in a considerable reduction of the possibilities of increasing forage production. Fenced-in pastures are so vast in extent that the cattle have to walk great distances in their search for food and water; thus fattening becomes a difficult process.

In 1952 it was estimated that there were 800 thousand hectares of grassland in Nicaragua, of which 115 thousand were improved pastures. In addition, there were 210 thousand hectares covered by stubble, which can be used for grazing during the dry season, after the crop has been harvested. On the basis of 1,182,000 head of cattle, there are only 0.85 hectares of pasture per head. This is insufficient, particularly during the dry season.

According to the 1952 official data, 89,300 head of cattle, producing about 12,000 tons of meat, with an average weight per carcass of 135 kilogrammes, were slaughtered for domestic consumption in Nicaragua. About

/3,000 tons

3,000 tons of pork were also consumed. Consumption of the main kinds of meat would therefore reach an annual 13.35 kilogrammes per capita and beef consumption 10.66 kilogrammes. Although meat consumption in Nicaragua is therefore one of the highest in Central America, it is still very low in comparison with that of countries having a greater income: Cuba, 28 kilogrammes; the United States, 76 kilogrammes; Argentina 114 kilogrammes; and Chile, 38 kilogrammes.

According to estimates computed by various international agencies, Nicaragua should be able to raise its annual per capita meat consumption to 24 kilogrammes. Although this target, which reflects the level attained by other countries with a similar income, would appear to be very modest in absolute terms, it does, in fact, imply almost doubling the present consumption.

To raise the level of meat consumption to the figure indicated, given the conditions prevailing in Nicaragua's livestock industry, the low yield of carcass meat and the present pattern of nutrition, it would be necessary to increase the annual per capita consumption of beef to 18.65 kilogrammes. As is shown in the following table, this would mean the slaughter of greater numbers of cattle than at present.

Table 20

Nicaragua: Requirements and theoretical deficit
in cattle for slaughter

Year	Population ^{a/} (Thousands of inhabitants)	Theoretical require- ments	(Thousands of head)	
			Actual slaughter	Theoretical deficit
1952	1,122.7	156.3	89.3	67.0
1953	1,157.1	161.0
1954	1,192.6	166.0
1955	1,229.2	171.1		
1956	1,266.9	176.3		
1957	1,305.7	181.7		

a/ At a growth rate of 3.0655 per cent.

b/ Assuming an annual per capita consumption of 18.65 kilogrammes.

/The foregoing

The foregoing considerations would appear to indicate that any increase in consumption would immediately result in a contraction of Nicaragua's exports. An increase, such as that indicated, would have eliminated exports completely in 1952 and an additional 46,700 head of cattle would have been required. The problem appears more serious in the succeeding years, since, as has already been mentioned, livestock increases at a slower rate than the population.

In order to increase cattle exports and to raise the level of meat consumption, it would be necessary to take measures on a national scale in Nicaragua to obtain:

i) A higher birth rate, by eliminating infertile cows, close vigilance of the reproductive process, and speeding up the heifers' maturation. The last-mentioned aim could be achieved through a well-defined and sustained policy of introducing zebu or other improved dual-purpose breeds;

ii) A decrease in calf mortality, by ensuring that they be sent to pasture in a better physical condition and by changing the present system of exhaustive milking;

iii) A decrease in the death rate of the stocks as a whole, by supplying the animals with sufficient feed during the dry season through the storage of fodder, and by eliminating or controlling external parasites and epidemic diseases;

iv) Better utilization of available forage and prevention of the animals losing weight in the dry season, by enclosing smaller areas as pasturage, eliminating thorny shrubs, small trees and inedible plants, and by storing forage in silos or haystacks.