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COMMITTEE ON INDUSTRY AND NATURAL RESOURCES

Report of the Rapporteur

I

INTRODUCTION, ORGANIZATION OF THE
COMMITTEE AND AGENDA

The Committee on Industry and Natural Resources held five meetings between 10 and 15 May 1963. A working Group was also set up to consider draft resolutions, and met on 13 May.

The following were the officers of the Committee: Mr. Angel Valdivia, representative of Peru, Chairman; Mr. Hugo Pérez La Salvia, representative of Venezuela, Vice-Chairman; and Mr. Héctor Gómez, representative of Colombia, Rapporteur. Mr. Nuno F. de Figueiredo, Director of the Industrial Development Division, and Mr. Adolfo Dorfman, Director of the Energy and Water Resources Programme, both of the ECLA secretariat, acted as secretaries of the Committee.

The following agenda items were assigned to the Committee:

1. The industrial development of Latin America:
 - (a) Industrial development: present situation and future prospects
 - (b) Problems of the main industrial sectors

2. Natural resources and electric power.

The Committee had at its disposal the following documentation for the discussion on the first item:

Problemas y perspectivas del desarrollo industrial latinoamericano (E/CN.12/664)

Provisional report of the Seminar on Industrial Programming (E/CN.12/663)

"Technological research in Latin America", Economic Bulletin for Latin America, Vol. VIII, N° 1

Latin American timber trends and prospects (E/CN.12/624), United Nations publication, Sales N°: 63.II.G.1

La industria química en América Latina (E/CN.12/628 and Adds. 1 to 3)

The manufacture of basic industrial equipment in Argentina (E/CN.12/629 and Adds. 1 to 5)

The manufacture of industrial machinery and equipment in Latin America. I. Basic equipment in Brazil (E/CN.12/619, Rev. 1) and II. The machine-tools industry in Brazil (E/CN.12/633), United Nations publication, Sales N s. 63.II.G.2 and 63.II.G.4

La industria textil en América Latina. I. Chile (E/CN.12/622) United Nations publication, Sales N° 63.II.G.5

A industria textil do Brasil: pesquisa sobre as condições de operação no ramo fiação e tecelagem (E/CN.12/623) (Portuguese only)

Conclusiones de la reunión técnica sobre problemas de productividad y perfeccionamiento de personal dirigente (E/CN.12/665)

Informe de la reunión de trabajo sobre la industria textil (Conference room paper N° 4)

The Committee had at its disposal the following documents for the discussion of the second agenda item:

Los recursos naturales en América Latina, su conocimiento actual e investigaciones necesarias en este campo (E/CN.12/670)

Water resources in Latin America. Outline and evaluation of the work accomplished by ECLA (E/CN.12/650)

Progress report of the Water Resources Survey Group in Argentina (E/CN.12/625)

Informe de la reunión de expertos sobre estadística y terminología eléctricas, conteniendo el glosario terminológico y los modelos en cuadros estadísticos (E/CN.12/637)

Report of the meeting of experts on bases for electricity rates in Latin America (E/CN.12/640, and Add.1/Corr.1)

Estudio sobre la electricidad en América Latina, Vol. I Informe y documentos del Seminario Latinoamericano de Energía Eléctrica reunido en la Ciudad de México (E.CN.12/630, United Nations publication, Sales N°: 63.II.G.3).

Resumen de los debates y acuerdos de la reunión de representantes de las empresas eléctricas de América Latina que auspician la publicación de la Revista Latinoamericana de Electricidad (E/CN.12/641)

Los recursos hidráulicos de Bolivia (E/CN.12/688)

III

ACCOUNT OF PROCEEDINGS

1. Industrial development of Latin America

The Committee expressed its satisfaction with the voluminous documentation prepared by the secretariat and referred to the technical and practical character of the work submitted, which in many cases made it possible for the bodies responsible for industrial development programming, and the private sector, to apply it directly.

The debates were distinguished mainly by concern over the considerable expenditure which would be necessary in the next few years to increase industrial production to the extent required for achievement of the economic and social development targets set by member Governments. The full results, in the form of accelerated development, could only be achieved if the expenditure was accompanied by a re-orientation of the industrial development process and by progressive modernization and rationalization of working conditions in industry.

The re-orientation of the development process would imply a more appropriate choice of sectors to be developed and of the production techniques which should be adopted in them in relation to other factors, including shortage of capital and abundance of labour; it also presupposed the establishment of larger industrial plants, as might be advisable in the light of economies of scale and the possibilities provided by regional integration. Modernization of industry as already established would in many cases require

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the gradual creation of competitive conditions, which might also be achieved by liberalizing trade within the framework of the Latin American Free-Trade Association, the Central American Economic Integration Programme and the future Latin American common market.

It was pointed out that full utilization of capital was of fundamental importance, because capital was the scarcest factor in Latin America. Nevertheless, it was observed that in practice insufficient use was made of it, as a result either of the small number of shifts worked or by the low output of equipment. At the same time, industrial promotion machinery tended to encourage purchase of plant which, together with other factors, promoted the application of capital-intensive methods. This was at variance with the manpower resources available in Latin America which, in most countries, had inevitably to be absorbed by industry.

In its discussions the Committee gave priority to the economic integration of Latin America in relation to the industrial sector. The defective structure of Latin American industry, which was characterized by its low productivity, shortage of capital and skilled labour, weak consumer market and lack of competitive stimulus as a result of protectionism, could be remedied not only through national programmes, but also by means of a concerted effort to achieve the integration in question. It was considered that a major obstacle to the industrial development of Latin America was its lack of basic industries which were essential to rapid economic development. In turn, the development of such industries called for substantial investment per unit of product, which could quickly be reduced by virtue of a scale of operation that was in many cases incompatible with the size of the markets. All the foregoing considerations led to the conclusion that industrial integration would enable broader markets to be opened up both for the existing consumer goods industries and for the industries manufacturing capital goods that would be established in view of such prospects. In that context, the Committee approved a draft resolution on integration industries in which the secretariat was requested to give priority to the preparation of studies that would furnish Governments with the requisite background data for negotiation with a view to establishing, over the short term, industries producing primarily for the common market.^{1/}

^{1/} Resolution 234 (X), 16 May 1963.

The Committee took special note of the Provisional Report of the Seminar on Industrial Programming, held at Sao Paulo in March 1963, and several speakers referred to the differing forms that industrial programming might take, according to whether it related to industry as a whole or to specific industrial sectors. Stress was also laid on the interrelationship that should exist between programming agencies and the private sector, with particular emphasis on the latter's importance in the programming process. The studies presented by the secretariat on the steel-making, metal-transforming, chemical, pulp and paper and textile industries provided data that might be conducive to rational programming for those industrial branches, both with respect to operational conditions in established plants and with regard to the evaluation of investment in the new industrial establishments that might be developed in a regional market.

In that connexion, consideration should be given to the problem of economies of scale, since there was clear evidence that costs and investment per unit of product decreased considerably as the size of some industries increased. A case in point was afforded by the pulp and paper industry, where operation on an optimum scale, in comparison with a scale four times smaller, would be reflected in reductions of about 40 per cent in unit costs and over 50 per cent in investment per unit of product. Similarly, it was estimated that if new chemical plants were established on a regional basis and with optimum dimensions, the investment required might be cut, on an over-all average, by 20 per cent in relation to the scales on which the same projects would be operated at the national level. Since fixed investment in the five sectors mentioned above - which accounted for about 50 per cent of manufacturing industry - was estimated at 9,000 million dollars for the period 1960-70, the saving of capital and reduction of costs resulting from the broadening of the market and the consequent establishment of plants on an economic scale might be considerable.

With regard to existing industries, the Committee considered that a prerequisite for the improvement of operational conditions was integrated action designed to solve the various problems as a whole. Such action would comprise the raising of labour productivity, the improvement of management and organization at the entrepreneurial level, and the selection

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of suitable production techniques. The Committee took note with satisfaction of the studies which the secretariat was carrying out in that field, and approved a relevant draft resolution which made special reference to the textile industry.^{2/}

Three basic requirements for industrial development were brought to light during the discussions. The first was systematic industrial programming geared to over-all economic development programming, with particular emphasis on close co-ordination between the import substitution policy and the aims of the industrial development planned. The second was continuing and integrated technical assistance for each industrial sector to improve operating conditions in existing industry. Such assistance should be based on a prior diagnosis of the prevailing situation and an analysis of the probable development of the market. The third requirement for industrial development was a continuing policy of industrial integration in the context of a common market, including both new capital goods industries and consumer goods industries, with vigorous technical and financial incentives.

Reference was made also in the course of the debate to co-operation between ECLA and other international bodies, citing in this respect the joint study on pulp and paper industries and forest industries being undertaken with FAO, the meeting on Problems of Productivity and Training of Executive Staff, sponsored jointly with the ILO, and the Seminar on Industrial Programming, under the joint auspices of the Centre for Industrial Development and the United Nations Bureau of Technical Assistance Operations.

The Committee approved a draft resolution on forest resources and industries^{3/} and took note of the importance of vocational training, especially of engineers, and of the safety of industrial workers in the interests of the proper functioning of industry.

Mention was made of the fact that the purpose of various international agencies was to provide assistance to industrialization. These included the United Nations Special Fund, which was in a position to support pre-investment studies for the manufacturing industry. It was suggested that the ECLA secretariat could usefully co-operate with Governments, at

^{2/} Resolution 235 (X), 16 May 1963.

^{3/} Resolution 236 (X), 16 May 1963.

their request, in the preparation of applications to the Special Fund in that connexion, as well as to international loan agencies.

Lastly, it was recommended that, in view of the great practical value of the studies prepared on industry, which are utilized not only by Latin American industrialists but also by those in other parts of the world, such documents be given wide circulation in other working languages of the Commission, especially English.

2. Natural resources and electric power

The statements made by different delegations and document E/CN.12/670 prepared by the ECLA secretariat serve to confirm that Latin America as a whole possesses plentiful supplies of nearly all the natural resources required by an up-to-date economy - minerals, agricultural land in all latitudes and water for irrigation purposes, forests, energy, sea products, etc. - but that there are marked discrepancies between areas and some critical zones are notably deficient in certain resources, or else these become scarcer in relation to the growth of demand, and their utilization is sometimes inefficient. It was pointed out, for example, that the region possesses extensive forest areas, yet imports of forest products are considerable and, with the exception of Peru, not much was being done to make full use of fishery resources.

The Committee pointed out the need for each country to acquire a better knowledge of the quantity and quality of the natural resources - renewable and non-renewable - which will enable it to programme their utilization in the interests of the national economy, including the expansion and diversification of exports and the establishment of import substitution industries.

The rational application of new techniques was also considered expedient for the preparation of inventories of natural resources, i.e. geophysical processes, aerophotogrammetry surveys and aerophotc-interpretation (co-ordinating their use for various purposes), and the preparation of basic topographical and geological maps at the appropriate scales.

Cited as positive examples of the use of these methods of prospection were studies on petroleum, some minerals and, to a lesser degree, soils, forests, etc. at present being carried out in Argentina, Venezuela, Chile, Bolivia, Surinam and other countries.

It was stated repeatedly that the lack of standardization in regard to basic definitions of reserves - principally of mineral resources - and other concepts gives rise to heterogeneous figures which make it impossible to compile adequate statistics.

The experience of several countries of the area shows that as far as natural resources of all kinds are concerned, the national services in general lack the necessary budget and technical personnel to speed up a knowledge of existing resources in response to economic development needs, and that there is a general shortage of technicians, those available not being sufficiently specialized. By way of comparison, it was stated that the region has fewer experts in forest resources than a country like Finland whose forested area is equal to only 2 per cent of Latin America's.

Mention was made of the need to modernize legislation related to the utilization of natural resources and to pool the efforts of scientists, economists and technicians for the investigation, programming and utilization of such resources.

As regards the conservation of non-renewable resources, it was affirmed that the countries of the region attached little or no importance to the destruction of highly valuable land through the effects of erosion; reference was made also to the intensive extraction of certain resources for export without any previous knowledge of the reserves available in the Latin American countries.

Attention was drawn to the relationship between the national development of resources and a stable price policy through common action, citing as an example the participation of some countries in an international association which pursues those aims in regard to petroleum. The advisability of applying similar procedures in the case of iron ores was underlined.

Following a brief discussion, the draft resolution on natural resources which formulates a series of recommendations to the Latin American countries,

ECLA and other international agencies operating in those fields in Latin America, aimed at improving the knowledge and utilization of natural resources, was unanimously approved.^{4/}

When the Committee examined the studies submitted by the secretariat in respect of Latin America (E/CN.12/650), Bolivia (E/CN.12/688) and Argentina (E/CN.12/625), on the work of the secretariat in connexion with water resources, there was general agreement that the work was valuable and that the Commission should proceed with the systematic study of water as part of the programming of economic and social development.

It was pointed out that water resources should as a rule be planned with the object of promoting the over-all and multi-purpose development of the catchment basin as a unit. Only thus could a particular method of utilization be prevented from adversely affecting future possibilities.

Stress was also laid on the interdependence of the water-soil-vegetation system, which made a joint study by experts in those fields advisable. Thus, as an example of the benefits of irrigation, it was emphasized that in Argentina almost a third of the gross product of the agricultural sector came from intensive cultivation on irrigated land in less than 4 per cent of the cultivated area.

In view of the shortage of surface water in many zones of the region, the advisability of paying particular attention to under-ground resources and their connexion with surface water and precipitation was stressed.

Attention was drawn to the advisability of co-operation between the Latin American countries in the International Hydrological Decade sponsored by UNESCO, scheduled to begin in 1965 for the purpose of intensifying the investigation of water resources, since water was becoming an increasingly scarce and more limiting factor in economic development.

In addition to multi-purpose applications, many examples of which were mentioned in respect of various countries, the part played by water in the generating of power was stressed. In this connexion, in addition to impressive projects under construction or in the planning stage,

^{4/} Resolution 239 (X), 16 May 1963.

examples of successful joint international efforts for using large-scale common water resources were mentioned, and some delegations referred to the advisability of pursuing these efforts.

The importance attached to water resources was underlined when reference was made to the organizations engaged in the measurement and utilization of water resources in various countries, in one of which there is a ministry specially concerned with such matters.

One of the delegations, in expressing its satisfaction at the work done by the ECLA secretariat, expressed the desire that a team of hydrological experts should conduct in the country it represented a study similar to those which had been made in others.

It was recommended that the work done by the secretariat on water resources should be pursued as part of the programming of economic and social development and in close co-operation with national planning agencies.

In view of the importance of regional development, it was also thought advisable that the study on the over-all utilization of watersheds should be continued and extended to areas of influence where this was appropriate. Likewise, it was thought to be of the greatest importance that more specific aspects of water development should receive attention so as to promote and guide projects for the control and utilization of water.

Since water was part of an economic cycle of great importance, it was recommended that the study of water should not be undertaken in isolation from its related aspects, and for that purpose joint groups should be set up at the national or regional level to cover, in addition to water, resources such as forests, soil, etc.

The Committee reviewed the electric power situation in the countries of the region and the work of the secretariat in that field, noting with satisfaction the documents submitted and the information supplied by the different delegations which took part in the discussions.

Most of the representatives described the characteristics of electrification in their countries, drawing attention to the advances that had been made recently, their efforts to ensure the systematic and optimum development of their resources (particularly water resources), and the extent to which the public sector and private enterprise took a part in that development.

It was pointed out that Latin America had abundant hydroelectric resources and fuels which, if they were to be used in the best possible way, should be studied not as if they were conflicting elements but as combined and complementary resources. Ample time should be afforded in order to ensure that the solutions found are the best.

Special mention was made of the important hydro-electric projects sponsored by three countries and calculated to supply a substantial volume of electric power at low cost, particularly after amortization; one of them in particular would enable the nucleus of an important national and international interconnected system to be established and would also cater to the needs of navigation..

It was pointed out that electric power development should be organized on the basis of programmes which take into account national, regional and sectoral demand, and that, for that purpose, basic statistical data should be improved and clear-cut and sustained policies of electricity development pursued as an integral part of economic and social development.

It was suggested that it would be desirable to study the interconnexion of systems in order to complement generation from different sources and different hydrological systems, and attention was drawn to the importance of standardizing cycles at an early stage in order to prevent the inherent problems from being magnified. In addition, the existence of wide margins for obtaining greater fuel efficiency in thermo-electric generation and in its industrial use was pointed out.

In order to improve the living and working conditions of rural families, and to increase and improve agricultural productivity, an effort should be made to promote rural electrification by drawing on the experience of other countries that had been successful in that respect.

It was thought necessary to give the electric power industry proper financial and economic stability by fixing rates that reflected the real cost of supplying the service. However, in view of the intensive rate of expansion required to cover the existing deficit and the increase in demand, it was considered essential that external financial assistance should be obtained for the electricity sector, with amortization periods and rates of interest consonant with the nature of public utilities having a long useful life and high capital intensity.

On the grounds of the experience acquired in various countries, it was recognized that the handling of electricity services could be made much more economical through the rationalization of their administrative services.

In so far as the future work of ECLA in the field of electric power was concerned, it was recommended that it should persevere with the studies that had already been started, and, among other things, arrange another conference on the same lines as the one held at Mexico City in August 1961, but with a shorter agenda, in order to continue exploring subjects of great interest to Latin America.