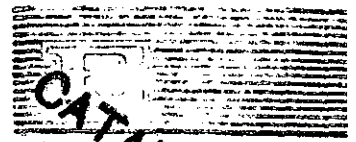


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Economic Commission for Latin America

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PROGRAMME OF ACTIVITIES OF CEPAL IN THE FIELD OF LONG-TERM
ECONOMIC, DEMOGRAPHIC AND SOCIAL PROJECTIONS, AND
SUMMARY OF MAIN FINDINGS AND CONCLUSIONS *

* Prepared for the Committee for Development Planning.

Note: This report has been prepared in response to a request by the CDP. Comments regarding the main results which can be derived from the quantitative research projects in progress have been made only in respect of those projects which are at a sufficiently advanced stage of preparation to permit the drawing of advance conclusions of a general nature which could be of value in connexion with the subjects in question. This is a preliminary report issued for limited distribution only.

Project 1

ECONOMIC AND SOCIAL MODEL

Field	Economic and social development scenarios
Organization in charge	CEPAL
Nature of study	Conceptual analysis based on a projection and normative model
Time horizon of projections	1980s, with extension of basic aspects to the year 2000
Geographical scope	Selected Latin American countries
Objective	To appraise the economic and social development prospects of Latin America and to examine strategies and policies at the national (domestic), regional and international levels
Methodology used	Sub-models or blocks on economic, domestic and external sectors, demographic aspects, employment, education and income distribution, integrated in the framework of a global model
Size of staff involved	2
Stage of execution	Some basic research work is being done on income distribution and employment, methodological aspects are being discussed
Time required to carry out the study	Two years for one or two countries, depending on the availability of finance
Expected date of completion	Middle of 1980
Difficulties in implementation	Financing has been obtained from the Fund for Development Planning and Projections (FUNDPAP) and work will be stepped up during 1979. The compilation and processing of the statistics and the execution of the basic research work will take quite a long time.

Project 2

DEVELOPMENT STYLES MODEL

Field	Economic and social development scenarios
Organization in charge	CEPAL
Nature of study	Conceptual analysis based on a quantitative model
Time horizon of projections	Next two decades 10, 20 and 30 years
Geographical scope	The model is being used at present only in the study on Argentina
Objective	To examine the economic and social development prospects of Latin America
Methodology used	Numerical experimentation model
Size of staff involved	2
State of execution	In progress
Time required to carry out the study	The work was begun at the end of 1969, and applied experimentally to an economy with characteristics similar to those of Brazil; at present it is being used in a study on Argentina
Expected date of completion	End of 1979 for Argentina
Difficulties in implementation	The project has to be discontinued for lack of funds, and will be replaced in future by the project on the economic and social model. (see D.1).

Project 3

MACROECONOMIC AND SECTORAL PROJECTIONS

Field	Macroeconomic projections
Organization in charge	CEPAL
Nature of study	Quantitative study
Time horizon of projections	1980s, extended to 2000 for some basic aspects
Geographical scope	Projections by countries and for the region as a whole (by aggregation)
Objective	To assess prospects and normative targets for long-term economic growth and its requirements and implications, concerning mainly savings, investment, trade and external financing
Methodology used	Econometric country models
Size of staff involved	5
Stage of execution	In progress
Time required to carry out the study	Continuing activity
Expected date of completion	Projections are available for 19 countries, corresponding to two economic growth scenarios, one based on past trends and the other on a moderate acceleration of growth. The study includes projections on gross domestic product, investment, consumption, imports, exports and external financing. Preliminary projections have been prepared on gross value added, employment and productivity for five major economic sectors
Difficulties in implementation	Lack of sufficient suitable staff for statistical analysis and basic research.

Project 4

AGRICULTURAL PROJECTIONS

Field	Projections of agricultural output and production potential, domestic demand, nutritional targets and external trade
Organizations in charge	CEPAL, FAO
Nature of study	Quantitative estimates and qualitative appraisals
Time horizon of projections	1980s, with extension of basic aspects to the year 2000
Geographical scope	Selected Latin American countries and the region as a whole
Objective	Appraisal of agricultural prospects and evaluation of production potential
Methodology used	These projections will be made in co-ordination with the macroeconomic sectoral projections and with FAO's study "Agriculture towards the year 2000"
Size of staff involved	2
Stage of execution	In progress
Time required to carry out the study	The project will be carried out in successive stages
Expected date of completion	Projections of internal demand - food and non-food - and production according to different trend and growth hypotheses are available for some countries. An overall estimate of agricultural production potential for the same countries is available too. Towards the end of 1980 the projections of internal demand with its nutritional implications, external demand, production and inputs to agricultural production will be available. The results of these projections will be presented in a regional report
Difficulties in implementation	Lack of funds for recruiting staff and inadequacy of information.

Project 5

INDUSTRIAL PROJECTIONS

Field	Projections of industrial output and structure, internal demand and external trade
Organizations in charge	CEPAL, UNIDO
Nature of study	Conceptual and quantitative analysis
Time horizon of projections	1980s, with extension to 2000 in some basic aspects
Geographical scope	A number of Latin American countries and the region as a whole
Objective	To appraise the industrial development prospects of the Latin American countries
Methodology used	These projections will be made in co-ordination with the macroeconomic sectoral model
Size of staff involved	None as yet
Stage of execution	In course of planning
Time required to carry out the study	2 years
Expected date of completion	Some projections for the main aggregate variables could be ready by the end of 1979. This would be the first stage of the work
Difficulties in implementation	Lack of financing.

Project 6

EXTERNAL TRADE PROJECTIONS

Field	Analysis and projections of the Latin American external trade within the world context
Organization in charge	CEPAL
Nature of study	Quantitative analysis
Time horizon of projections	1980s, with extension of basic aspects to the year 2000
Geographical scope	Projections for the region as a whole and by selected countries
Objective	To review growth prospects of exports and imports; to determine import needs under different hypotheses; to provide quantitative information for discussing alternative solutions to trade gaps; and to study the prospects for and role of increased trade within Latin America and with other non-traditional areas in the light of such gaps
Methodology used	These projections are linked with the hypotheses adopted in the <i>macroeconomic and sectoral model</i> . The studies for <u>the region as a whole</u> are based on <u>international trade matrices</u> which cover Latin America and the rest of the world, divided up into five areas. Trade flows are classified under six SITC headings. The projections are based essentially on historical functions relating imports with the domestic product of each area. The exports of the region are projected as a function of world imports of the item considered.
Size of staff involved	1
Stage of execution	In progress
Time required to carry out the study	Continuing activity.

Expected date of completion

Projections are available for the region as a whole. During the present year these projections will be disaggregated for some countries of major weight in the external trade of the region

Difficulties in implementation

Lack of sufficient personnel for progressing with these studies.
Technical difficulties due to the shortage of information and basic studies, especially as regards the determination of external demand for Latin American exports.

Project 7

DEMOGRAPHIC PROJECTIONS

Field	Projections of the total population and the economically active population, by sex and age groups
Organization in charge	Latin American Demographic Centre
Nature of study	Analytical and quantitative
Time horizon of projections	Up to the year 2000, with possible extension to 2025
Geographical scope	National and regional (urban and rural); 20 Latin American countries
Objective	To appraise the population and labour force growth prospects of the countries of the region
Methodology used	(a) For total population by age and sex: "Component method" of determining population growth. Mortality, fertility and migration projections based on trends, the historical experience of other countries and probable prospects of change (b) Urban and rural population by age and sex: Projection of the observed urban population proportion of each age-sex group, assuming these values will follow a logistic curve. The rural population was given by the difference between the total and the urban population of each age-sex group. (See UN Population Studies N° 55). (c) Total labour force by age and sex was obtained by applying age-sex specific activity rates estimated by ILO to the population of the corresponding groups according to CELADE's projections. Total urban and rural labour force by sex, compatible with the projected total labour force by sex, were obtained by projecting the global activity rates of each area and sex on the assumption that these will change according to the variation in the proportion of population of active age and the global activity rates of each sex.

Size of staff involved	1-5
Stage of execution	In progress. Latest projections of total population by age and sex were published in "Boletín Demográfico", CELADE, Vol. XI, N° 22, July 1978, as were latest projections of urban and rural population by age and sex (Vol. XII, N° 23, January 1979). Projections on the labour force are given in a draft "Tendencias y Perspectivas Demográficas" which has not yet been published.
Time required to carry out the study	Continuing activity
Expected date of completion	Population projections are continually being revised as new data and/or more accurate estimates become available
Difficulties in implementation	Lack of finance and inadequate data for many countries.

Project 8

QUANTITATIVE INVESTIGATION OF THE INTERRELATIONS BETWEEN
DEMOGRAPHIC AND SOCIO-ECONOMIC VARIABLES

Field	Interrelations between population dynamics and the economic and social development process
Organization in charge	Latin American Demographic Centre
Nature of study	Analytical and quantitative
Time horizon of projections	Retrospective investigation, 1950-1975
Geographical scope	National and regional; selected representative countries of Latin America
Objective	To increase knowledge on the interrelations between population variables and the most important indicators of economic development and social change and (in the next stage) to prepare a demographic, social and economic model involving a high degree of endogenization of population variables
Methodology used	Statistical analysis at the macro and micro levels
Size of staff involved	3
Stage of execution	Compilation and evaluation of economic and social indicators to be used in the statistical analysis of the relationships between demographic and socio-economic variables. Utilization of the results of other research projects carried out at CELADE for the formulation of specific relationships
Time required to carry out the study	3 years
Expected date of completion	Three basic studies on the following subjects have been included, to be initiated during 1979 and to be completed by mid-1981: - Patterns of women's participation in the labour force. Focused from the labour demand point of view, this study will include variables serving as indicators of the structural aspects conditioning women's insertion into the labour market (modernization of the economy, broadening

of the demand for work traditionally carried out by women, employment and wage levels, etc.) taking into account at the same time the individual and family characteristics relating to women (education, family size and composition, income, migratory status, etc.);

- Patterns of agricultural labour migration. Explanatory variables: economic and social indicators of regional disparities; education; communication and information means; density and demographic growth;
- Fertility patterns. Explanatory variables: education; income; economic activity; urbanization; migratory status; etc.

Difficulties in implementation

Lack of adequate finance. Necessity of assigning staff to other activities.

Project 9.

RESEARCH ON INCOME DISTRIBUTION AND EXTREME POVERTY

Field	Relationship between generation of output and distribution of income and consumption
Organization in charge	CEPAL
Nature of study	Descriptive analysis
Time horizon of projections	Long-term retrospective analysis with special emphasis on the 1970s
Geographical scope	Country studies
Objective function	To supply basic information and analyses for use in policy formulation
Methodology used	Statistical and econometric methods
Size of staff involved	3
Stage of execution	In progress
Time required to carry out the study	Continuing activity
Expected date of completion	An initial stage of the work has been completed, covering estimation and analysis of the distribution of household income, by income groups, and the incidence of absolute poverty, for 10 Latin American countries
Difficulties in implementation	Lack of funds and difficulties in obtaining data for some countries.

MAIN FINDINGS AND CONCLUSIONS

Project 3: Macroeconomic and sectoral projections

Project 4: Agricultural projections

Project 6: Foreign trade model

Project 7: Demographic projections

Project 9: Income distribution and extreme poverty

Project 3: Macroeconomic and sectoral projections
- Main findings and conclusions

1. Use is made of an econometric model and the following variables are considered for five economic sectors: gross domestic product, investment, consumption and savings, external financing, exports, imports, foreign income, external debt, terms of trade and value added, product per person employed, and employment.

Basically, the following relations are considered in the first stage of these activities: (1) investment requirements in terms of the marginal capital-output ratio; (2) imports classified in five groups as a function of domestic product and investment; (3) net foreign interest and profits in relation to indebtedness and foreign investment; (4) terms of trade (assumed to be stable at the level of the year 1976); (5) external financing (generally established by exogenous considerations); (6) share of each economic sector in gross product as a function of per capita income; and (7) product per person employed for the different sectors, explained as a function of per capita income and technical progress. An aggregate saving function is also established, and other variables are determined by the accounting equations.

2. The model operates by establishing for each country growth targets for the product and hypotheses on external financing or indebtedness. It may therefore be affirmed that in general terms exports are determined as the amounts required to satisfy the balance of payments equilibrium.

There is no mechanical or uniform procedure for all the countries, however. The exogenous variables and the solutions of the model are examined taking into account the particular conditions of each country or group of countries.

Thus, for example, the econometric import functions are adjusted, in some cases, to take into account the national policies already decided on in the field of industrialization; the relative volume established for external financing is examined in relation to the present level of indebtedness, which varies significantly from country to country; and its effects on the mobilization of domestic resources in terms of saving are also analysed.

/When considering

When considering the growth targets characterizing the various prospective scenarios, account is taken of national development plans, particular internal and external conditions, past experience and the main factors that determined it. Furthermore, the projections on import and export requirements resulting from this econometric model are analysed in comparison with the projections obtained from the foreign trade model described later in this document.

3. Two scenarios have been defined in this prospective study, which extends to the next decade and in some respects to the year 2000. One scenario projects the historical trends, and the other examines the implications of an acceleration of that growth.

A group of 19 countries is considered, representing about 90% of the product and 95% of the total population of Latin America and the Caribbean. A general idea of the nature and scope of those scenarios may be inferred from the global rates of growth resulting for the group of countries considered.

In scenario A, relating to trends, a global growth rate of 6.4% is obtained for the gross domestic product for the next two decades, which is significantly less than the rate of growth recorded for this group of countries in the period 1965-1974, when it was close to 7%, influenced largely by the high growth rate of the Brazilian economy during that period. Scenario B, of moderate acceleration, considers situations reflected in a rate of 7.4% for the whole group of countries. A modification of scenario B, with greater acceleration in the 1990s, resulting in an average aggregate rate of about 7.8% for the two decades is being studied. The growth rates proposed differ markedly between one country and another, especially in the case of the first scenario, but in most countries they tend to agree with the average in scenario B.

4. Needless to say, these scenarios have been formulated essentially for the purpose of research. They do not necessarily mean options of the same value for each of the countries studied. It is quite probable that, once the study is completed and more knowledge is available of the implications in relation to particular internal and external factors, the countries' location in terms of their growth rates may vary to some degree with respect to these /hypotheses. Likewise,

hypotheses. Likewise, it may be better to combine other elements in making up the scenarios, as, for example, to prepare an alternative solution such as Modified B, which from 1990 onwards would gradually accelerate the rate of growth during the decade up to the year 2000. Naturally not all the scenarios will be examined in exactly the same detail. In particular, Modified scenario B, of greater acceleration, has specific objectives in terms of considering certain aspects of social strategies and economic and industrial policies.

For the time being, the following significance may be ascribed to each of the scenarios:

(a) The purpose of scenario A, relating to trends, is ultimately to examine the evolution and, in particular, the worsening of social problems connected with unemployment, income distribution and situations of extreme poverty, if the prevailing economic and social trends in the various countries persist. In the more specific context of the model prepared, this scenario permits the evolution of the balance of payments and indebtedness problems to be examined vis-à-vis the alternative of a recovery in the growth rate.

(b) Scenario B, of moderate acceleration, involves important changes of an internal nature and also changes in external co-operation with respect to access to foreign markets and the availability of financing. Its purpose is to study the evolution of the social aspects of development and medium- and long-term balance-of-payments problems in the context of a more dynamic development process than that prevailing in the past.

(c) Modified scenario B, of greater acceleration, is being designed to offer long term comparative and contrasting criteria. It is particularly interesting to examine the conditions under which employment, income distribution and situations of extreme poverty could evolve in a still more dynamic process, and at the same time to assess the requirements of this greater dynamism in terms of internal and external resources. There is no doubt that for many countries this scenario represents maximum limits that would not be easy to attain. This scenario obviously demands an extraordinary mobilization of internal resources and drastic changes in the international economic order.

5. The research being carried out justifies some long-range conclusions which may vary in some degree with the greater knowledge obtained from the individual country studies, but will not change significantly. Before referring to those overall conclusions, it is useful to recall some characteristic features of Latin America's economic development:

(a) Since the middle of the past decade up to the years 1973-1974, the rate of economic growth tended to increase. Thus, it was observed that many countries, though with varying intensity, possessed a great capacity to increase investment and national saving to absolute and relative levels (over 22% and near 20% of gross product, respectively) that would not have been considered feasible years ago;

(b) This process was significantly influenced by abundant external investment and financing and by the favourable cycle of external demand, which was reflected in an increase in the volume of exports and an improvement in the terms of trade. This last factor was particularly important in the oil-exporting countries.

(c) This evolution, accompanied by changes in foreign trade policy, imposed a new structure on the growth process as regards external variables. The economies became relatively more open to the exterior and imports recorded a high elasticity with respect to the domestic product (1.4 for the period 1965).

(d) The world economic recession, the rise in oil prices and the subsequent deterioration in the terms of trade had a most unfavourable effect on the non-oil-exporting countries. The purchasing power of their exports declined and many countries substantially increased their indebtedness during 1974-1975. The balance-of-payments deficit came to represent nearly 4.5% of the gross domestic product for this group of countries in 1975. All this led in 1975 to a rapid and significant decrease in the growth rate of investment and to a drop in the volume of imports. As a further result, social conditions in many countries deteriorated, unemployment increased, real wages fell and income distribution became even more inequitable;

(e) For the non-oil-exporting countries as a whole (still including Mexico in this group, for reasons of statistical comparability) the economic growth rate of the period 1976-1978 improved compared with 1975, but even so

/it only

it only reached an average of around 4%. The evolution of the product of the oil-exporting countries was favourable, in contrast, since these countries as a whole grew at the rate of 7.1%. During these last three years, however, the region as a whole recorded an average growth rate of less than 4.5% per year, which is significantly below that of the other periods considered over the last three decades.

(f) To sum up, the Latin American economy has become stronger in the post-war period. Its potential capacity for economic growth has increased and it is passing through a stage of significant production changes and diversification. At the same time, however, the course of the economy is extremely dependent upon world economic trends, trade flows and the movement of capital, and in particular, on the evolution of the industrialized countries.

6. This projection model shows clearly and directly the implications of the different rates of growth in relation to the domestic effort, assessed in terms of saving and investment requirements, the sectoral structure of the economy, the social effects as reflected through employment and productivity and the role which should be played by the external variables. Certain interesting ideas may be advanced regarding the latter factor.

Let us first of all consider some comments which may be inferred from the projections for the region as a whole and the oil-exporting countries in particular:

(a) Over the longer term, i.e., during the next decade, and still on the basis of the established assumptions, it is shown that in the two scenarios imports will grow at a rate similar to or higher than that of the product, and the same will apply to export requirements. The analysis shows that in any case, and even in the trends scenario, exports will have to grow at a significantly higher annual rate than that recorded in the past (6.7% as against 4.6% in the period 1960-1975), and all the more so if we pass on from scenario A to Modified scenario B. The initial indebtedness and balance-of-payments conditions have a great effect on these results;

(b) The prospects are relatively more favourable for the oil-exporting countries. In the long term, however, these countries' exports should also increase parallel with the growth of their domestic product, and this means, of course, that they must rapidly promote their diversification. The case is different for Mexico and Paraguay, which will become important exporters of oil and energy in the next decade.

7. Certain basic issues of Latin America's economic development therefore arise in relation to the external sector and are dealt with in the following comments:

(a) External financing is particularly important in achieving specific rates of economic growth, and even if it were reduced below the 1975 levels, it would have to retain the relative importance it recorded before 1973, unless exports earnings increased very rapidly as a result of an improvement in relative prices or an expansion in the volume of sales. It must be taken into account that the improvements in the balance of payments and the increases in reserves that are being achieved in some countries are partly the result of an absolute or relative contraction of domestic demand and that, moreover, the Latin American countries are practically excluded from concessionary financing;

(b) It is therefore necessary to instrument a suitable policy regarding access to financial markets and to international institutions, the use of private banking sources, and debt and monetary reserves management. It is a well-known fact, moreover, that the possibilities of continuing to increase the external indebtedness primarily depend on the course followed by export earnings;

(c) The high rate at which exports would have to grow to keep pace with higher and more ambitious economic growth goals shows the unavoidable need to consider four complementary objectives:

(i) Access and expansion of exports to the markets of the industrial countries, with which Latin America at present conducts a large proportion of its trade. This will depend on the economic growth recorded in those countries and the readjustments and policies which are finally implemented in relation to the structuring of a New International Economic Order;

(ii) The expansion of reciprocal trade in the Latin American area is an objective of paramount importance. In this field certain promising advances have been made in the expansion of intra-regional trade flows, although the formal regional and subregional integration systems are facing serious difficulties. It is imperative to reappraise these systems with the purpose of finding alternative or complementary formulas in order to promote more economic co-operation in the region.;

//(iii) Trade

(iii) Trade with countries with centrally planned economies should attain higher levels. Hitherto, this trade has been on a relatively small scale, except in the case of Cuba;

(iv) The expansion of trade with other developing countries or areas stands out as an essential objective of the Strategy. In practice, a new structure of the world economy with a more equitable distribution of production and income should be accompanied by a considerable increase in the developing countries' participation in world trade.*/

8. In these exercises it has been assumed that the terms of trade remain stable at the 1976 levels. A worsening of those terms would have a very unfavourable effect on the achievement of the proposed goals. In contrast, stable and more favourable terms of trade will reduce the deficit on the external accounts and promote domestic investment, thereby facilitating the development objectives.

At the same time, a structure of economic growth with a certain degree of external openness has been assumed, as is shown by an elasticity of imports slightly higher than unity. A new scenario could therefore be explored which presupposes a lesser dependence on external supplies, at least for some countries which are in a better position to carry on policies of that kind. It would constitute a new stage of industrialization where import substitution would be given more importance than that implicitly considered in the projections prepared. This strategy would, of course, have its effects on domestic costs, saving and the marginal relationship between investment and the domestic product.

9. In addition to the comments made in respect of the external sector, some conclusions may be drawn regarding the structure and rates of sectoral growth and the problems of employment and under-employment.

(a) In the scenarios considered, the increasingly urban nature of the economies becomes more marked in the next two decades. Thus, in scenario A the share of the agricultural sector in the product will drop to 6%. In this trend-based scenario, however, despite the greater elasticity of urban activities, the industrial sector only grows at the rate of 7.4%, which is far below the target of the second IDS, and agriculture only grows at the rate of 3.4%.

*/ For more detailed comments and figures on export possibilities and policies please see preliminary findings on project "Foreign Trade Model".

(b) In scenario B the growth rates of sectoral production meet or exceed the targets laid down in the second IDS. Thus, the growth rate of the agricultural sector reaches 4% and that of industry clearly exceeds 8%.

(c) The trend-based scenario clearly shows the magnitude of the social problems faced by the region, and it is obvious that the growth rate of 6.4% is not enough to cope with the problems of employment and under-employment. Thus, according to the latest trends, there would be an increase in the intersectoral differences in productivity in the coming decades, and unless there is a profound change in distributive policies, this would mean a strong possibility of further deterioration of the present distribution of income.

The situation is particularly delicate for countries where the growth rates of the labour force in the next two decades will be close to or more than 3%.

Scenario B shows that for a significant group of countries the moderate acceleration of the growth rate would be enough to substantially reduce the problems of employment and under-employment, but this acceleration would clearly be insufficient for the countries with the fastest rates of population growth.

Project 4: Agricultural projections - Main findings and conclusions

1. The CEPAL/FAO Joint Agriculture Division is preparing projections whose preliminary results refer to the region as a whole. In these estimates, weighted statistical ratios have been used wherever possible in order to take account of the varied range of situations and prospects displayed by the countries of the region. The FAO study "Agriculture towards the year 2000" has been of great value as a source of methodology and technical information in this connexion. The macroeconomic assumptions used correspond to the moderately accelerated growth scenario, whereby between 1975 and the year 2000 the population will grow at the rate of 2.6% per year, the domestic product by 7.4% per year, and the per capita product by 4.8%.

2. Projections of demand were prepared and their nutritional implications were examined in close co-ordination with FAO. Total Latin American demand (foodstuffs, seeds, animal feed and raw materials for industry), which had been growing by 3.4% per year from 1960 onwards, is likely to increase by around 4.2% per year between 1975 and the year 2000. The regional demand for foodstuffs, which had been growing by 3.5% per year since 1960, is likely to increase by 4.1% per year from 1975 to the year 2000.

The projected demand for foodstuffs was related to the average national and regional minimum food energy requirements and it was established that, beginning with a level of availability very close to the minimum in the period 1961-1965, the level rose to an index of 103 in 1974-1975 and is expected to rise to 129 by the year 2000. In absolute terms, this means that the average of 2,460 calories available per day in 1974-1975 would rise to around 3,000 by the year 2000. Argentina and Uruguay now have a daily per capita food energy consumption level equal to the regional level projected for the end of the century.

The projections of the demand for food also involve changes in the composition of this demand. Cereals and roots and tubers are expected to reduce their share, whereas the contribution of fruits, vegetables,

/meat and

meat and milk products is expected to increase. Demand for other domestic uses, which has been growing by around 3.0% per year, is likely to increase its growth rate to almost 5.0% per year and also increase its share within total Latin American demand.

3. As regards production, an examination was first of all made of various studies on the present land use and agricultural production potential of Latin America, all of which indicate that there is an abundant reserve of land suitable for supporting a considerable part of the increased production needed in the future. The studies also agree that there is a good deal of room for raising unit yields, the present levels of which are generally far below the higher levels potentially attainable.

It has been estimated provisionally that the potentially cultivable area of Latin America is around 575 million hectares. Of these, 170 million hectares are already under cultivation, of which however only about 106 million hectares are actually harvested each year.

This provisional estimate backs up the general feeling that land is not in itself a limiting factor. This encouraging conviction must, however, be contrasted with the huge investments and enormous efforts of all kinds needed to incorporate this potential and make full and rational use of it.

The preliminary conclusions of the study on agricultural production potential show that the really great reserve of land - 72% of the total - is located in the tropics. A further 24% is located in the subtropical areas, while the remaining 4% is located in the temperate lowlands and the more temperate parts of the cordillera areas.

CEPAL is collaborating in the efforts being made by FAO to examine the physical and ecological characteristics of the potentially cultivable land and compare them with the crop requirements and the agricultural practices corresponding to various technological levels. Deeper and more detailed knowledge of these matters is needed in order to be able to classify this new land more exactly and draw a distinction between really cultivable and marginal land.

4. Regional agricultural production has been growing at about 3.2% per year over the last 25 years. This study concludes that this growth rate will arise to 4.2% per year, and this rate can be considered as normative and feasible. In a normative central scenario the FAO assumes an annual growth rate of 6.9% for the gross domestic product of Latin America and has provisionally estimated that agricultural production will grow by 4.0% per year between 1975 and the year 2000. The results presented here are compatible with those of the FAO analyses.

Future increases in production are likely to be based on bigger rises in unit yields than in the past but only a relatively modest expansion of the area harvested. This implies a substantial change in the elements on which the growth of regional agriculture has been based in the past, since this growth has been closely associated with expansion of the area harvested, average yields having increased only slightly. It has been assumed that at least 50% of the annual increases in production will be due to increased yields, and this assumption has implications of a social, economic and ecological nature.

5. The irrigated area has been growing by 2.1% per year, and it seems reasonable to assume that this rate will be maintained until the end of the century. The available information gives grounds for expecting that the irrigated area will be doubled by the year 2000, rising to 27 million hectares. It must be borne in mind, however, that the best and most suitable physical resources for the construction of irrigation works are already being used or about to be used, and that the most easily irrigable land is already under irrigation.

6. The use of fertilizers, tractors and agricultural machinery will increase in absolute terms, but at a lower annual rate than in the past. Thus, fertilizer use is expected to increase by almost 5% per year, while the use of tractors and machinery will increase by around 6% per year. This means that the process of agricultural modernization will continue, and this could be accompanied by some increase in employment, although of little relative significance.

7. Preliminary projections have been made regarding Latin American agricultural exports and imports. These indicate that the growth rate of exports is likely to increase from the figure of 1.8% per year recorded in the recent past to around 4% per year between 1975 and the year 2000, while the growth rate of imports is likely to fall from 4.8% to 3.2% per year.

8. No estimates are available yet about the volume of investments needed, but it is considered that one-third of the new investment requirements will be used for the clearing and cleaning of land, irrigation, flood control and water and land conservation. Another third will be used for physical inputs and agricultural machanized equipment, including all types of installations at the farm level, while the remaining third will be used to finance working capital, the construction of installations for the drying and cold storage of products, and the acquisition of transport equipment for use within the farm.

Project 6: Foreign trade model - Main findings and conclusions

1. This model examines the projections of the imports and exports of the region as a whole (Latin America and the Caribbean) in the context of a world trade matrix. The trade flows are classified under six SITC-based categories; foodstuffs, live animals, beverages and tobacco; inedible crude materials, oils and fats; mineral fuels, lubricants and related materials; chemicals; manufactured goods; and machinery and transport equipment. The world economy is divided into five regions: the developed market economies; the centrally planned economies; developing America; the OPEC countries (excluding Venezuela and Ecuador); and the other developing countries.

The imports of each region of each of these six categories are determined through historical econometric functions in relation to the evolution of the regional domestic product. The exports of Latin America in each category are projected on the basis of historical econometric functions determining their share in world imports of goods coming from the same category, while intra-regional exports are determined in relation to the total imports of the region in each category in question. A similar procedure was followed for determining the exports of the other regions of the world. The correlations were effected on the basis of data for the period 1955-1976, expressed at 1975 prices.

2. The basic hypotheses adopted in respect of growth of the product in the next decade are as follows:

Scenario A: Latin America, 6.4%, combined with relatively dynamic expansion in the developed countries (4.2%). The world product will increase by 4.9% per year.

Scenario B: Latin America, 6.4%, combined with less dynamic growth in the developed countries (3.5%). The world product will grow by 4.4% per year.

Scenario C: Latin America, 7.4% combined with relatively dynamic expansion in the developed countries (4.2%). The world product will grow by 5.0% per year.

/Scenario D:

Scenario D: Latin America, 7.4%, combined with less dynamic growth in the developed countries (3.5%). The world product will grow by 4.5% per year.

Rather lower economic growth rates have been assumed for the developed countries and the centrally planned economies for the 1990s.

3. The main general conclusions to be drawn from the basic solutions of the model for the next decade are the following:

(a) The total imports of the region will grow at a rate slightly below that of the product. This rate will be approximately 6% in scenarios A and B and 7% in scenarios C and D;

(b) World trade, as measured by total imports, will show relatively high elasticity with respect to the world product. Its annual growth rate will be between 6.8% and 8%, depending on the different hypotheses;

(c) Latin American exports, however, will grow at a much lower rate of 4.3 to 5% per year, depending on the scenario considered. The highest rates correspond to scenarios A and C: i.e., those assuming greater dynamism of the world economy and, in particular, greater economic growth of the developed countries.

4. The relatively slow rate of growth of the region's exports in these projections is due to the performance of exports of primary commodities and those of fuels. Fuels alone represented 38% of the value of total exports of goods in 1975. Manufactured goods, in contrast, will grow at a similar rate to the world trade in manufactures (8-9% per year). In these calculations it has been provisionally assumed that Latin America and the Caribbean countries will maintain their share of the world trade in fuels as from the position attained in 1980, thus marking a change from the past tendency of a steady decline in the region's share in this trade. This is an aspect which calls for closer study, since it has a significant incidence on the results of the projections, especially for the oil-exporting countries, which have recently been joined by Mexico as a potentially large exporter. It is interesting to note that the projections for primary commodities as a whole indicate higher growth rates than those shown in the last two decades. In short, then, the share of Latin America's total exports in total world trade will continue to go down, from around 5.6% at present to 4% by the year 1990.

5. These results point to a potential trade deficit of considerable proportions, increasing with the passage of time. By 1990, this deficit will represent between 25% and 40% of the value of exports at constant prices, while by the year 2000 these percentages will rise to between 40% and 80%, depending on the scenario in question. The potential deficit is greater in the case of the scenarios assuming greater growth of the Latin American gross domestic product and lower economic growth of the developed countries.

6. A number of complementary strategies have been examined for reducing the potential deficit shown in these projections. For this purpose, some quantitative approaches have been prepared in order to assess the role that might be played by the following complementary policies;

(a) To increase the rate of expansion and, therefore, the share of reciprocal trade in the Latin American area in relation to total trade. At present, this trade represents less than 20% of total imports. In some quantitative exercises it has been assumed that this share could rise to around 25% by 1990 and 35% by the year 2000. This would imply considerable expansion, varying in magnitude for the various trade flows;

(b) To increase Latin America's exports of manufactured goods to other regions at a higher rate than the growth rate of world trade in these products, and

(c) To explore various options regarding the expansion of the trade in primary commodities, particular attention being warranted by the projections of oil exports.

7. As regards the distribution of Latin American trade by areas, these quantitative exercises bring out the following points:

(a) Trade with other developing areas and with the socialist countries must increase significantly, and

(b) Exports to the developed countries must continue increasing faster than in the past, even if it proves possible to attain ambitious targets as regards intra-regional trade and trade with other non-traditional areas.

8. Latin America's foreign trade, in brief, should acquire a more balanced structure as regards the economic and technological composition of export and import trade flows, that would be consistent with a more advanced stage of industrialization and the objectives of a new international economic order that would significantly raise the developing countries' share in world production and trade.

Project 7: Demographic projections - Main findings and conclusions

1. CELADE has prepared three sets of demographic projections for the Latin American countries up to the year 2000. The difference between the three projections lies fundamentally in the use of different hypotheses, denominated high, medium and low, for the total fertility rate. The high and low projections correspond approximately to what is considered as the limit of plausible possibilities, while the medium hypothesis is considered as the most probable and is the one used in the prospective studies. The comments given below correspond to the main conclusions which can be drawn from this medium hypothesis.
2. As far as its demographic situation is concerned, Latin America falls into an intermediate position between the most developed and least developed regions of the world. The general fertility rate in the region, which was 3.3 between 1970 and 1975, was markedly lower than that of other developing regions such as Africa and South Asia (6.3 and 6.0 respectively), but was nevertheless more than double the rate in the most developed regions. During the same period, life expectancy at birth was about 62 years - well above the rates for Africa and South Asia (45 and 48 respectively), but 10 years below the figure for North America and Europe.
3. For a long time, Latin America was the region of the world with the most rapid population growth. Analysis of recent trends, however, reveals that the population growth rate began to go down from the beginning of the 1960s and has recently been overtaken by the growth rate of the population of Africa. It is expected that in the future the population growth rate of Latin America will continue to slow down, although it will still be higher than the rates for the population of the world as a whole and for the population of the other less developed regions (except Africa), so that the proportion of the world population living in Latin America will rise to nearly 10% by the year 2000.

The population growth rate of Latin America will slow down to an increasingly marked degree from nearly 2.7% in 1970-1975 to less than 2.4% in 1995-2000, so that the population will grow by 88% during the last quarter of this century.

4. The projection assumes that the total fertility rate will go down from 5.26 for the period 1970-1975 to 3.93 for the period 1995-2000, i.e., by more than 25%, thus representing a more rapid rate of decline than in the preceding period.

5. The projection also assumes that the expectation of life at birth will increase from 61.6 years in 1970-1975 to a little under 70 years in 1995-2000, thus continuing the trend observed in the past, which consisted of an increasingly slow rate of increase as higher levels were reached. At the same time, the crude death rate will also continue to go down, likewise at an increasingly slow rate, from an estimated level of over 9.4 per thousand for 1970-1975 to 6 per thousand in 1995-2000.

6. Up to 1970, the structure of the population of the region by age reflected an increasing proportion of young people, but since that year the proportion of the population under the age of 15 has begun to decline, and it is expected that this proportion will go down with increasing rapidity from 42.6% in 1970 to 37.4% in the year 2000, while over the same period the proportion of persons between the age of 15 and 65 will increase with growing rapidity from 53.6% to over 58%. The proportion of the population over 65 will also increase to a lesser extent but likewise at a growing rate.

7. The majority of the countries will undergo slower population growth in the period 1975-2000 than in the period 1950-1975. In only eight countries - among them those currently recording the highest levels of mortality - will the population grow more rapidly than in the preceding period.

In all the countries, the medium projections assume the continuation of the process of transition towards lower levels of fertility.

Both the maximum levels and the margins of variation of the total fertility rates will continue to diminish as though converging towards a level of fertility close to the replacement level at some date subsequent to the year 2000.

The projections assume an upward trend in the expectation of life at birth in all the countries. In general, the lower this expectation at the beginning of the projection period, the more it will rise in relative terms by the end of it.

As a result of these trends, the distribution of the countries according to level of expectation of life at birth will tend to be increasingly concentrated in the higher values, while the field of variation of this index will be reduced.

8. The urban population, as determined in accordance with national definitions, was around 193 million in 1975 and it is estimated that it will rise to over 453 million by the year 2000, absorbing more than 92% of the total estimated population growth for the period covered by the projection.

The rural population will tend towards a stationary level of a little over 141 million at the end of the century, while the urban population will still be growing by around 3% per year at that time, compared with a growth rate of 3.9% per year in the period 1970-1975. It is expected that in three countries the rural population will continue to go down, as it did between 1950 and 1970, while in a further seven it will begin to go down before the year 2000.

9. The degree of urbanization will continue to increase in all the countries, but at a slower rate than in the past. For the region as a whole, the proportion of the population living in urban areas, which was 62% in 1975, will rise to over 78% by the year 2000. There will also be a continuation of the trend towards a growing concentration of the countries in the higher levels of urbanization.

During the period covered by the projection, it is assumed that the concentration of the urban population in localities with 20,000 or more and 100,000 or more inhabitants will continue to increase. Thus, it is expected that in the year 2000 the proportion of the urban population living in localities with 20,000 or more inhabitants will be over 80%, while the proportion living in cities of 100,000 or more inhabitants will be over 60%.

10. The projections of the labour force were obtained by applying the specific rates of activity by sex and age groups estimated by ILO to the population estimated according to the latest CELADE projections.

According to these figures, the economically active population of the 20 countries taken together will increase from 98.9 to 199.1 million between 1975 and 2000, i.e., more quickly than the total population, but rather

/more slowly

more slowly than the increase in the population of economically active age. These figures result from quite marked differences between the growth rates of the male and female economically active populations. In 1975, the female labour force of the twenty countries was 21.8 million persons, and the projections assume that this will grow rapidly to 54.2 million by the year 2000, i.e., by nearly 150%. The male economically active population, however, will grow more slowly, from 77.1 million in 1975 to 144.9 million in the year 2000, representing an increase of less than 88%.

These differences in the growth rates of the male and female labour forces are due mainly to the fact that there is a tendency towards an increase in the rates of participation of the female population, whereas the corresponding rates of the male population will either remain constant or go down, depending on the age groups.

These general characteristics of the evolution of the labour force and its composition by sex will be observed in the great majority of the countries of the region.

11. Estimates of a very preliminary nature indicate that the urban labour force for the 20 countries considered will increase by 13.67% per year between 1975 and the year 2000, rising from some 63 million to 155 million and accounting for 91% of the total growth of the labour force. The rural labour force, in contrast, will grow much more slowly and will only increase by a total of 20% between the two years in question. In nearly all the countries, both the urban and rural labour force will increase more than the total population of the respective areas.

Project 9: Income distribution and extreme poverty
- Main findings and conclusions

1. An analysis of the reliability of available data on income distribution by size showed significant degrees of underestimation. The basic distributions from household surveys - most of them for the beginning of the 1970s - were corrected, according to ad hoc detailed criteria, in order to reconcile household incomes with national accounts totals.

2. Corrected income distributions for ten Latin American countries show diverse degrees of inequality, with Gini coefficients ranging from somewhat less than 0,5 up to 0,65. Those countries with relatively more moderate income concentration tend to have less than 40% of household income going to the top 10% of households, and little more than 10% of aggregate income accruing to the poorest 40% of households. In those countries with relatively more unequal distribution, the share of the top 10% of households varies between 50 and 60% of aggregate income, whereas the share of the lowest 40% is not higher than 8% and may even be less than 6%.

3. These inequalities at the national level are a combination of rural and urban inequalities. A comparative analysis shows that differences between rural and urban average income have a stronger influence on inequalities at the national level than do the varied degrees of relative concentration of income within the urban and within the rural activities.

4. While cross-section comparisons give some support to the existence of correlation between higher per capita income and a lesser degree of income concentration, this support is weak for the ten countries considered in this study. Moreover, much of this correlation is attributable to the differences in agricultural average income relative to average income in non-agricultural activities, whereas there is little - if any - correlation between the degree of development of non-agricultural activities and the concentration of urban incomes.

/5. Estimates

5. Estimates of the incidence of poverty in Latin American countries around 1970 were made on the basis of estimated distributions of households by per capita consumption and country-specific absolute poverty lines drawn by means of a food-based method. According to those estimates almost 40% of Latin American households lived in poverty situations, meaning that 110 million persons were living in poverty around 1970. Almost half of these were considered destitute, in so far as their incomes were not enough to buy a minimum adequate diet. More than half of the poor were in rural areas. The differences in the incidence of poverty between countries are considerable.