

ANNEX A

Note: This document was submitted to the Committee of Ministers of Economy on Economic Co-operation in Central America, as document E/CN.12/AC.17/3.

Preliminary Report of the Executive
Secretary of the Economic Commission for Latin America

on

ECONOMIC INTEGRATION AND RECIPROCITY IN
CENTRAL AMERICA

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/I. BACKGROUND

I. BACKGROUND

During the Fourth Session of the Economic Commission for Latin America, held in Mexico in May and June 1951, a resolution was adopted concerning "the Economic Development of Central America" [Resolution 9(IV), document E/2021] the draft of which has been jointly presented to the meeting by the Delegations of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. The resolution was based on a similar proposal approved during the Third Session of the Commission on 20 June 1950, in which it was recommended that the Latin American governments, in formulating programmes and adopting measures for economic development, should "take into account the possibility of expanding demand through reciprocal trade in order to achieve a better integration of their economies and higher levels of productivity and real income". (See document E/1717, Resolution E/CN.12/194).

Bearing in mind the principles of that resolution, the above-mentioned delegations expressed "the interest of their governments in the development of agricultural and industrial production and of transportation systems in their respective countries, so as to promote the integration of their economies and the expansion of markets by the exchange of their products, the co-ordination of their development programmes and the establishment of enterprises in which all or some of these countries have an interest", and indicated their desire that "the Executive Secretary co-operate with the governments concerned in the study and development of these plans".

The resolution at Mexico after stating the principles referred to above and recognizing that "the aspirations of the Central American countries will make a positive contribution to the economic development of Latin America and are compatible with the objectives of the Commission", provides the following:

- (a) TAKES note with satisfaction of the declared objectives of the Central American governments with reference to the integration of their national economies;
- (b) REQUESTS the Executive Secretary to study the means or plans for the progressive attainment of those objectives; and

/ (c) INVITES

- (c) INVITES the governments of the Isthmus of Central America, whenever they deem it appropriate, to form a committee on economic co-operation, composed of Ministers of Economic Affairs or persons appointed by them, to act as a co-ordinating body for activities relating to the above-mentioned questions, and as a consultative organ of the Executive Secretary of the Economic Commission for Latin America, both to direct the studies mentioned above and to examine the conclusions reached therein."

The terms of resolution 9(IV) enabled the Commission, during the last few months, to initiate a concrete programme of co-operation between the Central American governments. This consists in the study of a problem involving one of the traditional aspirations of these peoples, and one which has been the object of many recommendations passed by international assemblies, apart from that quoted above.

The following paper aims at presenting a progress report to the Committee of Economic Co-operation, established under section C of resolution 9(IV), meeting for the first time at Tegucigalpa on 23 August 1952. The report presents for examination and discussion by the Ministers of Economy of the five Central American countries the preliminary conclusions on the problem of economic integration in the Isthmus of Central America, and draws attention to (a) those factors favouring an economic policy of this nature; (b) the scope of such a policy and the requisites for its successful application; and (c) some of the initial industrial possibilities which, in practice and in accordance with what is deemed to be the real situation at present, exist in the region's economy and would assist in attaining these objectives.

II. FAVOURABLE FACTORS

II. FAVOURABLE FACTORS FOR A POLICY OF ECONOMIC INTEGRATION IN CENTRAL AMERICA

1. General Considerations

The Isthmus of Central America is at present accelerating its economic development in the same way as the majority of the Latin American countries and other under-developed areas. The rate of growth, however, is not uniform in the five republics and general conditions prevailing for the development of basic economic activities — that is, crop and livestock production, forestry and mining, new industries and transport services, as well as electric power and other sources of energy — differ from one country to another and even as between different zones of a single country, despite the many common characteristics to be found in the region as a whole.

The state of technical knowledge, of scientific research, education and training reveal sharp contrasts. Services rendered by governments and official organizations in connexion with economic development vary in both quality and nature. The degree of state intervention and of government planning of development is expressed in different forms, as is the case with the initiative and capacity of private sectors to invest in industry, agriculture and other activities. The system of land tenure is an unfavourable factor in agricultural development — more so in some cases than in others — this also being true of other factors such as the mobility and geographic distribution of population. Social conditions likewise differ, and in a measure with them, so do the incentives for progress toward higher productivity. The predominant feature of the area is its diversity not only in the characteristics of its natural resources, but in the problems that obstruct their development and conservation.

Despite these differences, which are sharper in some sectors than in others, the Central American republics, insofar as their economic structure is concerned, basically resemble one another. The greater part of the gainfully employed population, representing a low percentage of the total population, is engaged in agriculture and related activities; with the exception of export crops, agricultural labour works under conditions of low productivity. Industry and services absorb a very small proportion of
/the population

the population, even though many artisan activities still exist, often with low productivity, and employing numerous families. Transport and the supply of energy in Central America are both deficient and expensive. Broadly speaking, it would appear that the Central American economies are now in the first phase of economic development.

The general similarity in the degree of economic growth in the five republics has a common basis, even a common requisite, in the effort to co-ordinate their economic development. By virtue of their nature, the differences, rather than constituting an obstacle, in many cases offer additional possibilities of stimulating economic progress by the adoption of methods and measures common to the region as a whole. When the standard of living is low and the total amount of capital resources immediately available is inadequate to meet short-term requirements in the multiple investment sectors, there seems sufficient reason to seek the maximum social yields from such investments and the minimum economic waste both of resources and of labour. Economic development is slow and costly, and in many parts of the world, despite the exceptional efforts being made, the raising of the standard of living of the population -- the principal objective of development -- can only be attained in the course of many decades. Development is not only a matter of adding annual increments to a country's wealth in equipment and capital goods, but it also calls for the simultaneous and conscientious application of technical knowledge, as well as research and the development of new economic resources, education and training of the inhabitants both as producers and consumers, and the maintenance of balanced relationships between the different sections of production and consumption.

In the Central American Isthmus, where geographical and political frontiers offer limited prospects for the rapid individual development of each country, the strength of the impetus to development must necessarily be even greater -- owing to the cost of development and the prevailing low level of consumption -- than in any other region where general conditions are more favourable. Based on historical conditions and frequent public and private statements issued over a period of many years, the possibility of broadening the economic borders of the Central American /countries by

countries by closer association and by the consideration of their economic development in a collective plan, might offer the area as a whole a means of attaining a higher rate of development, compatible with its present resources. Such a possibility therefore constitutes an encouraging prospect.

Special mention should be made of those reasons, both positive and negative, that help justify a policy of economic integration and reciprocity in Central America, even though these same reasons generally hold true in any case of two or more closely linked and co-ordinated economies.

2. Development Policy

During the past few years Central America has become aware that economic growth must not be left to progress through inertia, but that it is necessary to set up an active policy of development. The guiding principles of all governmental programmes in Central America are without exception highly economic and are simultaneously allied to plans for social betterment. The basic elements of development, such as technical progress in agriculture, the expansion of the cultivated area, improvements in highways and means of transport, the supply of electric power, credit availabilities and policy — all of which are deficient throughout most of the Isthmus — are receiving increasing attention by the governments, either directly through public organizations, or indirectly through encouragement to agricultural production and private investments. The reorganization and perfecting of the monetary and banking systems and the establishment of promotion and development institutes or banks have expanded progressively, not only since but in some countries prior to the Second World War.

Certain concrete cases illustrating the incentives to economic development should be mentioned. In the course of a very few years, El Salvador has undertaken a road-building programme of continuous highways which constitute a radical change in that country's transport system. In fact, the highway network now covers a distance of 1,028 kilometres which, added to the 2,000 kilometres of earth roads, is remarkable in a country of which the total area is only 20,877 square kilometres. It should also be noticed that extensions to this network have already been proposed. In Guatemala, Honduras and Nicaragua. — in the latter case with the assistance of international funds. — programmes of highway extension are being

/undertaken which

undertaken which will do much to eliminate the serious deficiencies in this field. Costa Rica has also improved its highways. Though the work has not been completed in every case, throughout the five republics links with the international highway, known as the Pan-American Highway, have been begun with the assistance of the Government of the United States. This artery can now carry traffic over a distance of 1,691 kilometres, that is 82.5 per cent of its total length from the Mexican-Guatemalan frontier to that between Costa Rica and Panama.

The development of electric power has not been so rapid. With the exception of Costa Rica and El Salvador, there have been few or no electric power development programmes. In these two countries, thanks to active government enterprise, the National Institute of Electricity and the Lempa Electrification Committee, respectively, are engaged on works which will increase the generating and consumption capacity both for urban districts and for industry and agriculture. The importance of these hydro-electric power projects cannot be over-estimated in view of the complete lack of any form of mineral fuel throughout this area.

Agricultural development, comprising both technical improvements and the use of agricultural credits in opening up new areas as well as the diversification of crop production and increased yields, has been considerably encouraged by the Governments of Guatemala, Honduras and Costa Rica, through their respective development and agricultural credit banks or institutes. Private enterprise, in turn, has made notable efforts in the same direction, as may be seen in the case of cotton production in El Salvador and, more recently, in Nicaragua, with the assistance of official credits. The intensive raising of livestock, which is characteristic of Costa Rica, is mainly in the hands of private enterprise. It has reached a degree of perfection comparable to other more highly developed countries. In other areas of Central America, extensive cattle raising for the production of meat and hides has expanded appreciably, as a result of official and private assistance, though there still remains much room for improvement.

With few exceptions, for a good many years credit conditions have been deficient in Central America. The scarcity of bank capital, the inadequate extension of credit, the strict credit requirements and, in some cases,

/the lack

the lack of consolidation in the monetary systems, added to other problems such as the predominance of very small farms in some countries, and the deficiency in communication, have given rise to certain forms of private credit characterized by usury. This has blocked the growth of production and the adequate distribution of income which would otherwise enable primary producing sectors to raise their standard of living. Only in Costa Rica has progress in banking and credit — attained after many years of organization and well applied efforts — enabled that country to offer more favourable conditions for credit facilities to a large number of borrowers.

Monetary and banking reorganization in Guatemala since 1945, involving the adoption of more suitable legislation to meet the requirements of a developing economy, mark a stage of progress which constitutes the basis for an attack on the age-old deficiencies of credit organization. In fact, it should be emphasized that remarkable improvements have been made. In Honduras, similar reorganization, started in 1948, is providing a sharp stimulus to the economic development of that country. Latterly, progress along these lines has also been made in the banking and credit systems of El Salvador and Nicaragua. It should be noted that in the former of these, the recent reforms in the Central Bank legislation have empowered that bank to give greater support to long-term credit operations.^{1/}

The above examples hardly constitute a complete list of the latest improvements made, though this would in any case be redundant in the present work. Instead, they afford a striking indication of the active policy of economic development being formulated, and recognize, at the same time emphasize the need to provide new incentives through government measures. The similarity in the economic objectives of the different governments, apart from the very existence of such policies, constitutes a favourable factor for the possible adoption of a more general policy, aimed at the economic betterment of the Isthmus as a whole. It is impossible to determine the degree of

^{1/} It is expected that the seminar to be organized jointly by the Economic Commission for Latin America, the Food and Agriculture Organization and the Guatemalan Government, beginning 15 September next, will lead to the drawing up of important theoretical and practical conclusions regarding agricultural credits in Central America.

acceleration of economic development, owing to the very elementary stage reached in the calculations of national income and investments which would otherwise enable a more accurate estimate to be made. However, certain individual instances of increased production for domestic consumption and for export could be cited, though these are naturally subject to the limitations arising from the lack of adequate statistical series.

For instance, the production of maize, the basic element of diet in Central America, increased considerably in Costa Rica between 1947 and 1949, as it did in Guatemala between 1945 and 1949 and in El Salvador and Nicaragua between 1945 and 1950, even though the nature of the data available precludes any precise interpretations. (See Table 1.)

In Honduras, the volume of rice production has increased since 1946; in Nicaragua it rose more than 25 per cent between 1945 and 1950. Cotton production in El Salvador was almost trebled between 1945 and 1951, whilst in Nicaragua and Guatemala, especially in the former, its increase from even lower levels has been spectacular: 25 and 7 times greater respectively between 1947/1948 and 1951/1952. Exports of oil and oilseeds — cited owing to the lack of production data — increased 70 times between 1945/1946 and 1949/1950 in El Salvador, and were three to four times higher in Nicaragua. (See Table 2.) Bean production in the latter country rose substantially between 1945 and 1950, the same trend being observed in other countries. Sugar production for 1950 in Guatemala and El Salvador alone equalled that of all the five republics for 1945, whilst production for the rest of the Isthmus is estimated as being at least two to three times greater than in 1945. The cultivation of rubber has grown remarkably in Costa Rica. Similarly, the total volume of export products, such as hemp and lumber, has multiplied several times throughout the region between the years 1945 and 1950. (See Tables 2.)

The lack of statistical data makes it more difficult to estimate the degree of progress in industrial production, but it would appear that in certain countries (among them Nicaragua) there was a substantial expansion of textile production between 1946 and 1949/50, and of cement production in Guatemala and Nicaragua. An indirect indication of industrial production and commercial development is to be found in imports of liquid mineral fuels and lubricating oils, the total of which increased from 346,000 tons in 1945 to 691,000 tons in 1950, or, in other words, doubled.

/Taking

Table 1 Central America: Production of Selected Agricultural and Industrial Products, and Electric Power

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
<u>Maize</u>					
(thousands of 100 lb. quintals) a/					
1945	4 149	2 569	3 547	1 985	..
1946	6 382	3 027	4 233	1 121	..
1947	3 599	3 720	4 456	1 779	455
1948	7 720	5 552	3 833	1 563	462
1949	8 022	3 767	3 044	1 841	1 318
1950	..	3 387	..	2 355	..
1951	..	2 996	..	..	..
<u>Beans</u>					
(thousands of 100 lb. quintals)					
1945	271	484	359	251	..
1946	490	536	376	185	..
1947	209	573	386	234	162
1948	..	775	445	235	220
1949	485	371	268	401	233
1950	..	867	..	395	..
1951	..	..	..	..	..
<u>Rice</u>					
(thousands of 100 lb. quintals)					
1945	185	354	..	253	..
1946	192	411	223	124	..
1947	90	499	270	135	..
1948	..	749	235	201	..
1949	169	273	..	280	399
1950	141	302	..	319	342
1951	..	..	..	..	..
<u>Cotton</u>					
(thousands of 100 lb. quintals)					
1945	..	69	3	..	..
1946	..	71	13	..	..
1947	7	75	13	..	..
1948	..	106	4	9	..
1949	..	147	3	107	..
1950	52	135	..	112	..
1951	..	200	..	..	..
1952	50	..	..	250	..

Table 1 (Continued)

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
<u>Sugar</u> (thousands of 100 lb. quintals)					
1945	517	400	..	161	161
1946	521	594	..	231	323
1947	583	562	..	199	451
1948	574	..	..	201	518
1949	680	490	39	280	..
1950	746	593	..	..	..
1951	..	..	100	..	..
1952	..	..	135	..	..
<u>Cotton Textiles</u> (thousands of yards)					
1946	6.505	22 383	458	3 000	..
1947	..	22 708	493	4 226	..
1948	..	..	395	4 672	..
1949	4 752	..	484	4 775	..
1950	..	..	555	..	..
1951	..	..	..	..	..
<u>Vegetable Oils</u> (thousands of 100 lb. quintals)					
1946	..	22	5	..	..
1947	..	33	11	..	..
1948	..	111	16	6	..
1949	..	..	14	7	26
1950	..	..	14	..	..
1951	..	..	..	..	..
<u>Cement</u> (thousands of tons)					
1946	27	—	—	10	—
1947	..	—	—	12	—
1948	..	—	—	16	—
1949	..	—	—	16	—
1950	50	—	—	17	—
1951	..	—	—	..	—

Table 1 (Continued)

	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
<u>Electric Power</u> b/ (millions of KWH)					
1946	56	40	..	19	112
1947	59	46	..	22	123
1948	64	50	..	22	126
1949	72	54	..	23	143
1950	83	58	51	24	160
1951	..	61	..	..	173

Sources: Maize, rice and beans. Guatemala: Dirección General de Estadística; figure for 1949 was provided by the crop and livestock production census and the remainder are deficient estimates, which must be accepted with great reserve. El Salvador: Until 1948, Dirección General de Estadística; 1949-51, Dirección de Estudios Económicos and Statistics of the Ministry of Agriculture. Honduras: Report by the Secretariat of Development in Agriculture and Labour; these are incomplete figures which must be accepted with great reserve. Nicaragua: Dirección General de Estadística. Costa Rica: For 1949, estimate based on the crop and livestock production census; other years, estimates should be taken with great reserve.

Cotton. Guatemala 1947, "Revista de Economía", Nos. 2 and 3; 1949-50, report to Congress by the President of the Republic; 1952, estimate by the Production Development Institute. El Salvador: Until 1947, Dirección General de Estadística; 1948-51, various sources and estimates. Honduras: The same source as for maize. Nicaragua: The Dirección General de Estadística; the figure for 1952 is a preliminary estimate.

Sugar. Guatemala: Dirección General de Estadística. El Salvador: same source as for maize. Honduras: same source as for maize; 1951-52 preliminary estimates. Nicaragua: Dirección General de Estadística. Costa Rica: Junta de Protección de la Agricultura de la Caña and Dirección General de Estadística.

Cotton Textiles. Guatemala: 1946 Industrial Census; 1949, M. Dalponte: Study of the Textile Industry of Guatemala, Institute of Production Development, referring only to coarse cotton cloth, drills and "zephyrs". El Salvador: Statistical Annual 1947, Vol. III. Honduras: Information from the Ministry of Finance. Nicaragua: Dirección General de Estadística.

/Vegetable oils.

Table 1 (Continued)

Sources: Vegetable Oils. El Salvador: Statistical Annual 1947 and 1948, Vol. III. Honduras: Ministry of Finance Report and Statistical Bulletin of that Ministry; refers only to coconut oil. Nicaragua: The Dirección General de Estadística. Costa Rica: Estimates by the Statistical Division of the Ministry of Finance.

Cement. Guatemala: 1946, Industrial Census; 1950, estimate. Nicaragua: 1946-50, estimates from various sources; 1947-49, Dirección General de Estadística.

Electric Power. Guatemala: Based on data from the Empresa Eléctrica de Guatemala which includes amount of power generated by that organization, and an estimate for the remaining public service organizations; omitting figures for private production. El Salvador: Economic Indices, Nos. 2 and 3 of the Ministry of Economy; covers only the electric power generated by public utilities; 1951, estimated. Honduras: Central Bank of Honduras, figure estimated, including the electric power generated for their own use by industrial undertakings. Nicaragua: Dirección General de Estadística, covering only the power generated by public utilities. Costa Rica: Central Bank, estimated, including electric power generated for their own use by various industrial undertakings.

Note: For agricultural products, harvest years have been converted to calendar years; 1950-52, preliminary estimates.

a/ A 100 lb. quintal is equivalent to 46 kilogrammes.

b/ The data are not homogeneous; see notes with regard to sources.

Table 2 Central America: Exports of Seven Selected Products

	Volume (tons)				Value (thousands of dollars)							% of total exports ^{a/}
	Guatemala malá	El Salvador vador	Honduras ras	Nicaragua ragua	Costa Rica	Total	Guatemala malá	El Salvador vador	Honduras ras	Nicaragua ragua	Costa Rica	
Cotton b/												
1945	—	850	7	—	—	857	—	261	2	—	—	263
1946	—	1 220	—	322	—	1 542	2	484	—	—	—	631
1947	45	1 009	29	411	—	1 524	—	611	7	—	—	823
1948	—	3 649	246	1	—	3 896	—	1 954	25	—	—	2 019
1949	—	1 974	289	379	—	2 662	—	1 116	21	—	—	1 349
1950	—	6 511	96	3 307	—	9 914	—	1 708	11	—	—	3 562
1951	..	..	269	4 365	..	..	..	..	18	..	..	..
Oils and Oilseeds c/												
1945	136	7	135	3 131	—	3 409	17	2	29	—	—	424
1946	45	139	95	4 895	—	5 174	11	83	43	—	—	1 046
1947	182	2 167	276	7 468	56	10 149	22	856	143	17	—	3 223
1948	1 353	4 959	614	12 202	—	18 168	352	1 638	149	—	—	5 808
1949	34	7 225	790	18 096	—	26 145	8	1 708	167	—	—	6 047
1950	274	7 127	383	11 783	—	19 572	36	1 342	56	—	—	3 154
1951	..	..	767	8 177c/	..	..	..	..	134	..	..	..
Essential Oils e/												
1945	136	3	..	—	—	129	617	10	122	—	—	749
1946	91	4	..	—	—	95	994	20	344	—	—	1 358
1947	136	4	..	—	—	140	537	13	321	—	—	871
1948	398	7	..	—	—	405	850	13	80	—	—	943
1949	473	14	..	—	—	487	1 084	40	48	—	—	1 172
1950	503	33	..	—	—	536	1 501	118	37	—	—	1 656
1951	..	..	..	..	..	..	..	..	27	..	..	..

Table 2 (Continued)

	V o l u m e (tons)						V a l u e (thousands of dollars)						% of total exports
	<u>Guate</u> <u>mala</u>	<u>El Sal</u> <u>vador</u>	<u>Hondu</u> <u>ras</u>	<u>Nica</u> <u>ragua</u>	<u>Costa</u> <u>Rica</u>	<u>Total</u>	<u>Guate</u> <u>mala</u>	<u>El Sal</u> <u>vador</u>	<u>Hondu</u> <u>ras</u>	<u>Nica</u> <u>ragua</u>	<u>Costa</u> <u>Rica</u>	<u>Total</u>	
<u>Rice f/</u>													
1945	91	5	33	—	—	129	8	1	4	—	—	13	0.01
1946	—	248	330	5 093	1	5 672	—	50	56	948	—	1 054	0.74
1947	500	3 634	2 203	3 639	230	10 206	99	698	464	807	57	2 125	1.05
1948	118	1 872	1 446	3 659	736	7 831	24	359	237	788	156	1 564	0.67
1949	—	2 397	858	9 686	—	12 941	—	225	101	1 619	—	1 945	0.78
1950	—	8	366	2 061	—	2 435	—	—	60	302	—	362	0.12
1951	..	..	161	8 347	..	..	..	..	23	1 484	..	..	..
<u>Cocoa g/</u>													
1945	91	—	1	131	1 309	1 532	25	—	—	30	262	317	0.30
1946	91	—	—	407	3 964	4 462	18	—	—	132	1 109	1 259	0.88
1947	227	—	1	272	4 847	5 347	62	—	1	171	2 854	3 088	1.53
1948	346	—	4	136	4 304	4 790	199	—	2	99	3 500	3 800	1.69
1949	176	—	35	201	5 511	5 923	58	—	15	98	2 522	2 693	1.08
1950	367	—	1	82	4 389	4 839	228	—	—	49	1 987	2 264	0.76
1951	..	..	—	..	..	..	..	..	—	..	..	..	..
<u>Manila hemp h/</u>													
1945	182	—	1 010	—	2 406	3 598	429	—	232	—	247	908	0.87
1946	1 727	103	1 443	—	505	3 778	381	28	314	—	57	780	0.55
1947	3 091	104	1 796	—	4 521	9 512	959	32	289	—	1 330	2 610	1.29
1948	4 957	315	4 281	—	6 264	15 817	2 190	96	1 462	—	3 240	6 988	2.98
1949	4 000	819	2 781	—	5 322	12 922	1 910	259	1 263	—	2 535	5 967	2.39
1950	4 201	364	1 884	—	2 627	9 076	1 537	105	959	—	1 369	3 970	1.33
1951	..	..	1 098	..	..	..	..	..	777	..	..	..	..
<u>Wood i/</u>													
1945	6 925	5	5 077	13 200	2 869	..	806	2	173	667	210	1 858	1.78
1946	5 811	23	11 208	18 800	10 246	..	882	1	349	987	498	2 717	1.90
1947	8 629	—	44 181	28 500	20 476	..	758	—	1 165	1 725	1 256	4 904	2.43
1948	3 667	—	79 847	20 800	28 261	..	517	—	2 643	1 331	563	5 054	2.15
1949	1 854	—	87 987	22 100	22 620	..	161	—	2 625	1 391	251	4 428	1.78
1950	1 205	—	80 471	29 500	23 721	..	185	—	2 078	1 740	230	4 233	1.42
1951	..	..	105 742	34 000	..	..	..	..	2 720	1 287	..	..	..

Table 2 (Continued)

Sources: Foreign Trade Statistics of the five republics.

- a/ Since 1946, total exports represent values adjusted by valuation factors, etc. (Data from the International Monetary Fund and the Central banks.) For 1945, adjusted data are only available for El Salvador and Honduras.
- b/ Group 263 of the Standard International Trade Classification (SITC), including cotton waste.
- c/ Items 221-01 to 221-09 and 412-01 to 412-19 of the SITC.
- d/ These series only include "ajonjolif". The only other imported oilseed, which appears in Nicaraguan exports, is cotton seed for which no data are available for 1951.
- e/ Item 551-01 of the SITC.
- f/ Items 042-01 and 042-02 of the SITC.
- g/ Cocoa beans and cocoa in the form of powder, butter and paste (group 072 of the SITC). From 1946-49 the values for Costa Rica have been adjusted by valuation, according to the data published by the International Monetary Fund in the Balance of Payments Yearbook.
- h/ Item 265-05 of the SITC. However, the data for Guatemala cover vegetable fibres such as hennequen, agave, and similar products, whilst those of El Salvador comprise unspecified textile fibres.
- i/ Items 242-02 and 242-03, 243-02 and 243-03 of the SITC; or, in other words, coniferous and non-coniferous lumber, sawn and unsawn. The total volume has not been indicated since the data are not quoted in the same unit of volume for all countries. In Guatemala and Nicaragua, the volume is given in thousands of square feet; for El Salvador, in thousands of feet B.M.; Honduras, cubic metres and Costa Rica, tons.

Taking the countries individually, in El Salvador, Guatemala and Honduras, the rise was more than 100 per cent, whilst in Nicaragua and Costa Rica it was over 40 per cent. To judge by the partial data available, the production of electric power, which depends largely on imported fuel, also rose 50 to 60 per cent in Guatemala, Costa Rica and El Salvador, during the same period and in somewhat lower proportions in the remaining Central American republics. (See Table 1.)

Another partial indication of development lies in annual imports of capital goods by these five countries which, calculated at constant prices, likewise show increases of 100 per cent as between 1945 and 1950, though their estimated volume in 1948 and 1949 was 10 per cent higher than in 1950. (See Table 4.) The value of capital goods at current prices in relation to that of total imports rose from 21.2 per cent in 1945 to 29.8 per cent in 1949, and 26.4 per cent in 1950. This proportion is fairly uniform throughout the various countries of the area.

Whilst not attributing undue importance to the partial data shown above, they may be accepted as an indication of the general results obtained from the different forms of development policy. However, it should be observed that there has been little development in the electrical industry and the refining and processing of metals and minerals, as well as the chemical industry and many other manufactures of consumer goods, requiring large capital investments and wide markets.

3. The Problem of Population

A paradoxical population problem is encountered in the Isthms of Central America. Given present-day knowledge of resources and techniques and developed possibilities, many of its economic areas now being exploited show an apparent excess of population, as compared with their capacity, to meet basic requirements for foodstuffs and adequate availability of other consumer goods. The density of the population in El Salvador, for instance, is 56.3 inhabitants per square kilometre, which is one of the highest in Latin America. Even taking into account potential natural resources in that country, one might say that there is an excess of population there. In other parts of Central America, we find areas in which forestry,
/agricultural and

Table 3 Central America: Imports of Liquid Fuels and Lubricating Oils

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	^{a/} <u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (thousands of tons)							
1945	131	35	66	47	67	346	..
1946	155	45	100	41	68	409	..
1947	199	57	109	42	83	489	..
1948	262	73	142	48	96	621	..
1949	245	80	144	65	86	620	..
1950	282	92	153	67	97	691	..
1951	..	..	151	..	..	..	..
<u>Value</u> (millions of dollars, cif.)							
1945	1.5	0.7	0.9	1.3	1.4	5.8	6.3
1946	2.1	0.8	1.3	1.1	1.3	6.6	5.3
1947	3.7	1.5	1.6	1.3	1.9	10.0	5.1
1948	6.4	2.2	3.1	1.9	3.0	16.6	7.6
1949	5.2	2.5	3.0	2.1	2.5	15.3	7.2
1950	5.1	2.6	2.9	2.0	2.9	15.5	6.7
1951	..	..	3.3	..	..	..	..

Sources: Foreign Trade Statistics for the five republics. Imports of petroleum were grouped together, as were internal combustion fuels (petrol, etc.); as were kerosene and paraffin for lamps; as were gas oil, diesel oil and other fuels, lubricating oils and greases. (Items 312 and 313-01/04 of the Standard International Trade Classification (SITC)).

Notes: In this table, as in all others in which imports appear, cif. values for Guatemala, Honduras and Nicaragua were calculated by adding 12 per cent to fob. values. The series for Honduras correspond to those for the fiscal year, closing in July.

^{a/} Crude petroleum was converted on the basis of 3.6 kilogrammes per gallon; fuel oil at 3.5 kilogrammes per gallon, and petrol at 30 kilo grammes

Table 4 Central America: Imports of Capital Goods and Total Imports

(Millions of Dollars)

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>
I. Capital Goods (current values)						
1945	5.3	2.7	2.7	3.3	5.5	19.5
1946	8.7	4.8	5.3	4.1	9.3	32.2
1947	16.3	10.4	7.9	6.8	15.4	56.8
1948	21.7	12.5	11.7	7.6	10.6	64.1
1949	21.4	11.1	10.7	8.7	11.3	63.2
1950	22.2	12.3	8.6	6.2	12.2	61.5
II. Capital Goods at 1945 Prices						
1945	5.3	2.7	2.7	3.3	5.5	19.5
1946	8.0	4.4	4.9	3.7	8.5	29.5
1947	11.7	7.5	5.7	4.9	11.1	40.9
1948	13.9	8.0	7.5	4.9	6.8	41.1
1949	13.3	6.9	6.6	5.4	7.0	39.2
1950	13.4	7.4	5.2	3.8	7.3	37.1
III. Total Imports (current values, cif.)						
1945	23.3	13.5	14.8	13.4	26.9	92.0
1946	35.5	20.8	20.2	16.7	33.0	126.2
1947	55.8	36.7	31.4	23.5	48.0	195.4
1948	68.9	41.4	40.0	27.0	42.3	219.6
1949	68.2	39.3	37.5	23.8	43.2	212.0
1950	71.8	50.2	37.3	27.6	45.9	232.8
IV. Percentage in proportion to total imports (% I/III)						
1945	23.6	20.3	18.2	24.3	20.5	21.2
1946	24.5	23.1	26.5	24.7	28.2	25.6
1947	29.1	28.5	25.2	28.9	32.1	29.1
1948	31.5	30.3	29.3	28.1	25.2	29.2
1949	31.3	28.4	28.5	36.5	26.2	29.8
1950	30.9	24.5	23.0	22.6	26.5	26.4

Sources: Foreign Trade Statistics for the five republics (group 13 of ECLA statistical series).

Note: The figures for Guatemala, Honduras and Nicaragua were converted to cif. values by adding 12 per cent to fob. data. Import totals represent series adjusted in accordance with International Monetary Fund material or that of the respective Central banks. To obtain capital goods imports at constant prices, a composite index was used to deflate the series, consisting of wholesale prices for capital goods and machinery in the United States.

agricultural and mineral resources are not being worked. The problem therefore differs in those areas where development could absorb current excesses of population, the distribution of which is inadequate in relation to the potentialities of these areas. The characteristic and fundamental phenomenon in Central America, however, is disguised unemployment or, alternatively, under-employment; that is, instances of persons who, according to the definition given by a group of experts appointed by the General Secretariat of United Nations in 1950,^{1/} "do not work normally as wage earners who work for their own account and are so numerous, in proportion to the resources with which they work, that if a number of them left their occupations to work in other economic activities, total production of the sector in which they were formerly engaged would not be diminished, even though no important reorganization nor any appreciable substitution of investment were effected therein".

The existence of excess population and of a considerable amount of disguised unemployment is the first serious consequence of the inability of the Central American countries to create separate forms of development, capable of absorbing a population showing so low a rate of productivity. In fact, as pointed out in the afore-mentioned report, the sole fundamental means of remedying disguised unemployment is rapid economic development,^{2/} and if it is to produce any appreciable results, the initial effort must be considerable.

When a country's individual rate of investment is inadequate to absorb under-employment, resort must be made to migratory movements, though these cannot always be effected easily. From this standpoint, a policy of integration, taking into account the unequal density of population in different productive areas of Central America, might be adopted in an

^{1/} Methods of Fostering Economic Development in Under-developed Countries, United Nations, Department of Economic Affairs (New York, May 1951, publication No. 1951, II, B.2., p.7)

^{2/} Ibid.

attempt to attract surplus populations to low density areas with high development potentialities. This would call for internal migratory movements within each country and also from one Central American country to another. In the proportion to which such migratory movements may be accomplished, the burden, in particular that of investment, which is placed on each individual country would be lightened to a certain degree for the whole Isthmus.

It is not only the static but also the dynamic condition of the population which is of interest. In the five Central American republics, the rate of natural growth of the population is extraordinarily high, to judge from the gross coefficients of expansion estimated by statistical organizations in each of these countries.

The countries with the highest gross rate of increase are El Salvador and Costa Rica, where the population grew by some 34 inhabitants per thousand (1951), Nicaragua with 30.5 (1950), and Honduras with 28.4 per thousand (1950), respectively. (See Table 5.). Throughout the area one observes a tendency for the rate of increase of the population to accelerate. For instance, in 1945, the gross rate of expansion varied between 29.6 inhabitants per thousand in Costa Rica to 20.5 in Honduras, in comparison with the present rates which range from about 30 per thousand population upwards.

These rates are among the highest in the world. Under the circumstances, they give considerable support to the argument in favour of an integrated economic development on the Isthmus by stressing the need for better utilization of capital.

4. High Density Capital Investments

In short, the problem of population — that is, either its excess or deficiency in certain areas — points likewise to the parallel need for rapid economic development. In the countries of the region, as has been indicated in previous reports of the Economic Commission for Latin America,^{1/} the expansion of exports — the main form of development in the past — constituted the incentive and at the same time the dynamic factor to absorb the increasing

^{1/} See, for instance, Economic Commission for Latin America, Economic Survey for Latin America, 1949; Chapters I to VI, and Theoretical and Practical Problems of Economic Growth (E/CN.12/221, May 1951, submitted to the Fourth Session), Chapter III, page 60.

Table 5 Central America: Total Population and Rates of Growth

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>
<u>Total Population</u> (thousands)						
1940	2 268 <u>a/</u>	1 643	1 146	985 <u>b/</u>	619	6 661
1945	2 444	1 753	1 261	1 082 <u>b/</u>	695	7 235
1950	2 803	1 856	1 428	1 053	801	7 941
1951	2 886	1 896 <u>c/</u>	1 470	1 088	825	8 155
<u>Gross Annual Rate of Increase</u> (per thousand inhabitants)						
1940	20.9 <u>a/</u>	26.4	21.2	19.0 <u>b/</u>	25.9	..
1945	24.2	24.5	20.5	23.1 <u>b/</u>	29.6	..
1950	27.2	34.0 <u>c/</u>	28.4	30.5	34.3	..
1951	31.6	32.8 <u>c/</u>	29.4 <u>c/</u>	33.2 <u>c/</u>	35.9	..

Sources: Guatemala: Dirección General de Estadística; El Salvador: Dirección General de Estadística and Statistical Bulletin, March-April 1952; Honduras: Central Bank of Honduras; Nicaragua: Dirección de Estadística and Monthly Statistical Bulletin of United Nations; Costa Rica: Dirección General de Estadística y Censos and the Monthly Statistical Bulletin of the United Nations.

a/ Figures for 1941.

b/ Figures not corrected in accordance with the census data for 1950.

c/ Preliminary.

population, directing it into activities of higher productivity. Broadly speaking, this method of development has no longer provided, over the past twenty years, sufficient stimulus in many parts of Latin America, considering conditions in the world market and the structural changes which have taken place in the more advanced countries. It has therefore become necessary to promote industrialization and the development of new primary activities for domestic consumption, so that the excess population may be absorbed through a transfer of labour to developing industries and other new activities. Thus, the real income of the displaced population and the productivity of the labour force which remains employed in agricultural activities may be increased.

In Central America, there may still be a wide margin for the expansion of exports, provided that there are resources for which foreign demand will increase. In this measure, the economic growth of Central America will show characteristics different from those of other Latin American countries. At all events, any expansion directed to foreign markets would require an extremely high rate of investment in order to absorb the excess population engaged in low productivity employment. As the dynamic external impulse may not be sufficiently strong, it is necessary to create an internal one, by means of industrialization, in order to transfer the excess population to more remunerative occupations and to raise average productivity. Fundamentally, the problem of inward growth in Central America can be reduced to that of the limited scope of the markets, which do not always justify substantial capital investments.

This marks a basic feature of the possible economic integration of Central America. Given the relative abundance of labour - both actual and potential - in relation to capital, and the existence of disguised unemployment, the principle of economic utilization of factors of production renders it advisable to promote and adopt technical combinations that make intensive use of labour per unit of capital invested; or in other words, those favouring industry and activities wherein capital density is low.^{1/}

^{1/} See Economic Commission for Latin America: Theoretical & Practical Problems of Economic Growth, cited above, Chapter III.

/This, however,

This, however, does not imply that high density capital investments should not be made in certain essential sectors such as transport and the supply of energy: on the contrary, many of these investments cannot be postponed. At the outset, however, they will not be used very intensively. On the highways, for instance, the volume of traffic will fall below the optimum. There will neither be sufficient links between various trunk highways nor sufficient numbers of feeder-lines to obtain the greatest advantage from the highway network. In addition, public works associated with the development of electric power cannot be linked so as to establish a general electric transmission and distribution system. In short, adequate advantage cannot be derived from the general benefits created by investments made for the collective well-being of the community. Therefore, though development in a given country cannot provide the maximum benefit from the intensive use of high density capital investments in the first few years, neighbouring countries, or those relatively nearby, can individually benefit from these investments on a basis of reciprocity -- for example, through the building of international highways in different places, the linking up of electric power networks between different countries, etc. -- thus leading to more rapid utilization of investments which, though involving high initial costs and considerable sacrifice, on the other hand signify greater yields and for shorter term periods. A policy of economic integration and reciprocity would thus lead to a savings in investment which could not be made up by isolated development plans.

5. The Market and Specialization

The small size of the market is an obstacle to economic development and perhaps constitutes the greatest obstacle to progress in the Central American republics. The market is geographically small. There are no national markets properly speaking, but rather local markets which are frequently isolated from one another, owing to poor means of communication. They are weak and insecure, and do not afford the possibilities of supporting and offering a solid basis for high density capital investment (roads, railways, ports, mechanization and certain industries) and especially to industrial units of an adequate size, nor to investments which will promote technical progress in agriculture and cattle raising.

/The industrial

The industrial effort which each country must make to solve its economic problems and to stimulate its own development cannot, under such circumstances, be as productive as it otherwise would, were there a greater division of labour between the five republics, thus eliminating any duplication of investments and, by means of wider markets, provide a better basis to support different industries and activities in each country. The market for each industry would expand, not only by the addition of domestic markets but also by an increment to purchasing power on each of these national markets. It is likely that the concentration of efforts, the co-ordination of development in new activities and even the orderly expansion of those already established, with a view to a certain degree of specialization and to greater reciprocal trade, would give rise to a higher general level of productivity, a more intensive use of the services involving high density capital investments, such as transport and energy, and a substantial improvement in the level of real income.

Two examples selected from the industrial development of Central America illustrate the problem of the limitations of the market and the wastage of resources stemming from the lack of integration. The cement industry has been introduced only relatively recently on the Isthmus. There is a factory in Guatemala with an average annual productive capacity of about 60,000 metric tons; another in Nicaragua which can produce about 20,000 tons annually; whilst there are two factories in construction in El Salvador, one of which should eventually attain a capacity of 150,000 tons annually and the other only 50,000 tons annually.^{1/} With the exception of the larger of the two new factories in El Salvador (when its peak productive capacity has been reached), none of the others has more than approximately one third of the minimum capacity necessary to operate at the lowest possible unit cost of production. Undoubtedly, to plan the industry on the basis of one or two optimum size plants, not only capable of supplying the whole of the Isthmus and of substituting imports from beyond this area but also able

^{1/} Also of interest to Central America is the cement factory of Panama, the annual productive capacity of which is 90,000 tons.

to meet an increase of demand through well planned expansions was virtually impossible, given the lack of adequate and cheap transport, as well as other prevailing factors. The consumption of cement in Central America in 1937-38 may be estimated between 45,000 to 50,000 tons. After 1945, it rose substantially, reaching 90,000 tons in 1947 and possibly 200,000 tons for the present year.^{1/} In 1953, the joint productive capacity of the cement industry in the five Central American republics should just about be equivalent to the level of consumption, assuming an average of only 100,000 tons annually for the new units in El Salvador and taking into account the projected increase of 20,000 tons in Nicaragua, but excluding any possible projects in other countries. There would nevertheless be a duplication of factories. These, as has already been pointed out, would be below optimum size and consequently would not provide the highest possible yield from the high density capital investments made in order to supply consumption which theoretically, assuming adequate transport facilities are available, might be met by one or two optimum size factories.^{2/} Given the present situation of projects for the cement industry, it is difficult to correct the lack of co-ordination noted heretofore, even though it may be expected that in future development some co-ordination may be achieved.

A second example is to be found in the development of the cotton textile industry. Approximately two thirds of the cotton textiles produced in Central America — calculated at some 30 million yards annually — are manufactured by twelve factories located in El Salvador. The remainder is supplied by Guatemala, where a single factory turns out more or less half of that country's output, and by Nicaragua where there has recently been a rapid expansion of production. Production in Honduras and Costa Rica is

^{1/} Production in 1950 was about 67,000 tons and imports amounted to about 102,000 (see Tables 1 and 6), not including El Salvador's official imports, which are not shown in the statistical series; in 1951, it may be assumed that there was an increase both in imports and production that reached more than 200,000 tons.

^{2/} According to a wider concept of Central American integration, the cement factory in Panama should also supply, and in fact is already partially supplying, a fair proportion of Central America's cement consumption.

/comparatively small.

Table 6 Central America: Cement Imports

	<u>Guatemala</u>	<u>El Salvador</u> b/	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u> a/	<u>% of total imports</u>
<u>Volume</u>							
(in thousands of tons)							
1937	5	19	4	—	24	52	
1945	1	14	8	3	28	54	
1946	6	17	10	5	14	52	
1947	5	25	13	2	25	70	
1948	5	29	13	2	21	70	
1949	9	30	11	1	28	79 b/	
1950	7	43	17	2	33	102 b/	
1951	..	..	14	..	..	..
<u>Value</u>							
(in thousands of dollars, cif.)							
1937	48	198	36	—	186	468	0.80
1945	18	304	109	90	576	1 097	1.19
1946	100	424	129	105	333	1 091	0.86
1947	143	855	263	60	794	2 115	1.08
1948	128	1 306	290	48	573	2 345	1.07
1949	222	859	242	30	834	2 187	1.03
1950	204	1 100	367	50	824	2 545	1.09
1951	..	..	313	..	..	..	..

Sources: Foreign Trade Statistics of the five republics. (Item 661-02 of the Standard International Trade Classification, SITC.)

a/ Includes small amounts of cement imported by Honduras and El Salvador from Guatemala and Nicaragua, amounting to a total of 88,000 dollars in 1948 and 122,000 in 1949, and to less than 25,000 dollars for the remaining years.

b/ In 1949 and 1950 there are no records for cement imported directly by the Government and official institutions in El Salvador.

comparatively small. Broadly speaking, the Central American mills do not operate efficiently enough, both from a standpoint of cost, and of the quality of production required to satisfy consumers, this being largely due to the lack of markets. It is probable that if and when the present mills effect the necessary technical improvements and increase their volume of production in order to lower costs they may be able to supply a larger proportion of the total Central American consumption, partially substituting cotton textile imports, which are estimated to surpass the 16 million dollar mark, i.e. more than 7 per cent of total imports for the five countries. (See Table 7,). However, there is no co-ordination whatsoever in the cotton textile industry; new factories and factory extensions are being planned in several countries, although this will hardly solve the problem of those now operating below capacity. Here is another case of duplication and of inadequate utilization of investments, one which should certainly be considered in future co-ordination plans.

These two examples of present conditions have been cited because of their importance not only from the investment standpoint, but also from that of the essential nature of the goods produced, the first being concerned with capital formation and the other with consumption. Naturally, other instances could be examined, even though of lesser importance. However, the main purpose was to emphasize the principle that, in order to save capital, it is advisable, insofar as possible, to avoid duplication or repetition of excessively small productive units, operating under conditions of low productivity.

This principle may be extended not only to plants producing for domestic consumption in Central America, but also to activities providing exports beyond the limits of the area. In the case of an export industry requiring units that call for high density capital investments, there can be no doubt that if these five countries compete with one another, duplicating the same industry in each, the profit for the area as a whole will not be as great as if that industry were located only in one or two ideal sites, attaining the size and volume of production required in order to maximize the yield.

/To avoid

Table 7 Central America: Cotton Textile Imports

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total a/</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	1 600	1 617	2 141	..	1 223	6 581	
1945	993	795	646	819	653	3 906	
1946	1 308	897	710	1 022	1 225	5 162	
1947	1 835	1 776	945	1 134	1 615	7 305	
1948	1 482	1 836	1 196	1 325	1 159	6 998	
1949	1 836	953	982	785	1 168	5 724	
1950	2 524	875	1 093	1 266	1 394	7 152	
1951	..	..	1 358	..	..	..
<u>Value</u> (thousands of dollars, cif.)							
1937	2 361	1 735	1 636	..	1 055	6 787	11.5
1945	2 684	1 763	1 089	1 906	1 357	8 799	9.6
1946	3 703	2 300	1 569	2 806	3 027	13 405	10.6
1947	5 959	4 500	2 612	3 612	4 585	21 268	10.9
1948	4 685	4 424	3 024	4 049	3 311	19 493	8.9
1949	4 608	2 177	2 228	1 786	2 784	13 583	6.4
1950	5 681	2 176	2 063	2 925	3 084	15 929	6.8
1951	..	..	2 824	..	..	..	..

Sources: Foreign Trade Statistics of the five republics. (Items 652-01 and 652-02 of the Standard International Trade Classification, SITC.)

a/ These figures include imports from the Central American countries themselves amounting to the following totals:

	<u>Tons</u>	<u>Thousands of dollars</u>
1937	12	11
1945	149	250
1946	321	716
1947	288	859
1948	229	517
1949	313	562
1950	183	323
1951	259	451

For the most part, Inter-Central American cotton textile imports represent those obtained by Honduras from El Salvador.

To avoid duplication of investment, especially in industry, a policy of co-ordination is essential. Moreover, it must tend rather more to enable certain countries to specialize in certain industries, or in certain products of one industry, provided that the transport and customs facilities required for simultaneous and complementary industrial development also exist. A policy of industrialization would therefore attain its maximum application when a network of inter-related industries, partially supplying one another, could be established thus providing a wider basis for employment and a more efficient level of operation.

6. Present Improvements in the Balance of Payments

Lastly, reference should be made, as a circumstance which at present would prove favourable in introducing a policy of integration in the Central American Isthmus, to two related facts: (1) broadly speaking, development plans are still in their initial phase, and (2) the position of the balance of payments and of the terms of trade has improved during the last few years. While plans for development are still in their early phases, co-ordination is more feasible. Furthermore, its introduction has been facilitated by the fact that financial resources, in the form of foreign exchange held by the central authorities and private enterprise, have in the past few years reached unprecedented levels. The monetary reserves of the five republics fell from 108.6 million dollars in 1945 to 102.5 millions in 1948. However, influenced both by the improvement in export prices and by protective customs and import controls, they rose again and by the end of 1951 stood at about 131.3 million dollars. (See Table 8.) Private individuals and enterprises of Guatemala and El Salvador also hold favourable balances in foreign countries which are estimated at 23.2 million dollars. (No figures are available for the other Central American countries.)

There was considerable improvement in the terms of trade from 1946 to 1951, especially since 1949, and in those countries where coffee forms the bulk of exports. From 1948 until the first quarter of 1951, the terms of trade of Guatemala improved 62 per cent, and in Costa Rica from that date until May 1952, they rose 59 per cent. A similar trend was probably recorded in El Salvador, though precise data are not yet available. (See Table 9).

/At the

Table 8 Central America: Gold and Exchange Reserves
(in millions of dollars)

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>
1945	44.6	31.3	16.6 a/	6.7	9.4	108.6
1948	47.4	31.1	15.9 a/	3.4	4.7 b/	102.5
1951	41.9	44.4	24.8 a/	9.7	10.5	131.3

Sources: International Monetary Fund, International Financial Statistics; with the following exceptions: Guatemala, 1948 and 1951, Bulletin of the Bank of Guatemala; Honduras, Monthly Bulletin of the Central Bank of Honduras; Costa Rica, 1948 and 1951, Monthly Review and Statistical Bulletin of the Central Bank of Costa Rica.

- a/ Includes investments in United States securities and currency of United States held by the public.
- b/ Owing to the privately held foreign debt which had matured (called "presa"), the real reserves of Costa Rica in 1929 amounted to minus 2.99 million dollars.

Table 9 Central America: Terms of Trade of Guatemala, El Salvador and Costa Rica
(Indices, 1948 = 100)

	<u>Guatemala a/</u>	<u>El Salvador b/</u>	<u>Costa Rica c/</u>
1937	76.4	63.8	71.8
1946	101.6	90.6	93.1
1947	100.5	98.0	98.9
1948	100.0	100.0	100.0
1949	119.4	115.6	115.1
1950	167.3	..	135.1
1951	162.2 d/	..	144.3
1952	..	..	159.5 e/

Sources: Guatemala, Bulletin of the Bank of Guatemala; El Salvador and Costa Rica, the International Monetary Fund, International Financial Statistics.

- a/ Converted from the 1937 basis to that of 1948. The original weighting was the composition of foreign trade for 1937.
- b/ Weighted in accordance with the composition of foreign trade for each year.
- c/ Simple co-efficient of import and export price indices.
- d/ The first quarter.
- e/ January - May.

Table 10 Central America : Export of 7 Selected Products^{a/} and Total Exports
(Thousands of dollars)

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Export of 7 selected articles</u>	<u>Total for 5 countries</u>	
							<u>Total exports</u>	<u>% of total exports</u>
1945	1 902	276	562	1 073	719	4 532	104 579	4.33
1946	2 288	666	1 106	3 121	1 664	8 845	142 862	6.19
1947	2 444	2 210	2 390	5 086	5 514	17 644	201 751	8.75
1948	4 132	4 100	4 598	5 887	7 459	26 176	234 818	11.15
1949	3 221	3 348	4 240	7 484	5 308	23 601	249 281	9.47
1950	3 487	3 273	3 201	5 654	3 586	19 201	298 983	6.42
1951	..	..	3 708	11 410 ^{b/}	..	15 118 ^{c/}	..	..

Sources : Foreign Trade Statistics for the five Republics

Notes : Since 1946, total exports are shown as values adjusted by valuation factors, after 1946 in accordance with the International Monetary Fund and the respective Central Banks. For 1945, the values were only adjusted for El Salvador and Honduras.

- a/ Cotton, oil and oilseeds, essential oils, rice, cocoa, manila hemp and wood.
- b/ This includes only data for wood, rice, oil and oilseeds and cotton. For the remaining products no series are available.
- c/ The figures include only Honduras and those of footnote b/ for Nicaragua. For the remaining countries no data are available.

At the same time, there are certain indications of a strengthening in the balance of payments, which would appear favourable to an intensification of economic development. To begin with, there is the change in the composition of exports and the appearance of new items which may help to reduce disequilibrium in the balance of payments. Examples of these products are cotton, wood, rice, oil and oilseeds, essential oils, hemp and cocoa, which in 1948 together amounted to 26.2 million dollars, or, in other words, to 11.2 per cent of total exports for the five republics. This figure should be compared with the total of 4.5 million dollars for the same product in 1945 (4.3 per cent of total exports). Despite the drop in some products — hemp, rice, oilseeds, cocoa — these still accounted for 19.2 million dollars in 1950, that is, 6.4 per cent of total exports in that year. (The drop in this percentage is likewise due to the rise in the value of coffee — see Table 10.)

On the other hand, a change in the composition of imports, which is characteristic of any process of development, has also occurred throughout Central America. Attention should be drawn to the expansion in the import of capital goods, already observed in Table 4.

These factors, though not decisive as arguments in support of a policy of integration, are nevertheless elements which, as has been pointed out, strengthen the economic position of the Central American republics. Moreover, they not only facilitate a study of the cyclical position but also of the long-term problems common to all this area.

/III. SCOPE AND

III. THE SCOPE AND REQUISITES OF A POLICY OF ECONOMIC INTEGRATION AND RECIPROCITY

1. Economic Union versus Limited Integration

Taking into account actual conditions and considerations of a practical order, complete economic union of the five Central American republics cannot be effected at once, even though historically, they all aspire to such a measure. It will readily be seen that economic union would exert considerable influence in the political and administrative field, implying fiscal unification and standardization of legislative procedure, monetary practices, tariff policies conforming with the rest of the world, as well as the centralization of the policy of economic development. Assuming full freedom of trade as between the five countries, it would be necessary to abandon certain economic activities characterized as misplaced or uneconomic, in order to re-establish them in sites more suitable for the region as a whole. Without questioning the possible advisability of attaining these goals in the course of time, it may be considered that the immediate objective should be more modest.

A concept of economic integration, adequate as a starting point in the case of Central America, would provide for limited integration allied to a policy of commercial and industrial reciprocity.

Limited economic integration implies a policy which, within the general objectives of economic development, shall be directed to considering the optimum location for some of the outstanding economic activities (especially industries, as well as those transforming agricultural and mineral products) with a view to creating optimum size units of production capable of utilizing the raw materials in the region and of supplying the Central American market as a whole at the lowest possible cost of production. It would also mean the establishment of new industries, which would never be feasible under other circumstances had they to rely solely on a domestic market. In addition, it would imply that instead of installing one or more small factories in each of the five countries, to supply the domestic market exclusively, the location of one, two or three units of a more efficient size could be studied with regard to the market factor, the proximity of raw materials, labour, energy or fuel, and transportation facilities, satisfying thereby the economic requisites of the region as a whole.

2. 2. The Principle of Reciprocity

Ideally, of course, it should not matter in which of the five countries the activity in question was located. However, were this principle to be accepted, the policy of integration would essentially demand the widest possible policy of reciprocity.

This in turn, on the one hand would imply an initial general scheme for establishing and extending industrial activity in Central America whereby optimum sites would be found in each of the five countries for the various industries included in the plan. Industrialization is not a process which can be limited to a given number of countries but in a wider sense is a requisite of development for all countries according to circumstances and resources of each. In each of the five republics of Central America there is sufficient basis for the expansion and establishment of certain industries and transformation processes. Within the general norms of integration it is feasible that each country should have certain industries with a market throughout Central America. Consequently one aspect of the principle of reciprocity is that each country should be willing to allow certain industries of an adequate size to be established in other countries, and in return, that these other countries should agree to the establishing of certain industries on the same principles in the first of these. Integrated development with inter-related industries and joined by reciprocal markets would ensure greater saving of investments and a higher total yield.

The second aspect of the policy of reciprocity is that concerned with commercial and customs policies. In a plan of integration, the activities established with a view to supplying the Central American market should enjoy the privilege of free trade, not being subject to the burden of import duties levied by any of the countries in the area. Otherwise, maximum advantages could not be derived from the optimum location of these activities nor would it be possible to minimize costs of production and reduce them to the level obtainable by establishing plants with a higher productive capacity than that required by the domestic market exclusively.

Independently of the concrete cases which may be proposed for undertaking a policy of limited economic integration, to be analysed in Chapter IV of the present report, this form of co-ordinated economic development in Central America palpably requires the adoption of general principles on

/which to

which to base a common long-term policy. Integration could not be introduced without the assurance of full coverage for the risks run by each country in placing investments with a view to supplying the whole Central American market instead of only the domestic market.

3. The Requisites of Trade and Customs Policy and Market Guarantees

Central American commercial policy actually contains a favourable factor for the introduction of the economic integration policy outlined above. Traditionally, commercial treaties signed with countries outside this area contain the so-called "Central American Clause" which, under the most favoured nation treatment, makes exception for the privileges which the Central American republics may reciprocally extend to one another. Since 1916 a treaty of free trade has been in force as between Honduras and El Salvador. Between 1941 and 1943 a similar treaty was signed between El Salvador and Guatemala though ultimately it proved less successful. Lately, some of the Central American countries have restated their desire to find a concrete and practical formula for the policy of preferential customs treatment to which they have always aspired. In 1951 a treaty of free trade and economic integration was signed between El Salvador and Guatemala and another between El Salvador and Nicaragua. In their general lines these treaties which came into force in 1952 stipulate that the products listed in the agreement by each of the respective signatories may be imported free of any customs levy, a certain number of them being likely to depend on the issue of import or export licenses as the case may be. In order to solve these and other similar problems joint commissions made up of representatives of each of the signatory powers were designated. This type of treaty affords an intelligent means of arriving at a certain degree of freedom of trade between the Central American countries, without necessarily exacting the adoption of a complex and difficult Customs Union procedure. This formula resembles what, in the terminology of the Havana Charter and the General Agreement on Tariffs and Trade (GATT) has been defined as "a zone of free trade"^{1/}. In fact, in the treaty between

^{1/} Article XXIV of the General Agreement on Tariffs and Trade defines "a zone of free trade" as a group of two or more Customs territories in which the customs and other measures restricting commerce are suspended on a substantial part of the trade between these territories; a two thirds majority of the contracting parties (collectively considered) of the Agreement is required to authorize the establishment of such a free zone even though it does not fulfil all the conditions required by the article.

/Nicaragua and

Nicaragua^{1/} and El Salvador it has been interpreted as such. The procedure has been accepted as standard international commercial policy. Without affecting the foreign trade policy of the Central American countries in their relations with other nations outside this area it furnishes a stimulus for reciprocal trade within this area and offers a **stronger** incentive for greater economic development and integration.^{2/}

Notwithstanding the fact that this tendency towards treaties of free trade may be considered to favour, and even to be practically essential for a policy of economic integration, these instruments are not, in themselves, sufficient for such a purpose. By suspending duties on certain products opportunities are created for commercial enterprise in each country to find suitable markets for their output in one of the other countries. Undoubtedly with the exception of those cases in which some country finds it necessary to impose quantitative controls, it would lead to an increase of reciprocal trade in Central America, **although it would not necessarily prove conducive to economic integration unless a definite policy for that purpose is pursued in a much more positive and active manner.**

These are precisely the circumstances which enable us to associate the limited policy of integration sketched above with the complementary commercial aspect of the policy of economic reciprocity. The establishment or expansion of industries within a general plan of integrated reciprocity would be one of the most tangible means of justifying a customs policy of free trade agreements and of contributing to their success since there would then be a series of articles which could not be produced from the economic standpoint unless such treaties or preferential agreements existed. It is evident that industrial and customs policies are mutually dependent within the field of economic integration in Central America.

Hence a customs policy consisting of a series of treaties or preferential agreements involves other requisites when studied in close association with an industrial plan for the whole region. Manufacturing activities established to supply domestic markets and a substantial proportion of the Central American market not only require preferential customs treatment from the

^{1/} Nicaragua is the only Central American country which has signed the above-mentioned General Agreement.

^{2/} It is interesting to note that the Commercial Treaty signed between Colombia and the United States in 1950 likewise made an exception for the preferential treatment which Colombia could extend to other signatory powers of the Quito Charter.

countries of the Isthmus but they must also be assured that such markets will not be arbitrarily closed to them. That is to say the concept of a trade policy extended beyond the purely customs aspect and involves the adoption of formulae which will ensure access to the markets envisaged in the planning of the industries for which greater investments would be risked than are ordinarily required to supply an exclusively domestic market.

It is also necessary to bring about the gradual standardization of customs tariffs in relation to countries outside this area, at least as regards the output of these industries included in the plan of integration. The reason for this lies not only in the fact that in their initial phases these new industries would probably require a certain amount of tariff protection but also because such protection in some countries is lower than in others with respect to similar products imported from beyond this area, so that methods of imitation or contraband enable these foreign products to enjoy customs privileges similar to those granted to the Central American products in trade between countries of the Isthmus. Moreover, certain established industries whilst still improving their techniques must defend themselves against foreign competition which very often takes the form of dumping or other unethical procedures. One must not underestimate the difficulties encountered in the standardization of tariffs even when this only applies to some products. On the contrary, it seems to be a very important consideration. The first step to be taken must consist in the standardization of the nomenclature, a basis for which already exists in recent agreements.^{1/} It is also likely that Customs regulations would have to be standardized as would methods of determining Customs quotas, assessing articles and establishing their weights or measurements. There is ample room for progress in this field but the task is necessarily a protracted one.

Whilst stressing that a policy of integration and reciprocity presupposes certain agreements as regards general economic policy, it would perhaps be wise to add that the most obvious type of agreement is that embodying concrete plans for a given industry in relation to the Isthmus as a whole. Let us accept in principle that in a given industry X, one or two factories should be established in Central America with sufficient capacity to supply the region as a whole and perhaps even to export beyond the limits of this

^{1/} See document E/CN.12/AC.17/5 on this subject, presented by the Executive Secretary of the Commission.

area. Total investments in these factories may require a substantial capital outlay. The necessary analyses must be made, the most suitable location selected, an international mechanism must be set up to promote the industries, their financing must be studied and obtained; two or three years later the industries will begin to operate. A formula must then be found whereby no market of any of the industries established according to the plan of integration can be endangered in the event of additional projects arising in that industry which were not contemplated as suitable. A means of preventing the opposite result must also be evolved, so that an enterprise or enterprises established according to the plan of integration may not form monopolies nor act in a monopolistic manner by refusing to supply the market at a fair price. These undoubtedly are questions which, owing to their complexity must be carefully studied by governments in the light of the experience they derive from practice.

4. The Need to Ensure Technical Progress and the Quality of Production

In any discussion of economic integration, a source of considerable preoccupation is the problem of how to ensure that the products of an industry or industries, in which some degree of specialization has been reached, should not only maintain a uniform level of quality but should also respond to constant technical improvements in manufacturing processes. It is hardly likely that any Central American country would agree to receive goods produced by an industry in another country unless they were of an acceptable standard and their production subject to continuous supervision from the standpoint of technical progress in order to lower costs and offer articles which in quality and price are fairly comparable with those obtainable from other sources. Consequently any plan of economic integration requires a complementary programme of technological research, possibly centralized in a single institute.^{1/} Furthermore it calls for the adoption of a means of offering to industries "extension services" similar to those established for agriculture in different countries and a degree of international agreement as regards quality and specifications. Closely associated with this is the training of the labour force in centres established for this purpose and perhaps centres for training highly-skilled workers.

^{1/} In this connexion, see E/CN.12/296/Add 2.

5. Transport as a Fundamental Problem

Another requisite of a policy of integration, though in a more general aspect, is the improvement and extension of the means and methods of transport, without which markets will necessarily be local and isolated.

The establishment of one or two plants in the area, rather than multiple factories designed to supply the local market, involves transport over a longer distance and at a much higher cost. The area of the market envisaged in new projects would be determined by the radius of supply within which the increment in the cost of transport is equal or less than the saving in production effected by the integrated project.

Attention has already been focussed on the fact that some of the Central American countries are advancing rapidly in the field of transport, while others are only just beginning their basic programmes. The greater part of such progress is concerned with road transport. Heretofore, the principal means of communication were the railways which, generally speaking, have been inadequate owing to the lack of rolling stock and the poor condition of permanent ways. In addition, from every standpoint, passenger and freight tariffs are extremely high thus constituting an adverse factor. Undoubtedly highways are better than railways as a means of facilitating reciprocal trade in Central America, but the significance of the latter must not be overlooked. Air transport, which is likewise of great importance for some products and in certain zones, will undoubtedly increase appreciably. However, there are limitations to the transportation of goods by air imposed by the cost of the service as compared with that of other possible means of transport and by the nature of the products to be flown. Thus far, shipping has not been efficient or cheap enough as a means of inter-Central American transport. On the one hand it creates a problem of ports — material conditions, services and the cost thereof — and on the other there is the question of shipping conditions themselves. It might be advisable to examine the possibility of establishing regional coastwise trade facilities to simplify the task of integration.

The whole problem of transport is of such importance in a policy of integration that it was deemed impossible to consider it in detail for /the purposes

the purposes of the present report. Therefore the Economic Commission for Latin America in collaboration with the Technical Assistance Administration of the United Nations and at the request of the governments of the Central American Isthmus, began a general analysis taking into account not only transportation requirements for the internal development of each country but also those arising from the possibility of regional economic integration and reciprocity as a whole.

6. The Need to Encourage the Development of Energy

Unless greater availabilities of electric power can be supplied in Central America no industrialization is possible and the policy of integration would be frustrated. Few sources of hydro-electric power have been developed up to date, at the same time the generation of thermic energy depends on fuel imports. On the basis of very provisional data, it is estimated that the current generating capacity of electric power plants in the five republics amounts to some 140,000 kilowatts, including that of enterprises generating electric power for their own use. Of this total, approximately 39,000 kilowatts are generated in Guatemala, 39,000 kilowatts in El Salvador, 11,000 kilowatts in Honduras, 15,000 kilowatts in Nicaragua and 36,000 kilowatts in Costa Rica. At present, most of the plants work at peak capacity, the existing distribution facilities preventing any further increase in consumption. With the exception of Costa Rica the price of electric power is quite high; in fact it is over 5 United States cents per kilowatt-hour. For the time being industrial and urban development are limited both by the lack of power supply and by its price. Expansion projects, mainly comprising the work of the Lempa Electrification Commission in El Salvador and of the National Institute of Electricity in Costa Rica contemplate an increment for 1954 in the total capacity of these two countries amounting to 30,000 kilowatts and 10,000 kilowatts respectively. Other projects in Guatemala and Nicaragua (the latter based on thermic generation of energy) might perhaps add a further 14,500 kilowatts in 1955, provided they are carried out. It is to be feared that these increases will only be sufficient to meet the expansion in power consumption projected in 1954 and 1955 and that the situation will therefore not have improved to any great extent by that date unless new research and plans are at once begun with a view to installing additional units and to employing unutilized waterfalls. In this connexion it should be noted that the problem is

/already being

already being examined in El Salvador and Costa Rica. A policy of industrial integration will therefore call for a speeding up of the studies directed to developing new sources of electric power especially in Guatemala, Honduras and Nicaragua. Co-operation in the field of electric power, including basic studies and the training of Central American experts, may provide a successful means of strengthening the policy of economic integration especially when the experts of one country are trained elsewhere within this region. In the near future it would appear advisable to provide for the linking up of the electrical systems of certain Central American countries in order that, as in all general energy networks, different zones may make use of seasonal or occasional surpluses of generated capacity.

7. Financial Co-operation

One of the essential conditions in a policy of integration and reciprocity regarding which it is difficult to decide upon the formula to be adopted has been left for the end, namely, the necessity for financial co-operation. If agreement can be reached as regards a plan for establishing a given industry X in one or two sites to supply the whole of Central American demand, the total investment required may not only be greater than that for a smaller industry supplying the domestic market exclusively but it may also be subject to additional risks in view of the fact that a portion of the market is located in other Central American countries. These latter could perhaps follow a different policy that would affect the industry adversely or they might perhaps be compelled to impose certain restrictions on foreign trade which would likewise provoke adverse consequences for that industry. It was pointed out above that in a policy of integration it was important that none of the industries established by that policy should have their markets closed arbitrarily. Whatever solution may be found for this problem by a purely administrative body, an attempt should also be made indirectly to cover a part of the risks of investment and at the same time ensure an equitable sharing of such risks.

This might consist in some of the Central American countries, or even in all five, subscribing equal portions of public or private capital for investment in those industries specified in the plan of integration, the total requirements of which would make such procedure advisable. The

/mixing of

mixing of private capital of two or more Central American countries has already been observed in various industries so that it should not be difficult for this method of financing to be extended to other industrial activities. On the other hand, it is possible that in certain cases one or more of the development banks or institutions may have a special interest in such financing. Again, a certain percentage of foreign capital might be necessary or useful whether it is of private origin or obtained from some of the foreign banking organizations or other foreign or international agencies. In such cases it would seem fairly logical that the responsibility for a debt or foreign obligation, accepted with a view to establishing a given industry in accordance with a definite plan of integration, be shared among all the countries or at least several of them instead of allotting this burden to a single country.

The view that financial co-operation is possible and that internal sources can provide a part of such financing rests on the assumption that all the Central American countries will co-ordinate their efforts to extend the capital market and to provide greater resources for private banks and development corporations in order to effect long-term industrial and agricultural credit operations. Basically the key to this problem is the lack of any adequate direction and even the scarcity of savings. It is possible that new incentives may be created to attract idle capital to public and private loans, as well as capital placed abroad. The taxation capacity might also be raised with a view to providing increased budgetary resources for public works and other investments associated with development. However, as a rule these processes are slow and during their evolution there is a lack of the resources required at once for industrial and agricultural development. It is important to emphasize that not only are funds lacking for long-term credit operations but also to meet the demand for short-term agricultural, commercial and industrial credits. Though improvements may be made in banking techniques and methods the resources available to credit institutions appear inadequate to replace entirely the non-banking forms of credit (among these money-lending operations) and to provide the additional credit for economic development.

It is essential that a solution be found for the problem of lack of funds required in order to make more efficient use of the banking system

/in support

in support of plans for increasing production and for any projects of economic integration. It would therefore be advisable to consider to what extent the present methods adopted in Central America are able to provide the resources needed for agricultural and industrial banks and development corporations, or whether other sources should be tapped. Among the latter, there is perhaps some regional agency which would divert foreign capital to the Central American credit system either through a banking institution made up of the five countries or by grouping or association of the organizations already established. This then is one aspect of financial co-operation in which careful study may offer a profitable solution for the economic development of Central America and at the same time for integration in this region.

8. Community of Objectives and Means

The reasons set forth above seek to emphasize the importance of an immediate and not over-ambitious though daring objective in the field of economic integration. Neither perfection nor an ideal plan should be aspired to, since centuries might pass before attaining such a goal. It should be a limited objective, based on a co-ordination of effort, in order to exert strong influence on economic development. Without co-operation and a community of objectives in matters of commercial and customs policy, industrial planning, technical progress, development of transport and energy and possibly financing, economic integration is impossible. From the moment that a policy of integration is recognized as an essential and complementary principle of economic development in Central America, the policy of one country's development can no longer be isolated from that of the other four republics. If the need for integration is acknowledged, it is essential and even fundamental that the domestic development projects now being studied in certain countries should take into account those planned by their neighbours. Furthermore, certain proposed investments of international importance in the Central American Isthmus should be examined in the light of the benefit that might accrue to the region as a whole and in the light of alternative solutions which are technically and economically feasible.

During the past few months the Secretariat of the Economic Commission for Latin America has had occasion to consider certain concrete sectors of industrial activity in which orderly development might be desirable with a view to integration. The following chapter contains the data supporting these proposals and indicates some of the specific technical requisites which must be provided for in each case.

IV. CERTAIN INITIAL POSSIBILITIES IN INDUSTRY

1. General Considerations: Co-ordinated Application of Technology to Possible Projects of Integration

Central America's wealth in natural resources, notwithstanding the scantiness of accurate data, justifies the consideration of certain concrete possibilities of industrial development in accordance with the concept of economic integration and reciprocity as outlined above. From the preliminary study made of the economy of the Central American Isthmus it will be seen that in several sectors of industry and of transformation of agricultural and mineral products the development of industry might be projected forthwith, from the standpoint of Central America as a whole and not of a single country, provided that there is a possibility of access to the whole of the Central American market being unhampered by any customs barriers.

The following pages contain the reasons and data which justify submitting to the consideration of the Committee of Ministers of Economy of the Isthmus (pursuant to resolution 9[IV] of the Economic Commission for Latin America) a number of preliminary but specific suggestions for the co-ordinated development of the following industries: cotton textiles, vegetable oils and fats, inner tubes and tyres, footwear, tanning materials, meat and hides, dairy products, forestry products, wood pulp and paper, pottery and glass and other industries such as fishing, preserved fruits and vegetables, fuel and certain chemicals and tools, as well as matches, etc. Similarly, a suggestion is made regarding the advisability of carrying out a systematic study of the mineral resources and of further developing the benefits derived from them.

It is evident that present-day knowledge is far from adequate as regards natural resources, the most appropriate techniques, and the factors determining the optimum location of the industries mentioned above so that no definite and precise resolutions can be drawn on the basis of the following suggestions. On the contrary, there are a number of concrete points and technical questions in each industry which would have to be settled before even deciding on the establishment of such industrial enterprises. Considerable progress has been made over a period of years in some technical matters as a result of the isolated efforts of Central American national organizations and of private enterprise, as well as of the technical co-operation afforded by different

/foreign and

foreign and international institutions. In such cases the studies and conclusions reached should be taken into account. In others, gaps will be found either because a technical problem was examined only with reference to a single country, not taking into account the other republics of the Isthmus, or because research and study have been limited to certain resources alone or alternatively because some significant aspects have been omitted.

The technical assistance at present lent to Central America in different basic branches of the economy such as transport, energy, industry and problems of public health and administration is of fundamental importance to economic development, and consequently is essential to a policy of economic integration and reciprocity. It is therefore probable that in circumstances in which it appears advisable from the standpoint of concrete proposals of integration, an attempt at greater co-ordination should be made both as between the Central American Governments themselves and between these governments and foreign agencies which extend technical assistance, thus ensuring a greater concentration of human effort.

This being so, in the concrete projects of integration suggested below, there would be immediate justification for a co-ordinated study of the technical questions and problems to be solved, based on the collaboration of the competent national and international agencies in each case. In the event of the Central American republics wishing to request some concrete form of foreign technical assistance, this might be given by drawing up specific programmes with a view to obtaining the maximum of benefits for the whole region. Should the governments of the five republics so desire, a series of technical assistance projects for Central America could be prepared directly linked to projects of industrial integration, each designed to provide conclusions and recommendations of a practical order and constituting a positive incentive for the orderly development of a given industry or group of industries.

The following suggestions are based on the assumption that their execution depends on carrying out the technical analyses which should precede them. Both the data submitted and the listing of the technical problems for study must be considered as preliminary and in no way exhaustive. It should be regarded as the result of initial investigations and compilation of data by the Secretariat of the Economic Commission for Latin America.

/Difficulties in

Difficulties in collecting scattered data related to Central America and the gaps and omissions of the various statistical series make it impossible to give as definite a form to many of the concepts as might have been desired. On the other hand, the statement is brief and clear in order to focus attention only on the more important conclusions.

2. Industries to be Considered

(a) Cotton textiles. In giving first place to the cotton textile industry it is acknowledged that this is one of the oldest and most highly-developed industries in Central America and one to which substantial investments have been applied. However, owing to its importance and to prevailing technical conditions as well as the need to find a wider market and the possibility of substituting textile imports, together with the prospect of absorbing Central American cotton fibre surpluses, this industry should be given an outstanding position in any general plan of integration.

Cotton planting has developed in Central America since the Second World War. During the course of the last few years it was sharply stimulated by prevailing high prices which proved a strong incentive in expanding the area sown. Central America as a whole now produces more than 300,000 (100 lb) quintals of cotton and is a net exporter of this fibre. Guatemala is practically self-sufficient; El Salvador and Nicaragua have appreciable surpluses, and Honduras and Costa Rica have begun its cultivation. In El Salvador cotton cultivation and sale has been highly organized by the "Cooperativa Algodonera" (Cotton Co-operative). Plantation is highly mechanized, following scientific methods. Production is carefully graded and a fair standard of technical development has been reached. In Guatemala, cultivation was almost wholly encouraged by the government, through the Production Development Institute, but was seriously hampered by disease. The yields are low and there can be no assurance, as exists in the case of El Salvador, that the present level of production will be maintained. In Nicaragua, the increase in cotton cultivation has been accompanied by considerable mechanization but much remains to be done in the way of disease control and selection of improved varieties.

Cotton yarn and textile manufacture is principally concentrated in El Salvador though a certain number of factories are found in other countries,

/many of

many of them established since the end of the nineteenth century or the beginning of the twentieth. On the whole, equipment is antiquated; industrial organization follows out-of-date patterns and productivity is low. The goods manufactured are of a fairly ordinary quality: coarse cotton cloth, drills, mixtures and a little cotton knitwear. Total production in Central America is calculated at about 30 million yards, of which two thirds are produced in El Salvador and the remainder principally in Guatemala and Nicaragua. The total value of Central American production may be valued at about 11 million dollars.

Some effort has been made to renew equipment and improve technique. A member of the United Nations Technical Mission in El Salvador has been working in an advisory capacity to different factories there. In Nicaragua, a new factory with automatic looms was installed and it is believed that the industry can be further enlarged in that country. The general problem, however, lies rather in the reorganization of the industry, but from a Central American standpoint, with a tendency towards specialization in the existing factories whilst raising average productivity by renewal of equipment, technical control of production, improvement in labour standards, etc.^{1/} Central America at present spends more than 16 million dollars on imported cotton textiles exclusive of thread, yarn and manufactured cotton cloths (See Table 7 above). It is likely that under conditions of efficient operation and by increasing productivity in the factories, a substantial proportion of these imports could be replaced by Central American production.

In view of the foregoing, it may be concluded that there is a basis for co-ordinating the development of the cotton textile industry, of Central America by better utilization of existing factories, provided that technical conditions can and will be improved.

It is suggested that in formulating a concrete plan of development in the textile industry, in accordance with standards for economic integration, a group of technicians, working jointly, should carry out investigations

^{1/} A report prepared by the Economic Commission for Latin America for five Latin American countries — namely, Brazil, Chile, Ecuador, Mexico and Peru — shows to what extent it is possible to increase textile productivity without recourse to substantial investment in equipment. See United Nations, Department of Economic Affairs, Labour Productivity of the Cotton Textile Industry in Five Latin American Countries, New York, 1951.

covering the following subjects:

- (i) Economic-industrial analyses of yarn and textile manufacture in Central America, indicating the means of increasing productivity either by improved organization, introduction of new machinery or the training of labour and management.
- (ii) To consider the basis for rationalizing the industry in order to effect a degree of product specialization for the Central American market and subsequent co-ordination of the future expansion of this industry throughout Central America.
- (iii) To carry out a climatic and ecological study to determine in which parts of Central America it would prove economic to continue the cultivation of cotton and in which it would be preferable to abandon it provided that the producer countries of that region can supply non-producers within the scope of a programme of reciprocity; to consider the possibility of developing types of Egyptian cotton and generally to indicate the means of intensifying the efforts to increase yields and improve the quality of the fibre.

(b) Vegetable oils and fats. The production of vegetable oils and fats is another activity of considerable significance in Central America. In some countries, it has developed proportionately with the increase in the cultivation of oilseeds. The expansion of this industry is not only of consequence in connexion with the utilization of cotton seed surpluses, but it also supplies some of the basic wants of the population whilst offering a means of saving foreign exchange by reducing imports of animal fats and of vegetable oils and of fats themselves, amounting to 2.0 million and 700,000 dollars respectively. (See Tables 11 and 12.) The development of the industry is also important since it provides a source of concentrated cattle feed and a raw material for the manufacture of soap.

Despite the scantiness of the production data available it may be assumed that there have been increases though these do not conform to a uniform trend. In 1948 the production of vegetable oils and fats in El Salvador totalled some 111,000 quintals (5,000 tons), as compared with a

/fifth of

Table 11 Central America : Imports of Lard

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total a/</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	235	22	31	—	622	910	
1945	421	9	—	102	1 332	1 864	
1946	402	6	—	17	984	1 409	
1947	211	24	—	163	1 091	1 489	
1948	197	252	—	50	1 082	1 581	
1949	2 066	131	—	146	2 295	4 638	
1950	2 865	580	4	253	2 422	6 124	
1951	..	..	—	..	..	..
<u>Value</u> (thousands of dollars cif)							
1937	66	4	4	—	157	231	0.39
1945	137	4	—	38	488	667	0.73
1946	177	3	—	9	553	742	0.59
1947	142	12	—	112	691	957	0.49
1948	128	89	—	35	666	918	0.42
1949	724	71	—	59	855	1 709	0.81
1950	904	176	2	98	799	1 979	0.85
1951	..	..	—	..	..	..

Sources : Foreign Trade Statistics for the five republics. (A part of item 091-02 of the Standard International Trade Classification, SITC.)

a/ Including small quantities of Inter-Central American trade (principally exports from Honduras to El Salvador), which in 1947 amounted to a total of 102,000 dollars, in 1948 to 128,000 dollars, in 1949 to 86,000 dollars and in 1950 to only 24,000 dollars.

Table 12 Central America : Imports of Vegetable Oils and Fats

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u> a/	<u>1/3 of total</u> <u>imports</u>
<u>Volume</u> (tons)							
1937	592	152	--	..	1 322	2 066	
1945	60	119	82	71	378	710	
1946	198	84	99	42	267	690	
1947	207	145	103	60	339	854	
1948	304	162	146	63	228	903	
1949	721	151	113	71	289	1 345	
1950	753	419	159	80	308	1 719	
1951	..	..	176	..	..	..
<u>Value</u> (thousands of dollars cif)							
1937	141	38	--	..	221	400	0.7
1945	71	52	37	34	161	355	0.4
1946	123	42	48	18	140	371	0.3
1947	184	99	71	54	220	628	0.3
1948	237	119	116	52	167	691	0.3
1949	415	88	77	45	167	792	0.4
1950	312	178	92	48	155	785	0.3
1951	..	..	94	..	..	..	..

Sources : Foreign Trade Statistics for the five republics, including edible and non-edible oils, such as margarine. (Items 091-01, 091-02 and a part of 412 of the Standard International Trade Classification, SITC.)

a/ Includes Inter-Central American Trade - principally exports from El Salvador to the other countries, amounting to a total of 142,000 dollars in 1947 and 143,000 dollars in 1950.

fifth of that volume in 1946. In other Central American republics production is much lower though no precise data are available. Total production for Central America is approximately 8,000 tons. There are a number of fairly modern factories though these may not always be ideally located in relation to the source of the raw material. At all events, it is believed that the productivity of these factories and the quality of their output might be improved.

Most of the oilseed employed by these factories is acquired locally and in some cases, such as that of Costa Rica, it is brought from neighbouring or nearby countries. Natural conditions in Central America, and especially in Guatemala, El Salvador and Nicaragua, are favourable to the cultivation of cotton seeds, "ajonjolí", etc. It would appear that there are even surpluses which could supply the whole of Central America. In some countries, the production of oils and fats from the African palm has been developed. There are large tracts covered with "corozo" (or "corojo"), a tropical palm with an oil-bearing nut. In El Salvador, experiments have recently been made with a view to extracting oil from the "aceituno" (Simaruba glauca), a wild plant found practically throughout all of Central America and Southern Mexico which, further to containing an edible oil, prevents erosion and offers means of reforesting low rainfall areas.

With a view to future development of the manufacture of vegetable oils and fats, and in order to avoid the duplication of factories or their poor location, in any plan of integration a group of experts should be appointed to perform the following concrete tasks:

- (i) To visit factories producing vegetable oils and fats, and so determine the means of increasing productivity and improving quality especially as regards obtaining higher percentages in the extraction of oils.
- (ii) To estimate the possibility of increasing the manufacture of hydrogenated vegetable fats as a substitute for lard, at the same time studying the optimum location for such factories.

/(iii) To examine

(iii) To examine the industry as a whole, indicating the most adequate sites with a view to future expansion in order to supply the Central American market as a whole, taking into account the various oilseeds available.

(iv) To consider the possibility of speeding up research on the extraction of oil from the "aceituno" as a basis for justifying the industrial projects drawn up in this field or to be prepared eventually.

(c) Tires and inner tubes. The manufacture of tyres and inner tubes has emerged in many countries as a result of the development of motor transport. During the past few years, the number of passable roads has increased considerably in Central America. Many important projects have been planned and others are being carried out in the five Central American republics. Considerable increment in motor traffic as well as in the number of vehicles may therefore be foreseen over the next few years.

Available statistics regarding the number of vehicles in each country do not appear to be very complete. However, it is estimated that in the Central American Isthmus there are, at present, some 40,000 vehicles, consuming a total of no less than 160,000 inner tubes annually. Aggregate demand of this nature (without taking into account the possibility of demand from Panama and other neighbouring countries, which might be an important factor in determining the feasibility of a factory) seems sufficient to justify a plant of medium capacity. Imports during 1950 amounted to 3.2 million dollars. (See Table 13.)

During the past few years, rubber growing has been introduced, especially in Costa Rica. There, production of such articles as rubber soles and heels, packing material and rubber toys by local enterprise has enabled domestic industry to replace all imported goods of this nature. During the Second World War, under emergency conditions, the production of rubber was increased especially in Nicaragua. The rubber was gathered from wild trees and some experimental attempts at cultivation were begun. Since the war, however, production has fallen off. Despite special conditions prevailing during that period, if a tyre factory were to be set up, the cultivation of rubber would probably be stimulated on a commercial basis,

/as was

Table 13 Central America : Imports of Rubber Tires and Tubes

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u> a/	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	180	113	98	..	75	466	
1945	157	90	122	168	128	665	
1946	592	243	167	402	328	1 732	
1947	720	477	323	446	373	2 339	
1948	700b/	365	288	394	230	1 977	
1949	526	311	289	411	324	1 861	
1950	736	583	308	399	490	2 516	
1951	..	..	385	..	..	..
<u>Value</u> (thousands of dollars cif)							
1937	132	87	75	..	51	345	0.59
1945	194	119	179	250	158	900	0.98
1946	753	302	201	487	380	2 123	1.68
1947	1 015	618	450	608	462	3 153	1.61
1948	818b/	476	382	531	275	2 482	1.13
1949	684	397	369	509	359	2 318	1.09
1950	953	749	376	518	589	3 185	1.37
1951	..	..	559	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Items 629-01 of the Standard International Trade Classification, SITC.)

a/ The figures for Nicaragua include other goods manufactured from hard and soft rubber in all years except 1950; in that year, imports of tubes, comprise 70 per cent of the total value of imports of rubber and goods manufactured therefrom.

b/ 1948 figures estimated on the basis of "Unspecified rubber goods".

as was done in part in Costa Rica.

With a view to deciding upon the feasibility of installing a tyre and inner tube factory it would be necessary for a group of experts to consider the Central American area as a whole, taking into account the points listed below:

- (i) A complete analysis of market conditions and of the volume and frequency of demand for inner tubes and tyres, bearing in mind the different classes and specifications thereof.
- (ii) The determination of the most favourable location for a tyre factory in relation to the market in the five Central American republics, taking into consideration the possibility of supplying Panama and other neighbouring countries.
- (iii) A study of raw material production, in order to formulate a long-term supply plan of natural rubber in Central America, including all the essential agronomic aspects.

(d) Footwear. Annual production of footwear in Central America is calculated at somewhat more than 2.5 million pairs for a population of 8 million inhabitants. Imports amounting to only 150,000 pairs and worth 546,000 dollars, are absorbed by the higher income classes. (See Table 14.) In Central America there are no modern footwear factories, and attempts to install efficient plants have met with failure. Most of the footwear is handmade or, alternatively, involves semi-mechanical methods. The industry is located either in small workshops or in the homes of the workers. Consequently, provided that the supply and quality of soles and leather can be improved, there is a potential market which would stand the introduction of a modern industry if it could supply the population with a low-priced product. On the other hand, it must be acknowledged that any transformation of the present footwear industry will provoke far-reaching social problems. Heretofore, modern machinery has not been introduced into the manufacture of footwear owing to the resistance of the shoemakers' /unions, representing

Table 14 Central America : Imports of Leather Footwear

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u> a/	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	--	--	43	..	10	53	
1945	--	--	49	12	7	68	
1946	--	--	68	15	12	95	
1947	2	--	59	19	8	88	
1948	8	--	74	16	7	105	
1949	20	--	78	14	2	114	
1950	19	1	105	37	1	163	
1951	..	..	90	..	..	..
<u>Value</u> (thousands of dollars cif.)							
1937	2	..	81	..	11	94	0.16
1945	3	--	127	16	25	171	0.19
1946	6	1	169	25	36	237	0.19
1947	18	2	188	48	28	284	0.15
1948	65	1	272	42	31	411	0.19
1949	164	1	269	23	6	463	0.22
1950	146	4	337	56	3	546	0.23
1951	..	..	379	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Item 851-02 of the Standard International Trade Classification, SITC.)

a/ The statistical series for Nicaragua show thousands of pairs as the basic unit. In the above total it is assumed that one pair plus its respective packing is equivalent to 1 kilogramme in weight.

unions, representing several thousand members in each country.

The process of modernization must occur inevitably; in fact, some progress has already been made along these lines; both government and private enterprise have expressed their interest in this connexion. For instance, Costa Rica has revoked a law prohibiting imports of footwear manufacturing machinery. It would therefore be a most opportune occasion to carry out a general study, envisaging the mechanization of this activity.

In order to solve this problem and to plan the development of the industry, it would be necessary for a group of experts to carry out the following programme:

- (i) To examine the basis for the modernization of the footwear industry, taking into account supply centres of hides and skins, with a view to determining the most suitable location for one or more factories, which would cover demand in the different Central American consumer centres.
- (ii) To study the potential market in Central America and export possibilities in that region.
- (iii) To formulate measures for the better utilization of the current labour force in a modern footwear industry and to promote the gradual displacement of the labour surplus into other activities.

(e) Tanning materials. Broadly speaking, the basis of the tanning processes in Central America is quite empirical and, consequently, deficient. The main products employed are the bark of the mangrove tree and of the nacascolo of the dividivi species. Limited use is made of tanning extracts and of more efficient mixtures. The domestic footwear industry can only barely be supplied by local sources with sufficient soles and these are not always of a good quality, the higher-grade skins being imported.

Mangrove swamps and nacascolo trees are found in many parts, but they have not been utilized on a commercial scale. On the other hand, in Southern Rhodesia, Kenya and South Africa, a variety of mimosa, known as black wattle (Acacia mollissima willd), has been successfully introduced

/with a

with a view to obtaining tanning extracts. This plant could be introduced throughout Central America with a dual advantage, namely, that it would assist programmes of reforestation and the prevention of soil erosion, in addition to providing a good tanning extract and lumber and firewood.

Bearing in mind the development in the demand for leather, including a possible increase in the manufacture of footwear, it would be advisable to establish a modern tanning extract industry adapted to the most suitable techniques for the materials available in Central America. In this instance, short-term results could be obtained by employing known tanning materials and at the same time a long-term programme could be simultaneously developed based on other products such as black wattle.

In order to develop the production of tanning extracts in accordance with the plans for Central American economic integration, a group of experts should undertake the following studies:

- (i) To determine the best species providing suitable tanning materials, and also the most propitious areas for their cultivation.
- (ii) To examine the possibilities and methods of introducing black wattle and to indicate the ideal zones for the plantations.
- (iii) To indicate the optimum site for tanning extract factories.

(f) Preparation of meat and hides. With a few exceptions, the supply of meat in Central America is purely local and for the most part no technical methods are used. There are very few modern characteristics, cold storage and the freezing of meat being carried out only on a small scale and exclusively for export to the United States. Instead of establishing a single large centre for the refrigeration and packing of meat, the cattle is moved over long distances -- for instance from Nicaragua to El Salvador and Guatemala -- and so loses considerable weight and is subjected to very adverse conditions. Factors such as the loss in weight and the effects of cattle diseases and parasites influence local supplies seriously.

However, there is a large cattle population, some of the breeds being
/well adapted

well adapted to the low-lying tropical area. If these were carefully studied and protected against disease, they might become the basis of modern industrial enterprises located, for instance, in Nicaragua and Northern Honduras. Specialized institutes are carrying out fruitful research in this field, though probably not on a sufficiently wide scale. The various governments have begun sanitary campaigns with a view to suppressing disease but adequate extension services have not yet been introduced.

Owing to the condition of the cattle, the tanneries face many difficulties. Deficient feeding of the cattle, disease and parasites, improper methods of branding, etc., lower the quality of the leather from the outset. Moreover, generally speaking, slaughtering methods prevent the obtaining of good quality leather with the maximum utilization possibilities. Lastly, hides are not well preserved and treated prior to the tanning process. There are naturally exceptions to what has been said above; however, given conditions in the slaughter houses, no great improvement can be expected for the time being. Central America is an exporter of untanned leather, importing, in turn, tanned hides and skins. These imports involve a gross annual expenditure of some 2.3 million dollars in foreign exchange per annum (see Table 15) which could undoubtedly be reduced. The development of other industries, such as footwear and leather goods, depends on improvement in the quality of the hides and in prevailing tanning methods.

Prior to determining the location for developing an industry connected with the preparation of meats and hides, in accordance with a Central American programme of economic integration and keeping in sight the possibility of exports to the United States, Cuba, Venezuela and other countries, a more detailed study should be made by a group of experts working through field investigations and concentrating their attention on the following problems:

- (i) The re-location of the slaughter houses and the establishment of centres for resting and fattening the cattle related to the main cattle areas of Central America and to transport facilities, on the assumption that it is preferable to carry meat rather than cattle.

/(ii) The determination

Table 15 Central America : Imports of Hides and Tanned Leather

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	45	88	68	..	74	275	
1945	22	106	59	48	152	387	
1946	42	45	84	39	90	300	
1947	37	40	75	46	120	318	
1948	36	73	98	48	124	379	
1949	60	84	32	45	156	377	
1950	73	121	110	52	207	563	
1951	..	..	126	..	..	..
<u>Value</u> (thousands of dollars cif.)							
1937	202	275	149	..	202	828	1.41
1945	138	245	219	260	425	1 287	1.39
1946	221	200	313	205	329	1 268	1.00
1947	261	224	300	325	611	1 721	0.88
1948	248	370	436	332	546	1 932	0.88
1949	250	432	309	208	691	1 890	0.89
1950	287	519	419	291	751	2 267	0.97
1951	..	..	436	..	..	..	..

Source : Foreign Trade Statistics for the five republics. (Item 611-01 of the Standard International Trade Classification, SITC.)

- (ii) The determination of the basis for the establishment of refrigerating and packing centres alongside the main slaughter houses.
- (iii) An indication of the minimum basis for modernization of existing slaughter houses and the improvement of their technique, including slaughtering methods affecting both the quality of the hides and the utilization of animal by-products.
- (iv) Analysis of the cattle raising situation and of the possibilities of improvement from the standpoint of breeds, sanitary conditions and government services, suggesting a basis for the co-ordination of livestock research in Central America and making the necessary recommendations for the intensification of research at Turrialba and other centres.

(g) Dairy products. With the exception of the highlands of Costa Rica and some isolated areas in the other countries, the milk produced in Central America is not obtained from specialized breeds of dairy cattle. Moreover, technical and economic conditions are inadequate in the dairy industry. Broadly speaking, the supply of milk is entirely local, the yield is extremely low and consumption at a minimum.--- In Central America large quantities of powdered, evaporated and condensed milk are imported, representing a total of almost 2.7 million dollars. (See Tables 16 and 17.) The acknowledgment of this low level of consumption recently led United Nations International Children's Emergency Fund (UNICEF) to assist in installing small pasteurizing and powdered milk plants for feeding school children. Other projects have also been planned.

In Honduras and Costa Rica, work is being done in connexion with the selection of suitable breeds of dairy cattle adapted to different climatic conditions. There is, however, considerable difference of opinion as to whether or not dairy cattle should only be bred in the highlands or they could be introduced into the low-lying, damp, tropical zones as well. The time appears opportune to determine the best conditions for milk production
/and industrialization

Table 16 Central America : Imports of Powdered Milk

	<u>Guatemala</u>	<u>El Salvador</u> b/	<u>Honduras</u> a/	<u>Nicaragua</u> b/	<u>Costa Rica</u>	<u>Total</u> c/	<u>% of total imports</u>
Volume:							
(tons)							
1937	36	..	..	..	22	58	
1945	87	..	27	..	284	398	
1946	194	..	190	..	614	998	
1947	342	..	195	..	481	1 018	
1948	520	..	189	..	503	1 282	
1949	722	..	255	..	391	1 469	
1950	1 035	..	302	..	1 312	2 771	
1951	..	..	540	..	..	..
Value							
(thousands of dollars cif.)							
1937	24	--	..	..	8	332	0.05
1945	85	--	26	..	232	343	0.37
1946	188	--	113	..	531	832	0.66
1947	333	--	165	..	481	979	0.50
1948	659	--	164	..	574	1 474	0.67
1949	757	--	246	..	391	1 505	0.71
1950	935	--	232	..	733	2 130	0.91
1951	..	..	295	..	..	..	..

Sources : Foreign Trade Statistics for the five Republics (Item 002-02 of the Standard International Trade Classification SITC).

- a/ Imports in Honduras include milk for baby feeding and others such as "Lactogeno", "Nestogeno", "Perlagon" and "Dryco": some years also include condensed milk imports.
- b/ The data for Nicaragua and El Salvador is included under "condensed milk" (see Table 17), since there is only one item for milk products.
- c/ This does not include Nicaragua or El Salvador.

Table 17 Central America : Imports of Condensed and Evaporated Milk

	<u>Guatemala</u>	<u>El Salvador</u> a/	<u>Honduras</u>	<u>Nicaragua</u> a/	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	59	12	214	..	181	466	
1945	53	50	101	117	775	1 096	
1946	44	69	170	213	546	1 042	
1947	92	131	113	253	799	1 388	
1948	105	110	73	247	639	1 174	
1949	49	177	111	223	906	1 466	
1950	149	222	100	580	792	1 843	
1951	..	..	82	..	..	..
<u>Value</u> (in thousands of dollars cif)							
1937	11	4	60	..	32	107	0.18
1945	15	30	31	62	211	349	0.38
1946	13	46	50	118	165	392	0.31
1947	36	92	34	152	262	576	0.29
1948	44	90	22	167	228	551	0.25
1949	63	141	38	114	294	650	0.31
1950	52	157	29	183	144	565	0.24
1951	..	..	25	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Item 002-01 of the Standard International Trade Classification SITC.)

a/ The series for Nicaragua and El Salvador comprise all classes of milk.

and industrialization in Central America and to indicate the most suitable centres, from the standpoint both of the cattle and of the consumer.

Here again is a case of an industry in which considerable ignorance still prevails regarding certain technical aspects of raw material supplies. Several important problems in this connexion must be solved before any decision is taken as to the location of the industry. It would appear that the first step should consist in providing a group of experts to consider the following matters:

- (i) The optimum location for two or three large dairy centres, possibly in Costa Rica, Honduras and Panama,^{1/} with a view to industrializing milk, supplying it in powdered or evaporated form to the rest of Central America, and thus avoiding the need for imports from outside this area.
- (ii) Simultaneous study of the manufacture of cheese and butter and the utilization of the industrial by-products of milk.
- (iii) Local powdered milk production projects, among them those of UNICEF, with a view to determining whether they should be the basis of a large dairy industry or whether they should merely serve specific local requirements.

(h) Forest products, wood pulp and paper. Not only are there great forest resources in most of Central America but there are also indications that they are being increasingly developed. Industrialization of the wood is taking place on a moderate scale, partly with a view to supplying foreign markets. Some of the principal lumbering companies direct their activities only to the export market but, generally speaking, the smaller enterprises, where technique is unsatisfactory, supply the local market exclusively. Improved transport facilities would contribute to a greater expansion of production. If exports could likewise be increased it would be possible to meet domestic demand, especially in El Salvador, which is the only one of these countries with a deficit of wood, though its demand for that product

^{1/} This is one case in which the inclusion of Panama would be valuable in a concrete project of integration.

is extremely high.

The Food and Agriculture Organization (FAO) of the United Nations has undertaken forestry surveys in Guatemala, Honduras and Nicaragua and partial studies have been made by other organizations or individuals, including a survey in Costa Rica. Generally speaking, little information is available as to the location, density and accessibility of certain timber yielding species while nothing whatsoever is known as regards the cost of developing such species. There are a few timber industries — a small plywood factory in Guatemala and another in Panama. However, the problem has not yet been studied to any extent, with a view to supplying the Central American market as a whole and to exporting abroad. Central America still imports semi-manufactured and manufactured lumber products and exports timber. There is good reason to assume that the demand for processed woods will grow considerably in the future, to meet the increase in housing programmes, residential building and the expansion of public works. Reference should also be made to the problem of timber supplies as fuel.

In some Central American countries, the subject of manufacturing pulp for export and for the paper industry has been raised. None of these products has yet been studied sufficiently nor have they reached the pre-industrial stage. The exact basis of the raw materials required to establish such an industry is unknown. The manufacture of chemical pulp from certain bushes and fibres, such as Manila hemp, has also been discussed. In Costa Rica, a small plant is about to be installed for the manufacture of paper from Manila hemp waste, and in Guatemala there is another small plant manufacturing cardboard from lemon grass (Citronela) waste; both plants, however, work on an extremely small scale. In various countries throughout the world, the cost of production of sugar cane bagasse paper is being studied; such an industry offers an interesting prospect for certain areas in Central America.

In 1950, Central America imported more than 15,000 tons of paper and cardboard, representing a total value of some 4.3 million dollars. Half of this tonnage was newsprint, amounting to 25 per cent of the value. (See Tables 18 and 19.) Industrial and commercial development and the appreciable increase forecast for the manufacture of cement, will create a growing demand for wrapping and packing paper and other commercial forms of
/this product.

Table 18 Central America : Imports of Newsprint

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	1 356	1 300	418	..	—	3 074	
1945	1 118	900	243	52	715	3 008	
1946	1 448	2 100	228	364	1 393	5 533	
1947	999	1 300	429	575	1 357	4 660	
1948	2 014	2 000	503	663	1 119	6 299	
1949	1 856	1 946	382	582	1 397	6 163	
1950	1 817	2 224	300	839	1 679	6 859	
1951	..	..	545	..	..	..
<u>Value</u> (thousands of dollars cif.)							
1937	94	98	24	..	—	216	0.37
1945	91	85	22	8	66	272	0.30
1946	151	237	25	51	159	623	0.49
1947	161	171	83	108	221	744	0.38
1948	335	324	104	139	187	1 089	0.50
1949	301	309	73	91	219	993	0.47
1950	263	314	44	117	233	971	0.42
1951	..	..	102	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Item 641-01 of the Standard International Trade Classification, SITC.)

Table 19 Central America : Imports of Other Types of Paper
and Cardboard

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	1 120	618	437	..	2 023	4 198	
1945	1 284	704	464	468	1 497	4 417	
1946	2 499	823	654	387	1 874	6 237	
1947	2 434	1 252	705	771	1 817	6 979	
1948	3 662	1 496	655	1 018	2 061	8 892	
1949	2 741	1 157	811	891	2 516	8 116	
1950	3 076	1 347	709	697	2 573	8 402	
1951	..	..	1 105	..	..	..
<u>Value</u> (thousands of dollars cif.)							
1937	197	158	102	..	207	604	1.13
1945	313	255	165	207	383	1 323	1.44
1946	650	277	198	252	480	1 857	1.47
1947	869	526	291	394	616	2 696	1.38
1948	1 360	616	444	531	722	3 673	1.68
1949	968	452	360	446	702	2 928	1.38
1950	1 004	432	297	311	1 214	3 258	1.40
1951	..	..	485	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Item 641, with the exception of 641-01 of the Standard International Trade Classification, SITC.)

this product.

Large forestry enterprises, and others supplying industrial products involve considerable investment not only in equipment, ways and means of transport, energy and technical research, but also for reforestation. The manufacture of paper and pulp also requires the investment of substantial sums and represents a fairly high investment risk. Therefore, in developing a plan for these industries, it is essential — even more so than in other cases — to avoid duplication of costly investments by establishing a single optimum size unit.

At all events, in order to carry out a plan for the Isthmus as a whole, as in the case of other industries, the first step should consist in studying the problems as indicated below:

- (i) To determine and locate the timber yielding species which, from the technical standpoint, are worth developing over a short period, with a view to supplying both domestic and foreign markets. (The various studies already completed by FAO and other organizations should be taken into account.)
- (ii) To study the possibility of industrializing wood, making use of its by-products and sub-products in order to replace imports and provide adequate supplies for future domestic requirements and to increase the unit value of exports, indicating several possible centres for such industrialization.
- (iii) To consider the possibilities of adequate development of wood-pulp manufacture in one of the Central American countries together with the establishment of a paper mill.
- (iv) To study the position of the enterprises manufacturing paper from vegetable fibre waste and to assess the possibility of supplying Central American markets; the possibility of employing other fibres or materials such as sugar cane bagasse.

/(1) Ceramics and

(i) Ceramics and glass. Apart from the artisan industry, most of the cheap pottery in Central America is imported, as are large quantities of sanitary ware, tiles and other materials. A factory was recently installed in Costa Rica for the production of ordinary pottery and tiles, the capacity of which is sufficient to meet demand on that country's market. Similar projects have been drawn up but not yet carried out in Guatemala and Honduras. El Salvador produces a small amount of tiles.

Glass is not manufactured in any of the Central American countries, with the exception of a small bottle plant in Costa Rica, which uses glass waste as raw material. Imports of ceramics, glass and glass products have trebled since 1937. Central American imports of pottery and glass surpass the 3 million dollar mark in foreign exchange. (See Tables 20 and 21.) The development in building and the growth of the urban centres justifies the belief that this potential market will expand rapidly.

The main reason for the fact that a modern glass and pottery industry has not yet been installed in this area is the lack of knowledge regarding deposits of raw materials, together with the dearth of experts who are specialized in these industrial processes. Only a few isolated studies have been made of resources, among them being one on Guatemala. The factory established in Costa Rica surveyed and located its own deposits. However, the information available suggests that throughout Central America there are adequate raw materials for the manufacture of pottery, tiles and glass.

This again is an instance in which a small number of well-located factories would be enough to encourage this important industry in accordance with plans of economic integration for Central America. The adoption of such a plan should be preceded by expert investigation of the following points:

- (i) A survey of raw material deposits for large scale manufacture of pottery and glass over the short period, whilst at the same time carrying out a complete long-term geological survey. At present, it is essential to locate deposits which can be utilized at once.
- (ii) A study of the pottery factories of Costa Rica and El Salvador and of those projected in Guatemala and Honduras, to determine the possibility of increasing
/production in

Table 20 Central America : Imports of Glass and Glassware

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Tótal</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	1 359	410	462	..	1 062	3 293	
1945	2 210	714	865	746	2 232	6 764	
1946	2 754	1 337	1 088	579	1 346	7 103	
1947	3 488	2 018	1 510	936	1 529	9 480	
1948	4 107	3 955	1 741	1 475	1 464	12 742	
1949	2 782	1 723	845	802	2 259	8 412	
1950	3 180	2 939	1 354	976	2 416	10 865	
1951	..	..	..	..	..	..
<u>Value</u> (thousands of dollars cif)							
1937	192	88	63	..	105	444	0.75
1945	341	167	167	227	357	1 259	1.37
1946	489	291	161	178	260	1 379	1.09
1947	717	451	235	269	437	2 109	1.08
1948	923	762	286	323	370	2 664	1.22
1949	660	474	216	232	488	2 070	0.98
1950	723	693	259	222	525	2 422	1.04
1951	..	..	..	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Items 664 and 665 of the Standard International Trade Classification, SITC.)

Table 21 Central America : Imports of Pottery and Chinaware

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u> a/	<u>Costa Rica</u>	<u>Total</u>	<u>% of Total imports</u>
<u>Volume</u>							
(tons)							
1937	234	..	140	..	142	516	
1945	280	69	135	56	214	754	
1946	441	63	160	54	108	826	
1947	342	100	157	77	113	789	
1948	434	80	148	68	98	828	
1949	464	155	117	100	150	986	
1950	524	231	171	118	460	1 504	
1951	..	..	..	..	..	..
<u>Value</u>							
(thousands of dollars cif)							
1937	42	..	34	..	28	104	0.18
1945	110	36	60	63	116	385	0.42
1946	145	43	66	39	61	354	0.28
1947	147	63	74	41	79	404	0.21
1948	170	47	70	48	68	403	0.18
1949	149	101	69	48	90	457	0.22
1950	155	129	78	58	200	620	0.27
1951	..	..	..	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Items 666-01 and 666-02 of the Standard International Trade Classification, SITC.)

a/ Includes, china, porcelain and pottery.

Table 22 Central America : Imports of Fresh and Preserved Fish

	<u>Guatemala</u>	<u>El Salvador</u>	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	285	102	116	..	516	1 019	
1945	200	78	61	62	254	655	
1946	145	85	66	39	263	598	
1947	373	276	96	135	578	1 458	
1948	422	198	182	73	485	1 360	
1949	724	731	166	70	568	2 259	
1950	996	942	238	139	808	3 123	
1951	..	..	321	..	..	..
<u>Value</u> (thousands of dollars ..cif.)							
1937	49	29	32	..	87	197	0.33
1945	48	32	24	32	96	232	0.25
1946	77	59	34	34	145	349	0.28
1947	253	176	71	123	287	910	0.47
1948	250	117	127	58	278	830	0.38
1949	333	318	106	50	256	1 063	0.50
1950	295	352	115	82	266	1 110	0.48
1951	..	..	131	..	..	..	..

Sources : Foreign Trade Statistics for the five Republics. (Items 031 and 032 of the Standard International Trade Classification, SITC.)

production in order to supply Central America
as a whole.

(j) Other industries. There are furthermore other sectors in which the potentialities are not so sharply defined as above but should also be studied:

Fisheries: There are indications that profitable fisheries could be developed along the Pacific coastline of a large sector of Central America. Present fishing methods are elementary and do not offer the adequate and essential protection to the different species. Fishing operations are carried out on a very small scale, whilst consumption is small. Nevertheless, a possibility exists of raising the latter if a sufficiently low-priced product could be supplied. Different kinds of tinned or preserved fish are imported, representing a total of 1 million dollars in foreign exchange. (See Table 22.) Some exports have nevertheless been made, as a result of which Costa Rica has installed a small packing and refrigerating plant for tuna fish, shrimps and other species.

Surveys of the Costa Rican fisheries have been made. Recently, an expert working with the United States Point 4 Aid Programme visited El Salvador with a view to determining the fishery resources of that country. Its coastal waters were studied with the assistance of a specially built vessel. It would be useful to extend the field of such investigation to the whole Pacific Coast of Central America.

Not only is fishing technique deficient but present organization hampers any large scale operations owing to the lack of specialized fishermen, of capital and of equipment.

With the exception of Costa Rica, the tinning and refrigeration of seafood has not yet been organized on an industrial scale. There are great prospects for the future in this field, including the utilization of waste and by-products.

A plan of development for the fishing industry, from the standpoint of Central America as a whole, would require the designation of a group of experts, to consider the following items:

- (i) A survey of the whole of the Pacific coast of Central America, such as that carried out in El Salvador, with
/the assistance

the assistance of a specially built vessel, dealing not only with seafood resources but also with fishing methods and the commercial organization of the fisheries.

- (ii) A study of the industrial aspects of refrigerating fresh fish for supplying domestic and foreign markets, the preparation of smoked and frozen fish and the tinning of fish and seafood, both for foreign and domestic markets, as well as determining the most suitable location for the refrigerating centres and packing plants.

Preserved fruits and vegetables: Because of its diversity and of the necessity of its being placed as close as possible to the raw materials involved, this industry would probably be best served by the establishment of a series of small factories rather than a few large scale plants. However, for certain products perhaps two or three suitably located factories would be sufficient. The importance of this activity, should be emphasized owing to the fact that it affords a means of improving the supply of foodstuffs and provides an incentive for the production of fruits and vegetables.

Throughout most of Central America, small scale plants exist for preserving fruits and vegetables. These are adequate to meet local needs, but only rarely are they incorporated in an integrated commercial undertaking, including the whole process from the production of fruits and vegetables to the sale of preserves on the market. Conditions are suitable for the production of species grown in every climate. However, great losses are caused by the lack of markets or transport and by certain seasonal factors. Full use is not made of production possibilities. The volume of exports is small, but some have been recorded especially from Costa Rica to Panama. The industry has only been studied superficially but, on the whole, little attention has been given to research in fruit and vegetable growing, and there is a shortage of extension services and technical advice in this field.

Both with a view to replacing imports of preserved fruits and vegetables, amounting to a total of 1,100,000 dollars in 1950 (see Table 23), and to improving the standard diet as well as ensuring a more permanent
/market and

Table 23 Central America : Imports of Preserved and Prepared
Fruit and Vegetables

	<u>Guatemala</u> a/	<u>El Salvador</u> b/	<u>Honduras</u>	<u>Nicaragua</u>	<u>Costa Rica</u>	<u>Total</u>	<u>% of total imports</u>
<u>Volume</u> (tons)							
1937	115	147	..	..	124	386	
1945	130	159	134	252	197	872	
1946	276	253	393	380	335	1 637	
1947	408	407	356	385	631	2 187	
1948	307	354	380	353	442	1 836	
1949	503	627	431	462	357	2 380	
1950	565	777	520	303	410	2 575	
1951	..	..	..	..	..	..
<u>Value</u> (thousands of dollars cif)							
1937	33	51	..	..	25	109	0.19
1945	55	95	43	87	64	344	0.37
1946	105	161	128	138	111	643	0.51
1947	197	250	146	173	263	1 029	0.53
1948	124	241	140	139	174	818	0.37
1949	205	348	154	181	134	1 022	0.48
1950	211	422	176	108	140	1 057	0.45
1951	..	..	..	..	..	..	..

Sources : Foreign Trade Statistics for the five republics. (Items 053 and 055 of the Standard International Trade Classification, SITC; includes fruit and vegetable juices.)

- a/ The Guatemalan figures for 1948-50 include fewer items than in the preceding period.
- b/ This includes fruit syrups and juices and unspecified preserved or prepared foodstuffs.

market and higher income for many agricultural sectors, it would be desirable to develop different forms of preserving these products in Central America.

Beforehand, a technical survey should be made, embodying practical plans for this industry, referring specifically to the following points:

- (i) The indication of two or three suitable sites for the location of industrial scale plants, employing different methods for preserving fruits and vegetables.
- (ii) The determination of the regions in Central America in which the production of fruits and vegetables for preserving purposes should preferentially be developed.

Fuels: Much attention has been drawn to the excessive consumption of firewood as fuel in Central America, either directly or in the form of charcoal. It is estimated, for instance, that in Honduras consumption amounts to some 7 million cubic metres annually, as compared with total wood exports, which fluctuate between 1 and 1.25 million cubic metres annually. The deforestation caused by cutting down so much timber is one of the principal causes of erosion in that country. In El Salvador, firewood consumption has practically done away with the forests.

The substitution of wood by other fuels is a difficult process because at present these are beyond the reach of the average consumer's purchasing power. The fact that mineral or liquid fuels have not been developed in Central America weighs heavily in the balance of payments, since foreign exchange is required to cover imports thereof. Retail selling prices include a heavy tax, in some cases amounting to almost 100 per cent, which is justified from the fiscal standpoint but which possibly lowers consumption and delays the substitution of wood by liquid fuel.

Until measures are adopted to lower the price of such fuel or until commercially profitable petroleum deposits have been located, a radical solution would be the utilization of certain mineral coals known to exist in the north of Guatemala and in the west of Honduras. It is worthwhile studying the possibility of manufacturing mineral coal briquettes or semi-coke from low-grade coal for domestic and industrial consumption.

In this connexion, it might be advisable for a group of experts to undertake a programme of study, based on the experience of other countries^{1/}

^{1/} For instance, in Mexico the Institute of Industrial Research has prepared semi-coke and briquettes of low-grade coal which replace

in which a similar problem exists, and later transfer the work to some specialized research institute to be established in Central America. This programme should, in principle, include the following:

- (i) A study of the possibility of utilizing known mineral coal deposits for the manufacture of briquettes, or of semi-coke.
- (ii) An indication as regards the best means of treating coal in order to obtain good fuel.
- (iii) Determination of the most suitable size for a national briquette factory.
- (iv) A market survey together with an examination of the most suitable means of distribution.

It would also be advisable to consider the possibility of establishing a petroleum refinery somewhere in Central America, since the market in a single country does not justify an undertaking which would only be feasible in the event of an aggregate market being created. Of a total of 691,000 tons of liquid fuel imported in 1950, approximately 34 per cent was fuel oil, 21 per cent petrol and 45 per cent other miscellaneous products. A refinery of economic proportions would in time effect savings in foreign exchange since it is cheaper to import crude petroleum and produce its by-products nearer to the consumer centres. Moreover, it would provide a source of employment and experience for future petroleum developments and would afford a local supply of gas for domestic and industrial purposes.

In order to provide a better basis for a project of this nature, a group of experts should work out a programme which, among others, would include the following analyses:

- (i) A detailed study of the market for petroleum products and of consumer tendencies in Central America, in order to examine the possibilities for establishing a refinery.
- (ii) The determination of the optimum size and location of a petroleum refinery, taking into account the diversity of products required and the cost thereof.
- (iii) A study of transport and distribution problems.

/Chemical products:

Chemical products: Some experiments have been made in the field of chemical and pharmaceutical products in Central America, especially with regard to the latter. The lack of information on natural resources in this area makes it difficult to determine whether or not this industry can be developed on a commercial scale, especially the manufacture of certain chemical products such as caustic soda, copper sulphate, certain fertilizers, insecticides etc., for the Central American market as a whole. It is probable that there would be only a market for a relatively small copper sulphate factory, compared with the substantial volume of this product consumed on the banana plantations, and in view of the existence of copper ore in different parts of Central America. The size of such a market would eventually depend on the volume and grade of the ore, and on the results obtained from a detailed study of mining in the Isthmus, to which reference will be made below.

In the case of some pharmaceutical goods, among which figure antibiotics and other essential medicinal products, there may, in some cases, be justification for installing a factory to supply the whole of Central America, a series of small factories not being feasible. Such a project would involve the investment of a considerable sum in which perhaps foreign capital might be persuaded to participate with domestic capital, in a plan of integration.

Agricultural implements: The expansion of agriculture and of the cultivated area, together with the introduction of improved technical methods will create a growing demand for agricultural implements. Some of these might undoubtedly be produced in Central America, based on the experience already obtained by small-scale metallurgical industries, such as those of El Salvador and Costa Rica. In fact, it is known that some agricultural tools are already being produced in El Salvador and Nicaragua. The future development of such an industry could be projected in accordance with standards of economic integration, providing a technical survey were made of the market, of the quality of the goods produced at present and of the optimum size for operating.

Matches: Nearly all the countries in Central America are now manufacturing matches. This industry has been granted customs protection but the quality of production is lower than that of imported matches. However,

/this can

this can be easily raised since such improvement would not involve any insuperable technical difficulties. At least one of the Central American countries, namely El Salvador, continues importing matches from outside the area of the Isthmus when, in fact, its market could be supplied by the match industries of the neighbouring countries. To render the industry efficient, a group of experts should study operating conditions in each factory, throughout Central America as a whole, with a view to suggesting methods for improving technique and lowering costs of production, as well as studying the potential capacity of the market, to determine the most suitable location for future enlargements of the industry.

3. Mining Research

The various industrial projects referred to above depend upon better knowledge of mineral resources, of both metallic and non-metallic ores in the Central American Isthmus. In some cases, these resources would furnish the direct raw material, as, for instance, for pottery, glass, coal briquettes, caustic soda, copper sulphates and agricultural tools; in others, they would enter indirectly into production, as in the manufacture of inner tubes, tyres and matches. It is therefore important that, in a plan of integration, the mineral deposits of Central America should be utilized to a wider extent.

Little data is available in this connexion. Many surveys have been made of certain ores in different areas, such as the work done over a period of many years by the Geological Surveying Service of the United States Government. From time to time, general surveys have been carried out in specific countries, as, for example, that carried out during 1945 by the Inter-American Development Commission of the United States Government in Guatemala. For the most part, however, these studies have not been carried out systematically, nor have they been placed on a permanent basis. The poor development of mining in Central America is partly due to the lack of research in this field and also to transport difficulties and other factors.

In Guatemala, mining is practically limited to the extraction of lead and small quantities of zinc, copper and silver, though a little gold, sulphur, mica, salt and chrome are also mined. Deposits of antimony, nickel, iron and coal have also been located, and there are indications of the existence of oil. Total mining production in 1950 was estimated to be worth

/2.7 million

2.7 million dollars. There is good reason to believe that the mining of lead, the principal activity in this field, is likely to increase. El Salvador has deposits of iron, lead, zinc, mercury, sulphur, bauxite, limestone, granite, marble and asbestos, in addition to gold, silver and copper, the latter three being practically the only ones developed at present. The mineral wealth of Honduras appears to be even greater; further to the mining of gold and silver, which is of relative importance, there are deposits of antimony, mercury, iron, lead, copper, tin, zinc and coal. In Nicaragua, gold and silver are the main products, of which the former accounts for about 30 per cent of the total value of that country's exports. It is known, however (though they have not yet been developed on a commercial scale), that there are adequate reserves of iron, copper, lead, aluminium, mercury, antimony, sulphur and mineral coal. There is practically no mining in Costa Rica, and, though no important deposits have been located, there appear to be some reserves of copper, lead, zinc, nickel, silver, mercury, iron, manganese and sulphur. Some calcium carbonate and diatomite has been mined and the pottery factory set up in 1951/52 is using kaolin, feldspar and limestone obtained locally.

Mining development is a long-term process which must be preceded by costly and extensive research. For the immediate purposes of economic integration, it would probably be well to intensify systematic prospecting of coal, copper, clay, limestone, kaolin and sulphur deposits. Over the longer period, iron and other metallic ores should be studied.

It would not be opportune to enter into any more detailed consideration of mining in Central America at this point; reference should nonetheless be made to the need for focussing more attention on this problem. The following programming of work should therefore be included in any initial scheme:

- (i) A compilation and classification of all informative and analytic data on mining in the region.
- (ii) The formulation of a plan for the permanent study of mineral resources, either by means of national organizations or by the creation of a central institute.

/(iii) The training

- (iii) The training of geologists and mining and metallurgical engineers.
- (iv) The advisability of establishing small concentrators or processing plants for metals such as lead, copper and silver, in order to supply present needs of the Central American markets and for export purposes.

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