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THE NEW INDUSTRIALIZATION STRATEGIES IN LATIN AMERICA
AND THE CARIBBEAN AND THE UNIDO REGIONAL PROGRAMME

Prepared by the
UNIDO Secretariat

* This document has not been edited.

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Timothy...

1. Introduction

Current efforts in Latin America to decide on strategies to give growth a fresh impetus, in a context of greater equity and integration in the world economy, all give industrialization a central role. In the past decade, Latin American industry has suffered serious problems reflected in a drop in its share of the regional gross product and of total world manufacturing value added. Nevertheless, there is consensus that these difficulties must not lead the region to abandon its industrialization efforts, but call rather for a thorough re-examination of the content, objectives and scope of the strategies and policies applied. Industrialization remains the cornerstone for the transformation of production in Latin America.

This re-examination clearly indicates the need to take into account the new international political and economic scenario and, above all, the emergence of a new technological paradigm which not only opens up new and unforeseen opportunities, but also creates new challenges and requirements.

The plans and proposals of different countries in the region, as well as those envisaged on a subregional basis, already indicate a substantial move away from the import substitution model which prevailed until recently. A common feature of the new industrial policies is the search for enhanced efficiency and productivity, together with openness to the outside and competition, as well as a strengthening of economic integration and a greater participation in international trade flows.

There are numerous requisites for the renewal of the industrialization process in the framework of the new parameters. Economic stability and open markets cannot in themselves generate the required competitiveness or improve the region's international market penetration. As pointed out in the analyses made by ECLAC, UNIDO and SELA and the official documents referred to above, there is a need to integrate industrial policy with global economic policies and to initiate practical steps in many areas, ranging from human resource development and the strengthening of the technological base to the improvement of methods of distribution and marketing on the world market.

The measures required to restore the dynamic role of industrialization in the region include the development of activities at the "micro" level of the enterprises themselves and other organizations involved in the industrial development process, as well as national and regional activities. Based on a recognition of the conditions prevailing in the international context and the strengths and weaknesses of the existing industrial structure, these measures should focus on effective collaboration between the parties concerned in interrelated projects capable of promoting the modernization and expansion of manufacturing capacity.

Against this background and taking into account the need for operational flexibility and participation by the business sector, the UNIDO Regional Cooperation Programme for the Industrial Recovery of Latin America and the Caribbean (hereafter referred to as "the UNIDO Programme") is designed to help attain the following objectives:

(a) To attract more foreign and domestic investment to the manufacturing sector;

(b) To put into operation policies and schemes for industrial restructuring to meet the changing demand of domestic and international markets, to increase the overall productivity of the industrial sector and to apply new and modern technologies to keep up with international competitors;

(c) To promote research and development (R + D) in modern technologies, e.g. biotechnology, microelectronics, informatics and new materials, as they apply to the manufacturing sector, and as a means of increasing the region's capacity to absorb, adapt and develop such technologies;

(d) To introduce and actually apply these modern technologies in the manufacturing sector, in the planning, design and production stages, as a means of increasing productivity and international competitiveness;

(e) To strengthen national and regional capabilities in the fields of industrial standards, metrology and quality control;

(f) To develop advanced managerial and marketing techniques in the manufacturing sector, with the aid of modern microelectronics and informatics technology;

(g) To develop entrepreneurial capabilities, particularly in small- and medium-scale industries;

(h) To increase the value added to the natural resources of the region, through the development of processing industries and their integration in the overall industrial sector;

(i) To generate higher levels of employment in the manufacturing sector through the use of appropriate technologies and the promotion of micro-industry and small- and medium-scale industries;

(j) To strengthen regional cooperation and integration mechanisms.

2. Industrial policies

(a) At national level

As was pointed out in the preceding section, various countries in the region have begun to develop industrial policies seeking to respond to the new international scenario and, in particular, to establish conditions for systematic and genuine competitiveness. They focus in general on attaining international standards of productivity and quality and place greater emphasis than in the past on the dissemination of technological and organizational innovations in the various sectors of the economy. This reflects the view that, in the modern economy, technological development, organizational and managerial capability, human resource development and the creation, in short, of dynamic comparative advantages are the bases for advantageous participation in the international economy.

Illustrative of the new trends in industrial policy is the redefinition taking place in this area in various countries of the region. This applies to the larger economies (Argentina, Brazil and Mexico) as well as the medium and small economies. The cases of Brazil, Mexico, Venezuela and Costa Rica may be taken as examples.

In Brazil, the "new industrial policy" is bringing about a substantial change in relation to the policies of the past. Competitiveness rather than growth is becoming the main strategy objective, in line with the approach prevailing in the newly industrializing countries and in most industrialized countries. The "General guidelines for industrial and foreign trade policy", published by the Ministry of the Economy, Finance and Planning on 26 June 1990, envisage the establishment of two "mechanisms" - the "Industrial Competitiveness Programme" (PCI) and the "Brazilian Quality and Productivity Programme" - and, *inter alia*, an "instrument" for "Support for the Development of Technological Capacities in Industry".

The "guidelines" point a new way for industrial policy characterized, firstly, by an emphasis on achieving international standards of productivity and quality and, secondly, by greater emphasis on the dissemination of innovations and on management and labour training. The new policy aims at greater production specialization and an entrepreneurial model consisting of entrepreneurial groups of large scope based on a wide network of small and medium-scale enterprises which are technologically dynamic and which compete and cooperate with foreign enterprises in a variety of ways.

With a view to achieving the proposed industrial restructuring, market forces are to be used and supplemented, with particular recourse to the following measures:

- Elimination of all non-transparent subsidies, promotion of competition and reduction of tariffs; 1/
- Redefinition of the role of the State as the guarantor of macroeconomic stability and a suitable investment climate, rather than as an entrepreneurial State;
- Increasing specialization;
- Planned exposure to international competition;
- Development of technological capabilities at the firm level, through selective tariff protection in high-technology industries and support for the dissemination of technology;
- Linkage between financing and modernization and strengthening of the technological infrastructure.

The basic aims of PCI are the development of high-technology sectors (data processing, fine chemicals, biotechnology, precision engineering and new materials) and the "restructuring of those industrial sectors and services that can achieve prices and quality of an international standard". The Programme is based on a "radical" change in the role of the State and the restructuring of industry based on competition deriving from commercial

1/ For 1994, the maximum tariff will be 40 per cent, with a mean and modal tariff of 20 per cent. Greater protection will be allowed as an exception in new high-technology areas.

openness, deregulation and updating of the legislation governing competition. "In this new environment, the process of restructuring focuses on technological upgrading, adjustment of the entrepreneurial model, quality enhancement and increased productivity." 2/

Among the various measures envisaged (with regard to taxation, energy, machinery and equipment imports, scheduling of public investment, exports, education, etc.), PCI includes action in the "technology" area. It announces a draft law on tax incentives for enterprises investing in technology, the amendment of the 1987 software law (eliminating the prior authorization requirement for the marketing of imported programs) and the simplification of the process of approval for technology transfer contracts. 3/ It identifies on the one hand, a number of sectors with "comparative advantages" and, on the other hand, "the sectors which disseminate or generate technology". As far as the latter are concerned, it proposes "the dismantling of the reserved market arrangements which tend to place the most advanced sectors in a contradictory position *vis-à-vis* the users". It acknowledges, however, that "the volume of investment needed, the risk involved, the growing unavailability for purchase of technology on the international market and dependence on the governmental technical/scientific infrastructure mean that the competitiveness of enterprises active in these sectors is strongly dependent on public policies". 4/

In conformity with PCI, the promotion of sectors such as micro-electronics and data processing, biotechnology, new materials and fine chemicals will make it possible to raise the technological standards of a broad variety of user sectors. The Programme establishes important institutional structures for cooperation, with the participation of representatives of 140 enterprises in ten sectoral groups.

The Brazilian Quality and Productivity Programme is supervised by a National Committee and is subdivided into five general subprogrammes: awareness and motivation; development and dissemination of management methods; human resource development; technological services and institutional structures. The Programme defines the strategies to be applied in each case, the participating agencies and their relationships.

Under the aegis of the National Committee there are subsectoral committees in the areas of data processing, capital goods, agro-industry and textiles.

The machinery for supporting the development of national technological capacities is based on recognition of the importance of the generation and dissemination of technology for competitiveness, of the low level of

2/ Ministry of the Economy, Finance and Planning, Política Industrial e do Comércio Exterior, Brasília, 1991.

3/ This simplification has been implemented through resolution No. 22 dated 27 February 1991 of the National Institute of Industrial Property.

4/ Ministry of the Economy, Finance and Planning, op. cit.

participation by the private sector in the country's research and development effort (a mere 11 per cent) and of the idea of "education as an essential and critical investment to permit attainment of the long-term objectives of Brazilian industrial and commercial development". 5/

The action to be taken can be distinguished according to the characteristics of the industrial complexes concerned. "The nearer the technological frontier, the greater the restrictions on access and on the operation of conventional transfer and dissemination mechanisms". In these cases, it is necessary "to mobilize the greatest number of support mechanisms". 6/ In instances where dissemination depends on the pre-existing technological basis for absorption, support must be focused on research and development activities; it must focus on the financing of equipment purchase when technical progress is diffused essentially through capital goods.

From the point of view of resources, the plan envisages an increase in resources for science and technology from 0.5 per cent of GDP in 1989 to 1.3 per cent in 1994 (implying an increase of the order of \$US 3,200 million).

In short, the new industrial policy outlined is clearly tailored to the objectives of commercial openness and liberalization proposed by the Brazilian Government, but it involves active policies of varying scope, including policies to overcome barriers to technology access and promote the dissemination of technology and the development of high-technology sectors.

In the case of Mexico, the National Programme for the Modernization of Industry and Foreign Trade, 1990-1994, also envisages replacement of the import substitution model (without ignoring its past contribution to industrial development and employment generation) by a model based on "growth of national industry through the strengthening of an export sector with high levels of competitiveness". The greater efficiency sought is to be achieved through commercial openness, technology development, export promotion and deregulation. The aim is "to utilize the country's comparative advantages and to specialize industrial plant in internationally competitive products". 7/

The strategy outlined by the Mexican Programme includes internationalization of the nation's industry, technological enhancement and human resource development. It "is designed to: accelerate the rate of product innovation and dissemination of technological processes in the country's industries; develop their capacity to adapt to consumers' changing requirements; train and motivate the personnel needed for development; and promote the use of industrial technologies which do not have an adverse impact on the ecological environment". 8/

5/ Ministry of Industry and Commerce, Apoio à capacitação tecnológica da indústria, Brasília, 1990.

6/ Ibid.

7/ Programa Nacional de Modernización Industrial y del Comercio Exterior, 1990-1994, Mexico City, 1990.

8/ Ibid.

The many measures referred to in the Programme include: coordination with the production sectors, particularly the most dynamic and profitable ones; promotion of links between enterprises and universities; facilitating technological adaptation and assimilation in enterprises, particularly small and medium-scale enterprises, and seeking solutions to national problems in areas such as containers and packaging, biotechnology and new materials. The section relating to the promotion of "micro", small-scale and medium-scale industry also provides for the establishment of "subcontracting exchanges" and of links between these enterprises and large-scale enterprises and technological development centres.

Among the medium-sized countries, Venezuela has also seen macroeconomic changes aiming at greater exposure of the economy to international competition and increases in global quality and productivity levels. The guidelines in the Eighth National Plan call for a far-reaching change of course for the economy, with a view to its finding a new place in the world economy. The chosen strategy focuses on industrial development that is not limited to the petroleum industry, including selective import substitution. As in other countries, the goal is to enhance competitiveness through an "optimal combination and the control and mastery of production, organization and information technologies". 9/

Venezuela's Third National Science and Technology Plan defines priority areas in the social development sector and in the industrial sector. In order to identify the priority industrial areas, the following general criteria are applied: "importance or relevance of the area as a function of its contribution to the import substitution process; development of industries that have demonstrated managerial capacities for the development of activities and programmes based on a forward-looking approach to new technologies; development of industries that are linked to demand in other sectors of the economy; utilization of advantages that can readily be converted into competitive advantages. In the industrial field, the selected areas were: production of iron, aluminium, metalworking and engineering products and capital goods; hydrocarbons, petrochemicals, chemicals and plastics; agricultural and agro-food production, electronics and data processing." 10/

The "new technologies" are given preferences in the new Venezuelan policy. They include biotechnology, fine chemicals, new materials, electronics and data processing. They have been chosen - and will be the subject of a broad set of activities - owing to the "strategic importance of the mastery of such areas for the new competitive model that Venezuela has begun to implement and in order to attain the objectives, with reference to international competitiveness, social compromise, institutional change and capitalization of human resources, set out in the Eighth National Plan". 11/

9/ See III Plan Nacional de Ciencia y Tecnología, Caracas, 1991, p. 28.

10/ Ibid.

11/ Ibid.

Finally, Costa Rica illustrates the changes in growth strategy that have taken place in Central America in recent years. It also offers an interesting example of an active industrial policy based on the premise that "technological and management innovation, well-qualified personnel and forms of organization designed to maintain adequate incentives for decision-taking and the institutional organization of technological and financial factors are the elements that determine the dynamic efficiency of the economy and shape comparative advantages". 12/

On the basis of a search for structural competitiveness and the recognition that uncertainty and imperfect competition are dominant features of international trade, the Industrial Recovery Programme set out, by means of reduced tariffs and a more liberal exchange policy, to help various industrial sectors and enterprises to adjust to the new economic, technological and organizational conditions. The Programme particularly stressed promotion of exports, particularly non-traditional exports, gradualism in the adjustment measures and, above all, the definition of sectoral strategies with an important element of selectivity and the intervention of the State to harmonize the interests of the entrepreneurial, scientific/technical and labour sectors. With the transfer to the private sector of the majority of the enterprises controlled by CODESA (which accounted for about 10 per cent of manufacturing value added in 1984), the State in Costa Rica abandoned its entrepreneurial role, preferring to create conditions of competitiveness, particularly in branches with existing or potential comparative advantages.

Considering the heterogeneous nature of the industrial sector with regard to aspects such as technology, manpower training, marketing, quality, the impact of tariff liberalization, etc., the Programme defined subsectoral plans of action for specific branches such as engineering, textiles, the footwear industry and segments of the foodstuffs and chemical industries. The main objective of these plans - conceptually based on the theory of industrial organization - is to generate a strategic vision of each subsector and promote cooperation between the parties involved. The specific action includes: promotion of links between branches, diagnosis and utilization of economies of scale, definition of strategies for the penetration of external markets or defence of the national market, exploitation of possibilities for joint efforts, schemes for subcontracting between enterprises of different sizes, diagnosis of the financial situation and credit needs, etc. The central organizational feature is the Subsectoral Entrepreneurial Committees (CESs) - organized and supported technically by CODESA - responsible for the definition, coordination and implementation of the subsectoral plans of action. These Committees are made up of representatives of the enterprises and associations of the sector concerned, economic and governmental authorities, experts in technical areas related to the sector and members of development institutions. 13/

12/ From José Manuel Salazar Xirinachs and Eduardo Doryan Garrón, "La reconversión industrial y el Estado concertador en Costa Rica", Pensamiento Iberoamericano, No. 17, 1990, p. 76.

13/ Salazar Xirinachs and Doryan Garrón, op. cit.

The Industrial Recovery Programme also includes measures at enterprise level. The main approach is the creation in selected enterprises and for a predetermined period of "technological management nuclei", designed to diagnose the production situation, identify technological management requirements, incorporate data processing in the production process and formulate projects to enhance the firm's competitive position. The nuclei are serviced by two experts (one of them an expert in industrial data processing) and are financed from a UNDP/UNIDO project.

This brief outline indicates the extent of the changes that have taken place in the industrial policies of a selected group of countries in Latin America. Although this document does not set out to provide a detailed analysis of the scope of the changes, some common points are worth mentioning.

Firstly, it is clear that such policies are based on market forces as a mechanism for resource allocation, but aim at supplementing them in the search for the creation or consolidation of comparative advantages. Economic openness seems to be a necessary but not a sufficient condition for a new industrializing impetus. In the newly evolving context, the State assumes a new role of guidance and conciliation, rather than a role as direct entrepreneur or market regulator.

Secondly, the policies set out to introduce, in each sector or subsector, selective motivation and support which neither the macroeconomic context nor a general industrial policy can bring about. This indicates the need for adequate diagnosis of the differences in production and technological capacities between sectors, followed by consequent, precisely oriented policy action.

Thirdly, structural competitiveness seems to be a central target. Growth *per se*, which dominated the scenario of import substitution within a framework of high protection levels, thus gives way to the search for greater efficiency and a penetration of international markets based on genuine comparative advantages.

Fourthly, the policies are prompted by an explicit or implicit recognition of the emergence of a new techno-economic paradigm in which technological capability, organization and managerial skill are prerequisites of success in a context of external openness and competition. In addition, the central role of information and marketing capability, primarily to gain access to external markets, is acknowledged.

Fifthly, in the light of the foregoing, industrial and technological policy stresses the dissemination of generic technologies (such as data processing) capable of increasing productivity and opening up new economic opportunities. The stimulus for the new technologies - particularly from the standpoint of use in production - is thus to be seen in a context that tends to eliminate the tension between producer and user and to maximize the utilization of the potential of the technologies concerned.

Sixthly, in several countries there is a clear emphasis on the training of labour, which is beginning to be seen more as an asset of the enterprise than as an unlimited resource with no specific value. This reflects the loss of importance of cheap manpower as the basis of comparative advantage in international trade. Likewise, greater efforts are being made in the area of management training and the development of new entrepreneurs.

Seventhly and lastly, there is the attention being paid to the modernization of small and medium-scale enterprises, beyond the key role attributed, as in the case of Brazil, to large-scale enterprises for intervening on the global market. This concern is reflected in the search for mechanisms for dissemination of technology, training and integration in production and commercial networks through the expansion of subcontracting.

(b) At subregional level

Economic integration is emerging in the 1990s with fresh vitality, not with the aim of creating a market that is wider but closed to foreign competition, but rather with the aim of establishing conditions for achieving minimum economies of scale (which continue to be decisive in the world economy) and rationalizing production through more efficient use of resources.

As seen by the Board of the Cartagena Agreement, the Andean Group is facing the challenge of "competitive incorporation" of the Andean Group in the international environment in such a way as to resolve the "dilemma between achieving the objective of stability and developing a pattern of economic growth". The objective in view is "the consolidation of the market while retaining a reasonable and selective margin of preference to help strengthen and develop an industrial structure capable of producing manufactured goods of the quality, at the price, with the marketing networks and, in general, under the conditions required for successful participation at international level in a context of global harmonization of economic policies". 14/

The basis of the "Andean strategy for industrial and production modernization and integration" is to utilize the expanded market as a "trampoline" to make it possible to "eliminate weaknesses, gain experience, ascend the apprenticeship curve and develop products and methods of distribution and "marketing" before launching out on the world market". The "project-by-project" integration proposed is both "regressive", aimed at improving the conditions for the development of competitive advantages in the acquisition of raw materials or technology, and "progressive", with an expanded supply of goods on offer in order to overcome the inertia of the commercial networks and international marketing systems. The "strategy" makes a distinction between "non-priority" activities, which should be exposed "to the rigours of international competition", those "oriented towards the world market", which have a clear natural or acquired comparative advantage facilitating significant penetration of international markets, and "reasonably protected" activities, which make up the bulk of the tariff universe and in relation to which the industrialization process should continue, but with an eye to greater efficiency and selectivity.

In line with the new policies envisaged and in an effort to revitalize the Andean integration process, the Andean Industrial Policy Council decided, at its third meeting at Caracas on 18 July 1991, to appoint a group of experts to draw up proposals regarding reconversion policies and strategies and means of financing. The preparatory studies for the meeting dealt with proposals

14/ Board of the Cartagena Agreement, Políticas industriales en el Grupo Andino, Lima, Jun/Dt 34, 17 January 1991.

for the establishment of Andean technical standards, certification services and metrological laboratories, and reference was again made to the role that the Andean Development Corporation should play through instruments making it possible to meet needs in the areas of investment, technological management, human resource development, market research and international marketing.

"Considering that openness does not in itself guarantee industrial development", emphasis is also placed on various technological development and industrial promotion measures. With reference to technological development, the strategy gives priority to joint technological management activities in areas considered to be basic, such as organization, management, process technology and marketing. The mechanisms for subcontracting, nuclei for industrial articulation, financing, information and technological development are to give priority to promotion and complementarity among the small and medium-scale industrial enterprises of the subregion.

The harmonization of industrial policies has also been a concern in Argentine-Brazilian integration. The "Document on Argentine-Brazilian Integration" ("Acta para la Integración Argentino-Brasileño") (Buenos Aires, 29 July 1986) included in the "principles" of the integration programme the promotion of "technological modernization and greater efficiency in the allocation of resources in the two economies". On the basis of this agreement, various "protocols" were adopted covering industrial and scientific/technological cooperation in the areas of capital goods (Protocol No. 1), biotechnology (Protocol No. 9), aeronautics (Protocol No. 12), nuclear energy (Protocol No. 17), the automotive industry (Protocol No. 21) and the food-processing industry (Protocol No. 22).

Parallel to this and based on an agreement reached in January 1985 by the data-processing policy-makers in the two countries, a programme of scientific cooperation in data processing was put into operation. Although no protocol was signed, the progress in joint activities led to the signing in 1987 of a "Supplementary Agreement on Cooperation in the Area of Data Processing", to supplement the Agreement on Scientific and Technological Cooperation signed between the two countries in 1980.

The protocols have not all had the same impact. The capital goods protocol gave considerable impetus to binational trade in the area. The protocol on biotechnology led to various joint research projects, involving research institutes and enterprises in both countries. The aeronautics protocol gave rise to the joint production of an intermediate-range aircraft. In any event, it is worth mentioning that these protocols were aimed at gradual, directed, balanced integration of an intrasectoral character. The new agreements between Argentina and Brazil of July 1990, however, have replaced this approach by a focus on intersectoral integration aimed at expanding trade flows where comparative advantages exist through the total elimination of tariff and quasi-tariff barriers. Up to the end of 1994, the participating countries will be able to establish special agreements concerning those sectors considered to be particularly sensitive or highly dynamic and high-technology sectors.

In the context of the Southern Cone Common Market (MERCOSUR), bringing together Paraguay and Uruguay as well as Argentina and Brazil, particular importance attaches to the harmonization of industrial policies for interaction in the future common market. Although nothing has been said in this regard, it is to be assumed that such harmonization will tend to reflect

the objectives and concepts of the new industrial policies prevailing in the region with their new emphasis on competitiveness, technical and entrepreneurial training and dissemination of technology. However, it will be necessary to overcome outstanding differences between the countries concerned, bearing in mind the existing asymmetry in industrial and competitive capacities, even between the two countries of largest relative size.

(c) Regional programmes and projects

Various regional and international agencies are active in Latin America and the Caribbean in areas related to industrialization and the modernization of production.

As regards the definition of strategies, on the basis of the seminal study by ECLAC, 15/ the Latin American Economic System is convening a regional conference on industrialization, stressing the search for more effective machinery for consultation between, on the one hand, the national State in its new role as promoter and guide, rather than controller or regulator, and the industrial enterprise, on the other hand, as the central protagonist in the industrializing process. The conclusions of this conference will be of particular importance in the future orientation of the UNIDO Programme. 16/

With reference to the main objectives for regional action, a recent UNIDO document 17/ has identified a number of critical areas requiring priority attention. This document, after analysing the changes that are taking place in the world with regard to technology, trade and investment and the new forms of industrial competitiveness, explores the main determinants in the industrial restructuring process in Latin America and the Caribbean, indicating that it is now necessary for industry to generate its own investment resources and to enhance its efficiency and competitiveness, in order to enter local and international markets with competitive products. The countries of Latin America and the Caribbean have recently begun to adjust to this new reality and must cope with a number of obstacles - external debt, unfavourable terms of trade and the difficult macroeconomic situation, with low investment and, in many cases, high inflation. The circumstances and the priorities vary from country to country, but there are some common industrial development problems, such as the relationship between the open-door policies and those aimed at increasing productivity, the introduction of advanced technologies, the adoption of modern production and management practices and the need to develop human resources.

There have also been many regional initiatives by regional and international agencies concerned with the modernization of the production sector and to achieve scientific and technological development. Although the particular objectives and the methods applied may vary, these initiatives are

15/ ECLAC, Transformación Productiva con Equidad, Santiago, 1990.

16/ See resolution GC.3/Res.17 of 23 November 1989.

17/ UNIDO, "Industrial restructuring in Latin America and the Caribbean: the international context and the challenges ahead", 1991.

generally alike in being designed to find ways for cooperation at subregional or regional level to strengthen or supplement the action taken nationally as part of the new approaches already mentioned.

The modernization of the production sector is one of the critical areas of interest to the United Nations Development Programme (UNDP). There are two main, interrelated lines of action in this field: scientific and technological development, including, in particular, technological applications, and the administration of the enterprise and its structure and financing. There are many UNDP-funded projects in these areas; mention may be made of the projects concerning the planning of scientific and technological development in the Caribbean, scientific and technological innovation and international competitiveness (implemented by ECLAC), development of biotechnology (implemented by UNIDO and UNESCO), diversification of sugar-cane (implemented in cooperation with the Group of Latin American and Caribbean Sugar Exporting Countries - GEPLACEA), energy (Latin American Energy Organization), data processing and microelectronics (implemented by UNIDO), the promotion and development of enterprises in the Caribbean, industrial property and the promotion of investment in Central America, among others. Mention should also be made of the EMPRETEC project for the training of new entrepreneurs implemented in various countries in the region.

The Organization of American States (OAS), for its part, is implementing multinational projects in the areas of biotechnology, microelectronics, new materials and quality management in small and medium-sized enterprises. Other activities include projects of the International Trade Centre (UNCTAD/GATT) connected with trade promotion. There is also, in its preparatory stage, the proposal of the Government of Venezuela and the Inter-American Development Bank to promote joint production and technology ventures between enterprises of the region (Bolivar Programme).

3. The UNIDO Programme

It is in the context of the activities and efforts mentioned above that the UNIDO Programme is to be seen. Like them, it is based on the concept of industrialization taking into account new parameters and the importance of the integration processes, and it is thus in harmony with the major objectives and strategies being pursued by the region today in this field. In view of the specific competences of UNIDO and its experience in technical assistance for developing countries, the UNIDO Programme seeks to deal, in a selective manner, with areas that are decisive for industrialization, giving special importance to actual operations, the dissemination of innovations, technological training and the development of capacities, not only for production but also in the area of marketing and access to markets. The particular profile and specific scope of the UNIDO Programme are already recognized in the studies prepared in the region and those of UNDP. 18/

(a) The priority areas

In conformity with Industrial Development Board decision IDB.5/Dec.25, the priority areas of the UNIDO Programme are biotechnology, capital goods, electronics, new materials, data processing, human resources and

18/ UNDP, Regional Bureau for Latin America and the Caribbean, "Tercer Programa Regional. Cuarto Ciclo 1987-1991", p. 35.

agro-industry. On the basis of 16 regional project proposals presented by the UNIDO Secretariat, the Latin American and Caribbean Group in Vienna selected five, the status of which is detailed in document GC.4/12.

As can be seen from the indications given earlier, the selection of priority areas is in line with the new policies and strategies that have been adopted in Latin America and the Caribbean. These include, in the first place, the agro-industrial sector, for the development of which the region has at its disposal natural resources which can be translated into clear comparative advantages, if the necessary technologies and managerial and marketing skills are developed.

Secondly, the UNIDO Programme envisages activities in the field of the "generic" technologies - data processing, biotechnology and new materials - the transforming capacity of which is now unquestioned. The focus to be given to work in these areas according to the UNIDO strategy is based on three main principles:

(a) The widest possible dissemination of the use of the technologies in question in production activities is to be promoted. Such expanded use may contribute to significant increases in productivity and to making large industrial sectors competitive. In the case of the introduction of data processing, it must be borne in mind that, to produce the positive effect hoped for, this must be accompanied in most cases by appropriate organizational and managerial reforms; ^{19/}

(b) The activities of UNIDO stress the industrial application of these technologies - that is to say, their translation into concrete results at the level of processes or products;

(c) The action taken should be focused, in the light of the above, on the activities of the enterprise itself, as regards both production and the marketing of the resulting products.

Thirdly, the capital goods and (professional) electronics areas represent the main disseminators of innovations in the modern economy. These areas play a strategic role inasmuch as their products normally allow increased productivity in the sectors using them. In the broad field of electronics, this role is played by the hardware and software for application in industrial management and production.

Fourthly and lastly, the development of human resources, as has been seen above, has been given new emphasis in Latin America and the Caribbean as an essential condition for the creation of competitive capacities. Human resource development must extend to the various participants in the industrial process, including not only manual workers, but also technicians, engineers and production and marketing management.

In short, the priority areas of the UNIDO Programme correspond closely to the basic needs of Latin American industrialization and, as has been pointed out in this document, to the new concepts and strategies being applied in the

^{19/} See Carlos M. Correa, "Informática y desarrollo industrial en América Latina", UNIDO, IPCT.136(SPEC), 10 April 1991.

region: the expansion and strengthening of sectors in which the region enjoys comparative advantages, the dissemination of technologies, equipment and software that improve productivity and industrial competitiveness, and the development of human resources at the various levels involved in the industrialization process.

The implementation of projects of subregional or regional scope is based on a number of assumptions and must be in conformity with a number of criteria, which will have a bearing on their feasibility and their impact on the situation with which they are intended to deal. Such projects must not only tackle common problems which can be more efficiently resolved through multinational action, but must also be linked to a specific industrialization strategy.

Without prejudice to the results of the above-mentioned regional conference on industrialization of SELA, as shown in the previous sections, it is already possible to note the emergence in the region of a new industrialization model, based on very different foundations from the strategy of import substitution accompanied by high protection. The countries mentioned by way of example in section 2 are some of those that have formulated new industrial strategies with a certain degree of precision. Other countries, like Argentina, Chile, Colombia and the Central American and Caribbean countries, are pursuing policies based on similar parameters, at least as regards the establishment of macroeconomic contextual conditions for the development of a more competitive industry, open to the international market.

The UNIDO Programme should be adjusted to this strategy and reflect an integrated, systematic approach, rather than responding to ad hoc requests or intentions and policies that are not clearly defined.

In addition, the projects to be implemented under the UNIDO Programme should meet their specific objectives (development of industrial applications, training, etc.) while at the same time promoting intraregional cooperation and the integration of the Latin American and Caribbean economies. In view of the new impetus being given to integration in the region, the UNIDO Programme has a unique opportunity to contribute constructively to this process.

Adjustment to an increasingly clearly defined industrialization strategy, and the priority attention to be given to integration, must be seen as two basic assumptions for the activities of UNIDO at the regional level in Latin America and the Caribbean. To achieve this end, besides the identification of strategic areas of activity (a subject already discussed in the previous section), several criteria must be borne in mind in the implementation of projects.

In the first place, the projects must be implemented in a truly decentralized manner, with real participation by the main actors involved, and a minimum but effective management structure.

Secondly, in line with the changes that have taken place in the role of the State and the private sector, the projects should bring about the participation of the entrepreneurial sector, through entrepreneurs' associations and representative bodies, and action should really reach enterprise level when enterprises are intended to be the direct beneficiaries.

Thirdly, in the formulation and implementation of projects, an effort should be made to ensure their consistency both with the general industrialization strategy already referred to and with the national policies of the participating countries and, at the same time, their articulation and complementarity with other subregional or regional initiatives under way. This is of the greatest importance in order to avoid unnecessary duplication and expenditure.

Fourthly, the projects should be designed to catalyse action and mobilize concerted efforts rather than as a continuing support for the activities envisaged. This certainly does not exclude the tackling of problems relating to and calling for action in the short and medium term, such as technological development and training, but the projects would be limited to the stages of design and setting in motion of the relevant machinery, after which this should be handed over to the national or regional bodies concerned.

Fifthly, horizontal cooperation, through the exchange of experience, assistance rendered by experts from the region and joint undertakings, is essential in order to contribute effectively to the integration process. This is without prejudice to high-quality technical assistance that can be obtained from third countries.

Finally, it must be noted that it is usually more difficult to obtain financing for regional projects than for national projects. This means that a particular effort is necessary, both in the precise definition of the project objectives, activities and outputs and as regards the modalities for the participation of counterparts and their coordination. In any case, financing from donor countries and institutions is essential not only to cover the costs of implementation but in order to have technical support and with regard to the evaluation of the activities undertaken.

The UNIDO Programme should be implemented in the light of the criteria just indicated. Experience acquired in the implementation of some regional projects, especially projects in which a large number of countries participate, shows the obstacles that have to be overcome in order to ensure successful implementation. Not only is it necessary to harmonize views which do not always coincide; communications between the participants and with Governments are often inadequate. Improvements in channels of communication and in the publicizing of activities and results may help bring about a better perception of the UNIDO Programme and its potential contribution to industrialization in the region.

4. Conclusions

It can be seen from the document that Latin America and the Caribbean have begun, after the crisis of the 1980s, to follow a new path in the area of industrialization. While there are differences between countries both regarding the degree of definition of their industrial policies and regarding the use of instruments (tariffs, incentives for technological dissemination and development, etc.), it does not seem too bold to predict that the present decade will see the region adopt an industrialization strategy which is based on openness to the outside world and the creation of capacities which are competitive on the domestic and international market. In the new pattern, structural competitiveness replaces growth at any price as the central policy objective.

This change in conception presupposes basic transformations in the macroeconomic context, particularly in relation to the variables affecting productive investment. However, it does not mean abandoning any active industrial policy, nor does it lessen the importance of regional cooperation. The fact is that the primacy of the market and open-door policies do not, on their own, lead to greater competitiveness. Achieving competitiveness involves improving the technological infrastructure, distributing the generic technologies more widely, training labour and management, strengthening marketing mechanisms and bringing about strategic coordination between the public and private sectors.

The policies introduced in the countries taken as examples in the present document indicate recourse to policies that are adjusted to the market but seek to accelerate or strengthen the process of creation or consolidation of comparative advantages. The UNIDO Programme, as at present planned, points in the same direction. Its priority areas are those which can contribute towards the development of competitive capacities, owing to their potential impact on productivity in the various sectors using new technologies (data processing, biotechnology and new materials), capital goods and software and in view of their possible contribution to the development of human resources in line with industrial development needs.

In the formulation and implementation of projects under the Programme in question, the new strategies indicated, as well as the contribution of UNIDO to a strengthened process of subregional and regional integration, must be taken into account. In addition, the projects must be implemented in accordance with a concept of decentralization, participation of the private sector, articulation with other regional initiatives, the catalytic nature of the activities undertaken, horizontal cooperation and access to particular financial support.

The UNIDO Programme, along the lines indicated, can contribute significantly to industrial restructuring in Latin America and the Caribbean, to the consolidation of the subregional and regional economic integration processes and to the world economy.