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# IDENTIFICATION OF OPPORTUNITIES FOR INTERREGIONAL TCDC AND ECDC

*Report of Consultations between  
the Government of India  
and Latin American Governments,  
New Delhi, 5-7 June 1979*

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## Preface

Interregional co-operation is likely to become an important aspect of both technical and economic co-operation among developing countries. Accordingly, we welcome the significant step, reflected in the consultations reported in this document, towards implementing recommendation 22 of the Buenos Aires Plan of Action for Promoting and Implementing Technical Co-operation among Developing Countries and also the Economic and Social Council's resolution 1978/74 on regional co-operation and development.

Even for a region as large and diverse as Asia, readier access to the development experience of Latin American, African and Middle East countries should produce a significant improvement in the range of available technologies and styles of development. Moreover, there are many fields in which collaborative research may be most usefully undertaken by specialized institutions with counterparts outside their own region. Furthermore, with respect to economic co-operation, there are obvious benefits to be gained from addressing a market covering the whole developing world.

Obviously, there are several obstacles to co-operation among countries of different geographic regions which may be more difficult to surmount than those affecting co-operation within one region. Geographic distance, and differences in language, culture and institutional forms are among such inhibiting factors. Most important, however, may be an absence of knowledge of specific needs and capabilities in other regions, and hence of opportunities for TCDC and ECDC.

This report reflects the efforts of the Governments of one large Asian country – India, a member of ESCAP – and 13 Latin American (CEPAL) countries to address this problem by commencing a process of identifying opportunities for the implementation of co-operation between the two regions. CEPAL and ESCAP, the two United Nations regional commissions concerned, are pleased to have been associated with these consultations, and look forward to helping implement the plan of action evolved during the consultations.

The host facilities and travel for the meeting in New Delhi were financed respectively by the Government of India and the participating Latin American Governments. Particular credit is due to the Ministry of External Affairs of the Government of India, which organized the consultations, accommodated the Latin American participants and drafted this report. We are pleased to acknowledge also the support of the United Nations Development Programme in financing some ancillary costs, including interpretation services and the printing of the English and Spanish language version of the report.

In sum, we wish to underline the importance of this initiative, on the basis of which a concrete programme of interregional co-operation is already taking shape. It is hoped that this report will not only assist the parties directly concerned, but also provide a useful stimulus to interregional co-operation among other groups of developing countries.

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# **Introduction**

Consultations between India and 13 Latin American countries to identify opportunities for interregional technical and economic co-operation were held from 5 to 7 June 1979 at New Delhi. The consultations were held in co-operation with the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Commission for Latin America (CEPAL) and the United Nations Development Programme (UNDP). Representatives of United Nations Conference on Trade and Development (UNCTAD) and the United Nations Industrial Development Organization (UNIDO) also attended at the invitation of the Government of India.

The idea of convening such consultations, the first to take place between member countries of one United Nations regional commission with a developing country of another region, was first mooted in Buenos Aires, Argentina, in August/September 1978, during conversations between representatives of India and member States of CEPAL who were participating in the United Nations Conference on Technical Co-operation among Developing Countries. The proposal to hold the consultations in India was approved specifically at the annual session of ECLA, held at La Paz in April 1979, while at the thirty-fifth session of ESCAP, held at Manila in March 1979, that Commission lent general support to the promotion of such interregional co-operation.

The consultations were inaugurated by H.E. Shri Mohan Dharia, Minister of Commerce, Civil Supplies and Co-operation, Government of India. Recalling the inspiring commitment that "the entire United Nations development system must be permeated by the spirit of TCDC and all its organizations should play a prominent role as promoters and catalysts of TCDC", on which the Buenos Aires Plan of Action was based, Shri Mohan Dharia observed that TCDC offered the advantage of developing countries in different stages of development helping each other and working together in concert towards a new order. He observed also that such help and assistance would be given and taken in a spirit of understanding and dignity, wholesomely devoid of the traditional, dependence-oriented, donor-recipient psychology of relationship. TCDC could be one of the most potent instruments to forge and cement a new unity among the developing countries, which had, to use a well-known expression, a world to win.

Shri Mohan Dharia drew attention to several similarities in problem areas in the socio-economic scenes of India and countries of Latin America. He cited the examples of the phenomenon characterized as dualism, the demographic factor, problems relating to urbanization and agrarian patterns. He noted that despite such similarities, both as regards achievement and aspirations, there had not been any appreciable communication between India and countries of Latin

America. In such a context, Shri Dharia was happy to find that areas for reciprocal co-operation between India and countries of Latin America had been identified. They included identification of capacities and needs of both parties in specific sectors, the promotion of linkages between research and training institutions in India with counterpart institutions in countries of Latin America, the selection of joint research topics for development of specific technologies, and norms to establish between the participants a steady information flow. Shri Dharia concluded with the expression of the hope that with the advent of the new TCDC approach, greater and lasting co-operation between India and the countries of Latin America would soon become a reality.

In a key-note address that he delivered, Professor D.T. Lakdawala, Deputy Chairman, Planning Commission, Government of India, said that, in view of the existing level of economic development and the potentialities of development in both the regions, there were good prospects for technical co-operation, promotion of trade, collaboration in consultancies and the setting up of joint ventures. He noted the challenge of the formidable tasks of ensuring the continuous flow of information on trade, industry and economic development of both the regions; promoting contacts between policy-making authorities, businessmen and traders; and taking steps facilitating transport and communication. In order to meet this challenge it was necessary that comprehensive and integrated sets of promotional measures be jointly adopted by the two regions. He reiterated India's commitment and whole-hearted support to the concept of TCDC aimed at promoting national capabilities and enhancing national and collective self-reliance. As a concrete manifestation of India's commitment to TCDC, he announced that the Government of India had decided to set apart 10 per cent of its UNDP indicative planning figure for TCDC activities. In absolute terms, this would mean that India would make available for TCDC activities an amount of approximately \$US 5.8 million over the next three years.

The Executive Secretary of CEPAL termed the meeting as a pioneering exercise aimed at implementing the basic principles of the Buenos Aires Conference on TCDC. He noted that strong changes were taking place in international relations in industry, finance, investment and technology. It was necessary to have an effective strategy of development aimed at combining dynamic growth and social justice at the same time. That was becoming one of the most serious political challenges. The countries of Latin America had five major fronts of political action: intensive and rational exploitation of their national resources; renewed emphasis on their agricultural development for both economic and social reasons; intensification of their production of capital goods which was one of the sectors lagging; continuous increase of exports; and a massive effort in the field of importation, adaptation and creation of technologies. Paying tribute to India's admirable work in this field, he said that countries of Latin America were looking to developments in India where similar problems were being faced in evolving strategies for development.

It was precisely because India and countries of Latin America shared common problems that there must be something that could be done together and that was the major role of the consultations. Their aim was to create new habits, particularly of trying to look to the South from time to time instead of looking systematically to the North for economic co-operation. In order to create that habit, three things were needed: information, identification of areas of common interest and political will. TCDC would be primarily the work of Governments, and secretariats like those of the regional economic commissions could only help to open channels. One of the major political challenges for developing countries was to strengthen their own unity in order to make unity out of their diversity. Such unity should be built on the basis of common interests and joint action, and it was in that context that TCDC should be considered as a unique instrument to create new links among developing countries, enabling them to play a role in the new unity and to work together for development.

The Deputy Executive Secretary of ESCAP stated that ESCAP attached great importance to the subject of the consultations and its potential for initiating a comprehensive programme of concrete action at the interregional level. ESCAP had been given a clear mandate by all member Governments to collaborate with other regional commissions in formulating and implementing joint projects and in helping groups of developing countries undertake interregional action. ESCAP looked forward to maintaining close contact with CEPAL with a view to exchanging and making use of the relevance and usefulness of the Latin American experience. He recalled that ESCAP had helped set up the Regional Centre for Technology Transfer at Bangalore, India, in order to promote the exchange of experience information and technologies and collaboration in research. In such areas the possibilities of co-operation with the developing countries of Latin America were immense. Other countries of Asia and the Pacific would await with great interest the results of the consultations, which would establish valuable precedents in overcoming traditional geographic obstacles to horizontal co-operation amongst developing countries as a whole.

The meeting unanimously elected Shri Romesh Bhandari, Additional Secretary (Economic Relations), Ministry of External Affairs, Government of India, as Chairman. Mr. Jose R. Sanchez-Munoz, Minister, Permanent Mission of Argentina, Geneva, was elected Vice-Chairman.

It was decided that the following items would be taken up for discussion during the consultations:-

1. (a) Trade promotion measures and ways and means to cover information gaps;
- (b) Joint marketing of commodities;
- (c) Shipping

2. Possibilities of participation in industrial and other development programmes and joint participation in third countries
3. Collaboration in consultancy
4. R & D aspects of the transfer of technology
5. Identification of areas for co-operation in the energy, agriculture and water sectors
6. Establishing links amongst research and training institutions

The participants had before them the following documents:

(a) "The situation of some economic and social sectors in Latin America and national reports on TCDC experience, capacities and needs" (situation briefs prepared by the CEPAL secretariat and national reports prepared by the CEPAL member Governments in 1978);

(b) "Economic survey of Latin America, 1978": advance summary by the ECLA secretariat;

(c) A document submitted by the Government of India containing information in the following seven chapters:

- (i) Indian joint ventures and project exports in Latin America;
- (ii) Trade expansion between India and Latin America and possibilities of joint marketing;
- (iii) Collaboration in consultancy;
- (iv) Promotion of trade and economic relations between India and Latin America;
- (v) India's role in technical co-operation among developing countries;
- (vi) Transfer of technology;
- (vii) Co-operation amongst research, development and training institutions in India and member States of CEPAL.

Various other documents were provided for information on Indian institutions and programmes.

The list of participants is annexed.

# I. Proceedings

## Agenda item 1: (a) Trade promotion measures and ways and means to cover information gaps

The paper presented by the CEPAL secretariat on the situation in some economic and social sectors noted that the structure of Latin American foreign trade was heavily unbalanced: the composition of imports and exports was very different, in contrast to the situation in developed economies. Raw materials and fuels still represented about 85 per cent of the region's total exports. As the world demand for and trade in commodities was growing much more slowly than for manufactures, it was not surprising that Latin America had lost ground in world trade. As a result, the external debt of the non-oil-exporting Latin American countries had grown considerably and passed the \$US 100,000 million mark in 1978. In order to overcome those problems, steady and dynamic growth of exports was vital. Commodities had to have stable, remunerative prices and adequate access to the markets of developed countries. The fundamental growth element in export would continue to be the sale of manufactures which had to be accompanied by a rapid development of capital goods industry for the domestic market and also for export.

The paper noted that some topics which could be explored between countries of Latin America and India could be:

- (a) Examination of trade flows between Latin America and India, and their evolution and structure, so as to identify sectors or goods in which those relations could be intensified and given greater depth;
- (b) Preliminary analytical inventory of forms of co-operation which had existed among Latin American countries and between them and those of other developing regions which could be applied to the relation between Latin America and India. Such co-operation possibilities involved aspects of marketing and of investment, industrial development, technology and infrastructure which might facilitate and aid trade relations;
- (c) Review of the possibility of applying a preference among Latin American and Asian countries, including India. It was understood that a group of countries had been negotiating a scheme of this type within the General Agreement on Tariffs and Trade (GATT). The progress of those negotiations to date should be examined and the means sought of going ahead with the application of the scheme either by continuing with the negotiations or by taking advantage of the experience to implement a programme of this type.

The paper prepared by India noted that India's share in the total two-way trade of the Latin American region, which had been worth \$US 123.5 billion in 1977/78, had been only \$US 242 million. Of that, India's exports accounted for \$US 22 million and imports \$US 220 million. The important export markets for India so far had been Argentina, Venezuela, Mexico, Brazil, Trinidad and Tobago, Netherlands Antilles, Guyana, Peru and Uruguay. The main import sources had been Brazil, Mexico, Argentina, Nicaragua, Guatemala, Paraguay, Bolivia and Netherlands Antilles. A number of studies in certain Latin American countries had been undertaken and visits of trade and official delegations arranged by the Government of India to facilitate trade and economic co-operation with Latin American region. Those studies had suggested that India could meet a significant portion of needs for capital goods and intermediates and also could help to create production capacities by offering consultancy services for entering into joint collaboration.

Analysis of Indian imports and the Latin American region's export capabilities indicated that there was scope for export to India of the following commodities/products: vegetable oils, cotton, wool, palmyra fibre, carnauba wax, tanning extracts of vegetable origin, cocoa, fishmeal, ores and concentrates of non-ferrous metals, iodine, silver, platinum, tungsten, antimony, aluminium, lead, copper, zinc, tin, mercury, petroleum, products, silk, uncut diamonds and emeralds, printing and writing paper and newsprint. The paper also noted the following possibilities for trade between India and individual CEPAL countries or subgroups:

(a) **Argentina**: railway equipment, power generation equipment, garments, woollen carpets, handicrafts, chemicals mica products, jute products heavy water plants and reactors etc.;

(b) **Brazil and Mexico**: power generation machinery, machine tools, cement machinery, textile machinery, agricultural machinery; technical consultancy services in chemical plants and equipment, petrochemicals, pharmaceuticals equipment, electronic equipment, fertilizers, steel, railways and small-scale industries;

(c) **Andean region** (comprising Bolivia, Colombia, Ecuador, Peru and Venezuela): metalworking industries, electronics and telecommunication industry, automobile industries, petrochemicals and fertilizers, light engineering products, capital goods etc.;

(d) **Chile**: machine tools, diesel engines, trucks and buses, bicycles and parts, sewing machines, power generation and distribution equipment, railway equipment, mica products, garments, tea and handicrafts;

(e) **CARICOM** (Caribbean Community): a wide range of consumer and capital goods such as tea, jute products, coir products, chemicals, textiles air-conditioning and refrigeration equipment, house service meters, automobile components, telephone equipment, cotton textile machinery, sugar mill machinery, power distribution equipment and other light engineering products.

The paper noted that three important factors which could help in the promotion of economic contacts and relations between India and countries of Latin America were:

- (a) Bridging the existing information gap, ensuring continuous flow of information on trade, industry and economic development of both the regions;
- (b) Facilitating transport and communication;
- (c) Promoting contacts between policy making authorities, businessmen and entrepreneurs.

It attributed the current insignificant level of trade between India and the Latin American region to the information gap arising out of lack of contact between the trading communities of India and the Latin American region. That gap related to statistical data on economic development and foreign trade, as well as information on the extent and nature of competition, specific trade opportunities, importers and exporters, foreign trade regulations and practices, standards and specifications, investment regulations, treatment of foreign capital, shipping services, etc. Institutional co-operation should be promoted between chambers of commerce and industry, trade and industry associations, trade promotion organizations and foreign trade institutes on both sides. The formation of joint chambers between India and countries of the Latin American region could be considered. Contacts between institutions, like the Indian Standards Institution, the Export Inspection Agency and the India Investment Centre with counterpart organizations in Latin America also would facilitate trade promotion. Another method was through participation in trade fairs and exhibitions held in India and Latin America.

Discussion on the agenda item was initiated at the consultations by Shri Krishnaswamy Rao Sahib, Commerce Secretary of the Government of India.

In the course of discussion, it was proposed that the Governments, with the support of the two regional commissions and other intergovernmental bodies, should take urgent steps to ensure improved information flows. It was agreed that that would contribute significantly to the identification of commodities and services which could be traded by the two sides. The information system should assist the development of interregional trade in products which were closely related to the processes of economic development in the respective countries; which would contribute to the development of new sectors and dimensions of trade; and which would mutually assist industrial, rural, technological and other developmental efforts. Various specific suggestions for strengthening institutional links between trade promotion agencies, foreign trade institutes, trade and industry associations etc. were also considered, and it was agreed that development of such links should be vigorously encouraged in order to create a framework for increased interregional contact. It was noted also that trade between India and

the Latin American region was, in many cases, channelled through transnational trading houses. The establishment of direct long-term trade relationships between the respective importing and exporting countries would obviate the need for channelling trade through such trading houses and would enable both countries to reap full advantage of international trade. With respect to trade preferences, it was felt that as a measure of promoting greater TCDC and ECDC, developing countries should give preferential treatment to trade with other developing countries. In order to realize that, the possibility of reducing tariffs preferentially should be considered. In that connexion the representative of Chile announced that his Government had decided to grant non-reciprocal preferential customs tariff treatment to all developing countries having a *per capita* income of less than \$US 200.

The discussion on the subitem yielded seven specific recommendations.<sup>1</sup>

### **(b) Joint marketing of commodities**

In the discussion on the second subitem it was noted that there were a number of areas of complementarities and commonality in trading patterns which could form the basis for considering joint marketing in commodities. The paper produced by India noted that, for example, India and Brazil together accounted for over 85 per cent of total world exports of castor oil. In other commodities also, such as coffee, sugar, iron ore, leather and leather goods, India and countries of the Latin American region together accounted for a major share of total world exports. It was felt that countries exporting such commodities could exchange information on demand and supply, prices, sales plans etc. and could co-ordinate their export activity to ensure best returns. Two recommendations were made in that connexion.<sup>1</sup> In addition, it was felt that, where joint marketing arrangements could be worked out, co-operative measures could also be considered for identifying and developing markets.

### **(c) Shipping**

It was recognized in the discussion on the third subitem that lack of a regular and adequate shipping link between India and countries of the Latin American region had contributed to restricting the trade between the two to very low levels, and was continuing to inhibit the realization of the full potential of two-way trade. Indeed, the lack of adequate shipping was seen as both a cause and an effect of the existing low level of trade, since shipping companies did not find it advantageous or even viable to operate direct and more frequent services. The representatives of the Ministry of Commerce and the Ministry of Shipping and

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<sup>1</sup> See chapter II. below.

Transport of the Government of India pointed out that a direct shipping link had been opened recently between India and the Caribbean. There had also been visits by Indian delegations to Latin America to explore the possibilities of transhipment. In this context, the Ambassador of Portugal, H.E. Luiz Gaspar Da Silva, who participated in the meeting at the invitation of the Government of India, offered Lisbon as a transshipment point. The Ambassador said that his country would place the necessary facilities at the disposal of India and Latin American shippers. The shipping links between Portugal and countries of Latin America were not fully utilized and there was spare capacity also in Portugal's shipping links with the Port of Bombay. Two recommendations were made with respect to shipping.<sup>1</sup>

#### **Agenda item 2: Possibilities of participation in industrial and other development programmes and joint participation in third countries**

The paper prepared by the CEPAL secretariat noted that there was still some lag in the development of industries producing intermediate goods, and in particular capital goods, compared with the rest of manufacturing activities. That had resulted in uneven development. For a variety of reasons, the structures of production did not allow for obtaining the advantages of economic levels of production or adequate degrees of specialization. In general, the progress achieved so far in different fields of industrialization had not been accompanied by the desirable increase in local capacity for selecting and adapting foreign technologies and other necessary measures could be considered to help solve the problem.

The paper produced by India noted that India had considerable experience in collaborating with other developing countries in joint industrial ventures. Indian participation in such ventures, which was undertaken mainly with a view to sharing India's experience of development for mutual benefit, could be an alternative and cheaper source of technology. Among the fields identified by the paper for consideration for setting up of joint ventures were: textile machinery; machine and hand tools; chemicals and allied products; electric power generation and distribution; petrochemicals; paper; sugar; cement; transport and communication; railway network; electronic products; mining; and fertilizers. The paper also provided the guidelines formulated by the Government of India for governing Indian investments abroad. In particular, it was noted that all such ventures should accord with the rules and regulations of the country concerned and that, to the extent possible, Indian equity participation would be in the minority.

It was noted during the discussion on the item that India and the countries of Latin America had developed investment structures, and that exchange of

experience in the field needed to be improved and strengthened. The countries of Latin America had developed institutions which enabled regular consultations for developing policies for investment, industrial activity, transfer of technology etc. A number of national and regional centres existed for exchange of information in specific sectors. It was felt, however, that there were certain areas where information could be exchanged and co-operation strengthened between countries of the Latin American region and countries outside the region. For example: Argentina had made great progress in the field of power generation, particularly nuclear power; Brazil had made notable achievements in the use of alcohol for fuel; Mexico had attained success in tapping solar energy. More generally, there were many areas of common concern like exploration and exploitation of natural resources, bio-medical research, small-scale industries, intermediate technology, the energy sector etc. It was felt that organizations like the CEPAL and ESCAP secretariats could play a useful role in promoting the exchange of information in such areas.

The Consultation also addressed itself to the question of the terms on which such joint ventures would be operational and transfer of technology would take place. It was agreed unanimously that co-operation among developing countries should not be on a rapacious basis but rather on terms of equality and mutuality of benefit. A code of conduct should be evolved for this purpose.

Five specific recommendations were made in respect of the subject.<sup>1</sup>

### **Agenda item 3: Collaboration in consultancy**

The paper prepared by the Indian side noted that India had built up a strong base in industries and infrastructure. It had achieved self-reliance in most of the areas in heavy, medium and small industries, and also had established a physical and institutional infrastructure which had become a positive support for future industrial growth. An effective institutional framework for the development of technology had been established, enabling the country to build up necessary expertise and capability for development of indigenous technologies and adaptation of imported technologies to achieve optimum utilization of indigenous equipment, materials and human skills in the minimum possible time. As a direct result of those efforts over the last three decades of Indian independence, India had acquired all the capabilities and capacities needed for the detailed engineering and construction management services relating to any type of industrial projects. Such expertise and services were provided by more than 200 organizations engaged in providing consultancy services. The whole spectrum of services, from identifying a feasible commercial proposition to converting it into operating production facility, could be provided by these organizations.

The major areas in which India could provide complete consultancy services were technology, management and economic consultancy in such fields as:

(a) **Infrastructure development:** dam engineering, power engineering, power transmission and distribution, railway construction, roads and highways, water supply and sewage disposal, construction engineering, agriculture and town planning and irrigation, flood control and drainage;

(b) **Engineering industries:** Re-rolling mills, electric furnace plants (mini steel plants), steel foundries, grey iron foundries, structural fabrication, light engineering industries, including consumer durables (bicycles, sewing machines, fasteners, fans, switches, lights etc.), machine tools, industrial machine building, chemical plant manufacture, automobile ancillaries and electrical machinery and switchgear;

(c) **Cement and cement products:** Cement and asbestos;

(d) **Agro-based industries:** Sugar, cotton textiles, oil extraction and processing and leather industry;

(e) **Fertilizers and chemicals:** Fertilizers, chemicals, salt and salt washery, insecticides and pesticides and paints and varnishes;

(f) **Exploration and petroleum:** Petroleum refining, petrochemical plants, pipeline (cross-country) engineering and offshore engineering services;

(g) **Small-scale industries and industrial estates;**

(h) **Management consultancy including computer software, project management and control.**

The paper stated that following a visit of a team of consultants, sponsored by the Federation of Indian Export Organizations, to some of the countries of the CEPAL region in February 1979, the following areas had been identified for co-operation between India and countries of Latin America: Fertilizers (phosphatic) like trisuperphosphate and diammonium phosphate; sugar (particularly control of plant diseases, improvement in sugarcane yield and increased production of sugar) and sugar-based industries and by-products; alcohol, citric acid and yeast; thermal and hydro-electric power generation; transmission and distribution; cement plants; pollution control and effluent and water treatment; roads and highways; railways; airports; coal development; mining; agriculture and agro-based industries; agro-chemicals; rural and urban development and communications, animal husbandry including cattle breeding; pre-fabricated houses; textiles; river transport and water control; grain silos, warehouses and cold storages; hospitals; fishing; industrial estates; wooden furniture; heavy water plants and reactors; fine chemicals, dyes, pigments and catalysts; alcohol-based products, vitamin E, gypsum-based chemicals, vaccines etc.; and pelletization.

The discussion on the agenda item, which was taken up along with the previous item relating to industrial development programmes, was initiated by Shri V. Krishnamurthy, Secretary (Heavy Industries) to the Government of India.

During the discussion, the Latin American participants expressed particular interest in India's success in evolving patterns of development based on internal cultural values by combining a comprehensive import substitution approach with small-scale production techniques. It was agreed that India and countries of Latin America faced common problems, often stemming from their respective strategies of development. It was noted that considerable progress had been made in Latin America also. In several areas local consultancy firms with a high level of expertise were emerging, especially in the fields of engineering and technology. Their services were being used increasingly by regional and international organizations and considerable experience in joint venture operations was being built up. It was agreed that, as a means of promoting ECDC and TCDC, skills available in developing countries should be utilized to the extent possible by other developing countries.<sup>1</sup> Four specific recommendations were made in this regard.

#### **Agenda item 4: R & D aspects of the transfer of technology**

The paper prepared by the CEPAL secretariat noted that trained human and scientific resources in the Latin American region were limited and unevenly available. For various historical, social and economic reasons, technological investment had been low and tended to be inchoate and sporadic. That was so despite the existence of abundant natural resources and a potential stock of human resources which was largely unutilized as far as technology was concerned. Meanwhile, a marked dependence on the technologies of transnational corporations prevailed. With few exceptions, the interests of the corporations did not coincide with the economic and social interests of the countries in which they operated. Thus the pertinent technologies proved transient and untransferred to the areas where they are most needed.

The paper suggested that better financial machinery was needed to assist the scientific and technological progress of developing countries which should be controlled by the developing countries. In the process preferential treatment should be accorded to the relatively less developed countries and joint programmes of scientific and technological development aimed at solving the problems of the developing countries should be promoted. Such activities should be directed towards:

- (a) Mastering the know-how needed to generate and assimilate the technological processes essential for the solution of socio-economic problems;

- (b) Developing design and engineering capacity with respect to the processes, equipment and instruments needed for technological innovation;
- (c) Developing national capacity to use local or imported technology;
- (d) Undertaking the necessary scientific, technical and administrative training for the rational use of science and technology.

Specific measures which could be undertaken for those purposes could include: the establishment of national science and technology councils or of national institutions for scientific and technological planning and research; the formulation of science and technology plans in conjunction with national and regional planning activities; creation of appropriate liaison units; the adoption of programme budgeting to allow for concerted action on science and technology; the formation of industrial, agricultural and technological research institutes; the regulation of imports of technology and promotion of legal and commercial advice to local entrepreneurs in their negotiations with suppliers of technology; and the dissemination of information on science and technology at relatively low cost to potential users. The paper noted that considerable progress had been made in specific areas including programme budgeting, academic training, creation of technological and research institutes etc. However, considerable scope existed for promoting transfer of technology particularly among developing countries.

The Indian paper noted that, as a result of the efforts made since independence, India possessed a vast network of scientific and technical institutions and personnel comparable to the best international standards. A strong infrastructure in science and industry had been established covering every sphere of technology. Research was carried out at the national, state, industry, university and individual levels. A number of specialized technological and research institutes had been set up in a wide variety of fields such as agriculture, medicine, space electronics, atomic energy, metallurgy, petroleum, machine tools, precision instruments, food, leather, drugs and pharmaceuticals, textiles, telecommunication. They had achieved notable progress in their work.

Discussion on the item was initiated by Professor M.G.K. Menon, Secretary (Science and Technology) to the Government of India. It was noted that the major thrust of India's R&D policy had been to develop self-reliance by creating an infrastructure for research work relevant to development problems. That had involved the build-up of raw-materials as well as equipment and techniques aimed at satisfying the needs of the people, particularly the rural masses. Current pre-occupations in that regard were with small-scale technologies, the role of agriculture as a source of fuel and feed-stocks and the utilization of animal and other types of wastes for energy, as well as the use of other locally available resources for building materials etc., in order to harness modern scientific techniques to solve the problems of the people particularly in the rural areas.

In view of the needs and capabilities existing in India and Latin America countries, it was felt that national institutions, existing inter-country arrangements within Latin America and the development of interregional links could make a valuable contribution in the process of transfer of technology. Regular and continuing consultations and flows of information among technical organizations — at both the regional and the interregional levels should be promoted. In order to ensure co-ordination, each country should consider designating one agency, preferably governmental, to act as the nodal agency for channelling information relating to the transfer of technology. Technology transfer should emphasize the transfer of special skills developed in each country. Appropriate packages of technologies in certain specific areas should be evaluated from the point of view of replicating them in other developing countries. Based on the complementarity of resources and skills available, the possibility of co-operative ventures should also be considered in specific areas. The participant from Chile announced that his Government had just set up a national fund for technical and scientific co-operation among developing countries from all developing regions.

It was felt also that the transfer of technology among developing countries should be based on the principle of equality and mutuality of benefit. Transfer of technology should aim at equipping the recipient country to develop the levels of skill required to ensure self-reliance. The terms of such transfer should not be rapacious.

Five specific recommendations were made on the transfer of technology.<sup>1</sup>

#### **Agenda item 5: Identification of areas of co-operation in the energy, agriculture and water sectors**

The paper presented by the CEPAL secretariat identified the main problem in the current supply to energy in Latin America as dependence on petroleum which the majority of countries either did not produce or did so in insufficient quantities for their own needs, thus necessitating imports at considerable cost. Simultaneously, there was grave imbalance in the supply of energy between the urban and rural population. The high cost of carrying oil to the rural sector, coupled with the low income of that sector, had made it very difficult to improve the situation. The paper suggested possible solutions in the forms of: exploring new local oil resources; exploring other local sources of clean renewable sources such as hydro-electric resources and non-conventional sources such as solar, geo-thermal, wind, alcohol, organic waste etc.; orienting consumption by planning and by the formulation of national price policies. More rapid progress would also have to be made in increasing the income of the rural sector and taking

other measures for the improvement of the living conditions of rural people. Nuclear technology also could be used through the establishment of links with other countries which had developed suitable technology for harnessing nuclear energy.

Considerable progress had already been made in the energy sector in Latin America. Hydroelectric resources were being developed intensively in countries which were rich in them. Nuclear energy also was being developed by some countries including Argentina, Brazil and Mexico, while others such as Chile, Cuba, Peru, Uruguay and Venezuela were also expected to undertake nuclear energy programmes. The energy industry had responded most satisfactorily to the growing demand in energy in various forms in the region. Skilled personnel had grown in number which had helped in the rapid development of the industry.

In its discussion of the water sector, the paper noted that although Latin America was the region best endowed with water in the world, it was facing problems which could be described as "shortage amidst plenty". Owing to concentrated growth of population and productive activities in the cities and industrial centres, traditional sources of water had become inadequate. There was, in addition, the need for providing ample supplies of clean water. It was estimated that Latin America still had 130 million inhabitants who did not have easy access to drinking water. Another problem concerned floods in various parts of the region.

The energy-producing potential of the source was very great however. Only 8 per cent of the potential hydroenergy source had been utilized so far and only 10 per cent of the approximately 100 million hectares of land under cultivation were irrigated. All countries of the region were engaged in planning in varying degrees and financing programmes in this sector. Around 4 to 5 per cent of the gross annual investment of the countries of the region was in water projects. The investment in such projects in the region in the 1970s was estimated to be three times the figure for the 1960s which was \$US 7,700 million. Professional and technical manpower also was being created in increasingly greater numbers.

Considerable attention had been focused on the issue in the region. The United Nations Water Conference held in Mar del Plata in March 1977 had adopted an action plan. A regional meeting on that plan was held in Santiago in October 1978 and gave priority to the following topics:

- (a) Progress in implementing the Mar del Plata Action Plan;
- (b) Co-ordination of international co-operation;
- (c) Exchange of information and training;
- (d) Horizontal co-operation;

(e) Evaluation of water resources.

Considerable horizontal co-operation already existed and it was being further encouraged in the form of technical co-operation, the joint development of hydro-electric resources etc.

Presentations on behalf of the Government of India were made by Shri T.R. Satish Chandran, Adviser (Energy), Planning Commission and Shri C.C. Patel, Secretary, Department of Irrigation.

Shri Satish Chandran said that the central problem for India, as for any other developing country, was one of reconciling the imperative need to increase the input of energy for productive use with a worldwide situation of depleting energy supplies and increasing energy costs. India's own resources of fossil fuel were quite limited. Coal reserves, estimated at over 80 billion tonnes were sizable but, relative to the population, they must be considered small. The proven reserves of oil and gas were very limited and around 60 per cent of the country's requirement of petroleum had to be imported. Although consumption of commercial energy had been increasing at over 6 per cent per annum over the last two decades, non-commercial fuels including firewood, agricultural and animal wastes still played a significant role in the energy economy and were estimated to account for around 45 per cent of the total energy consumption in India. The *per capita* consumption of energy continued to remain very low and was barely one tenth of the global average of 2,000 kgs. The bulk of the energy resources were devoted to developmental activities.

Given the constraints of limited fossil fuels and the limitation on the capacities to mobilize funds for developing conventional energy resources, the Indian strategy to ensure that the country's economic development was not hampered by lack of adequate energy supplies comprised three elements:

- (a) More efficient utilization of available energy supplies;
- (b) Development of new and renewable energy resources;
- (c) Evolution of a less energy intensive pattern of growth.

Attention was being paid also to improving the utilization of existing generation capacity and reducing losses in electricity systems. Industry studies were being made to help reduce energy consumption, through prescribing minimum standards for different kinds of fuel, assisting manufacturers to improve their designs, and providing incentives to encourage co-generation in appropriate industries. In the domestic sector also, efforts were being made to increase energy efficiency. Energy prices were being used both to reduce unproductive consumption and to reflect true replacement costs. Adjustments in the structure of economic growth would also be made as necessary to improve energy efficiency. At the same time, new

energy sources were being developed, although their contribution to the flow of energy supply might remain limited in the immediate future. Among those new sources, the bio-gas programme had a large potential in India and already about 75,000 plants were in operation. Research was being carried out on the conversion of biomass into liquid fuels. The social and farm forestry programme was being intensified. R&D was being undertaken also on solar energy through solar, thermal, solar-mechanized and photovoltaic devices.

Shri Patel stated that more than 90 per cent of the country's water resources was being used for irrigation purposes. The area under irrigation had been increased from 22.5 to 51.5 million hectares in the last 28 years. An additional 17 million hectares would be brought under irrigation over the next five years — that being the biggest programme undertaken in this field in India. The total annual outlay on various water development projects was nearly Rs. 30,000 million. Meanwhile the total availability of water in the country was 50 million hectare feet (MAFT) or 178 million hectare metres. It was expected that India would be able to develop 65 million hectares of surface water and 26.5 million hectares of ground water. A gross area of 175 million hectares was under crops, of which nearly 47 million hectares were under regular irrigation. India's target was to achieve irrigation of 130 million hectares. In order to do this, modern technology and long distance transfers were required to interlink the various river systems and develop water resources to the optimum.

As a part of the massive effort undertaken over the last three decades in that sector, India has been able to build up considerable professional manpower and technical skills. Because the use of local materials was maximized, considerable advances had been made in designing, manufacturing and commissioning equipment required in the implementation of water projects. Expertise had also been developed in planning and investigation of projects. Given the abundance of water resources and the similarity of problems faced by India and Latin America, Shri Patel said, there was considerable scope for co-operation in the field and exchange of experience and use of complementarities.

As the time available was short, co-operation in the energy and water sectors could not be discussed in detail. However, it was agreed unanimously that both sectors were vital to development and that there existed considerable scope for co-operation in them between India and countries of the Latin American region.

#### **Agenda item 6: Establishing links amongst research and training institutions**

The paper prepared by the CEPAL secretariat listed a number of key development sectors for Latin American countries. They included international trade,

technology, industry, transport, agriculture, mining, energy, water, statistics and social development. In a number of them considerable progress had already been made. Success had been achieved also in promoting regional co-operation in a number of sectors. The needs of development would be served further by the promotion of interregional co-operation through the establishment of institutional links between the countries of Latin America on the one hand and developing countries outside the region such as India on the other. Among other sectors, the paper noted the possibility of co-operation in the statistical sector between India and Latin American countries for the design of samples, the conduct surveys etc.

The paper prepared by India noted that the build up of the institutional infrastructure and the development of skills had made India well placed to exchange experience and enter into mutually beneficial co-operation with other developing countries, particularly those of Latin America. Such co-operation could be aimed at providing reciprocal training facilities, joint studies and research projects, and exchanges of experts and specialists at the institutional level.

Discussion on this item, which was combined with that on the previous item, also was initiated by Professor M.G.K. Menon.

It was noted in the discussion that considerable progress had been made among countries of Latin America for promoting links and regular consultations at the institutional level. A number of examples were cited in that context, including: the existing arrangement for co-operation in the Central American and Andean Groupings for the exchange of information pertaining to transfer of technology etc.; the emerging satellite-based system for networking technological information; the information, research and promotional facilities of the Economic System for Latin America, CEPAL, the Inter-American Development Bank and the Caribbean Development Bank.

It was felt that a useful start had already been made in promoting institutional links and co-operation on R&D between India and countries of Latin America, such as Cuba, Mexico and Peru. Expansion of such contacts would go a long way to promote interregional co-operation. However a major constraint in promoting further co-operation at the institutional level was lack of information. It was felt also that considerable work still needed to be done by each country to discover its own technological capabilities which would enable the selection of areas of common interest, the exchange of technological experience, the development of collaborative research ventures, and the interregional provision of consultancy services – including through joint ventures for third country projects.

## **II. Recommendations**

The recommendations made in the course of the discussions on the various agenda items were as follows:

**(a) Trade promotion measures and ways and means to cover information gaps**

1. An appropriate facility for the interregional exchange of information regarding trade statistics, trade opportunities, lists of importers and exporters, foreign trade regulations and practices, standards and specifications, investment regulations, export-import credit guarantee schemes and other related areas should be set up so as to ensure availability of information on a secure and continuing basis. The creation of an appropriate institutional facility for the transfer of information between CEPAL and ESCAP secretariat should also be considered.
2. Relevant documents regarding export-import policies of the respective countries should be exchanged on a regular basis. Documents relevant to the promotion of trade should be analysed by the two sides and exchanged.
3. A joint India-CEPAL study should be commissioned with a view to identifying new opportunities of promoting mutually beneficial trade. The following aspects should be covered:
  - (a) Commodity-wise break-up of the trade between CEPAL member countries and India;
  - (b) Direct long-term trading relationships without intermediaries;
  - (c) Concrete measures in regard to joint marketing in items such as castor oil, coffee, sugar, iron-ore, leather and leather goods.

(India has designated the Indian Institute of Foreign Trade, New Delhi, as its counterpart agency for this study.)

4. The possibility of granting preferential treatment to products from developing countries as a means to promote TCDC and ECDC should be examined. Appropriate intergovernmental consultations should be initiated to this end.

5. Possibilities of establishing links and promoting exchanges between chambers of commerce and industry should be explored.

6. Possibilities of establishing joint Chambers of commerce and industry should be explored.

7. Exchange of visits and delegations in the area of trade should be encouraged.

(In implementing the above recommendations, the assistance of the CEPAL and ESCAP secretariats, and also of other United Nations organizations including UNDP and UNCTAD would be necessary.)

#### **(b) Joint marketing of commodities**

8. Products in which India and countries of the Latin American region are large exporters should be identified for possible joint marketing.

9. Information regarding production, exportable surplus, international demand and supply, prices, sales plans and other related aspects should be exchanged on a regular and continuing basis to enable countries participating in the joint marketing scheme to formulate their production and trade plans in a way that would maximize returns.

#### **(c) Shipping**

10. The possibilities of establishing/augmenting shipping links between India and countries of Latin America should be examined. (Assistance should be sought in this regard from the CEPAL and ESCAP secretariats, other concerned United Nations organizations, intergovernmental bodies and shipping lines.)

11. If, on examination, it was found that a direct shipping link was not to mutual advantage at present, the possibility of a transshipment arrangement should be explored. (The offer made on behalf of the Government of Portugal to use Lisbon as transshipment point could also be considered in this regard.)

**(d) Possibilities of participation in industrial and other development programmes and joint participation in third countries**

12. Areas should be identified in which India and countries of Latin America could co-operate in setting up joint ventures based on the principle of maximizing the use of local resources, including human, material and technological resources.

13. Further study should be undertaken to consider the feasibility and mutuality of benefit in undertaking such ventures.

14. Information needed for the identification of scope for further such ventures should be exchanged on a continuing basis.

15. Delegations should be exchanged to discuss possibilities for such ventures.

16. Institutional links should be established for promoting such ventures.

**(e) Collaboration in consultancy**

17. The availability of consultancy services in India and countries of Latin America should be studied and a comprehensive list prepared. The list should contain information pertaining to the areas of specialization, experience, capacities and capabilities of utilization in other countries etc.

18. Information on consultancy services should be exchanged on a continuing basis to keep both sides informed of new developments.

19. Exchange visits should be encouraged in order to enable both sides to obtain first-hand information about the level of skills available.

20. Efforts should be made to maximize the use of skills available in developing countries by other developing countries through appropriate governmental and non-governmental action.

#### **(f) R & D aspects of the transfer of technology**

21. The research activities being undertaken and the success achieved in India and countries of Latin America should be listed by sector, and the resulting lists should be exchanged on a continuing basis. (Such lists could be prepared by individual countries with, where necessary, assistance from regional commissions and other international organizations.)

22. Exchange visits should be made to scientific, technological and research institutions.

23. Both India and Latin American countries should make efforts to provide training facilities in scientific, technological and research institutions for the other's nationals' regions according to the needs identified by each country and keeping in view the facilities available.

24. Areas should be identified in which research and development activities could be jointly undertaken by Indian and Latin American scientific personnel on issues of common interest.

25. International seminars, meetings, workshops etc. should be organized to provide opportunities for the Indian and Latin American scientific communities to know of and evaluate at first-hand each other's ongoing scientific, technological and research activities.

#### **(g) Establishing links among research and training institutions**

26. Comprehensive directories of Indian and Latin American institutions engaged in scientific, technological and research activities should be prepared and exchanged on a regular basis (see also recommendation 21 above).

27. As well as exchanges of information, institutional links and reciprocal visits should be encouraged to provide opportunities for first-hand evaluation of capabilities and potential for co-operation between Indian and Latin American training and research institutions (see also recommendations 22, 23 and 25 above).

28. Institutions and specific areas for collaborative research should be identified and projects for implementing such research should be formulated.

29. Existing bilateral arrangements between the Indian Government and Latin American Governments should be enlarged to include other areas of mutual interest and, where such agreements do not exist, efforts should be made to enter into such agreements.

### III. Plan of Action to Promote and Implement Co-operation between India and Latin American Countries

#### Suggested activities and tasks to implement the recommendations

<i>Tasks for the Government of India</i>	<i>Tasks for each Latin American Government</i>	<i>Tasks for the CEPAL secretariat</i>	<i>Tasks for the ESCAP secretariat</i>
<b>(a) Trade promotion</b>		<b>(a) Trade promotion</b>	
<b>Exchange of information relevant to trade (Recs 1 &amp; 2)</b>		<b>Exchange of information relevant to trade (Recs 1 &amp; 2)</b>	
(i) Designate an institution as contact point <sup>1</sup>	(i) Designate an institution as contact point	(i) Bring proposals to the notice of member countries	(i) Bring proposals to the notice of member countries
(ii) Contact points to collaborate to plan and commence information flows		(ii) Assist planning of information flows	(ii) Coordinate operations with the Trade Information Service of the ESCAP Trade Promotion Centre, Bangkok
		(iii) Propose mechanisms for the operation of interregional information flows	
<b>Joint study on India – Latin America trade and joint marketing of selected products (Rec 3)</b>		<b>Joint study on India – Latin America trade and joint marketing of selected products (Rec 3)</b>	
(i) Designate an institution as contact point <sup>1</sup>	(i) Designate an institution as contact point	(i) Assist planning of the study	(i) Provide data inputs on request
(ii) Contact points to correspond to plan study			
<b>Intergovernmental consultations on preferences (Rec 4)</b>		<b>Intergovernmental consultations on preferences (Rec 4)</b>	
-- to be determined --		-- to be determined --	
<b>Cooperation among chambers of commerce and industry (Recs 5 &amp; 6)</b>		<b>Cooperation among chambers of commerce and industry (Recs 5 &amp; 6)</b>	
(i) Encourage chambers	(i) Encourage chambers	(i) Provide full list and addresses of chambers in the region	(i) Canvas chambers in other ESCAP countries
(ii) Collaborate to assist establishment of joint chambers			

<sup>1</sup> Indian Institute of Foreign Trade designated by Government of India.

*Tasks for the Government of  
India*

*Tasks for each Latin American  
Government*

**Exchanges of visits (Rec. 7)**

(i) Encourage relevant departments and NGOs

(i) Encourage relevant departments and NGOs

**(b) Joint marketing of commodities**

**Joint study to identify exports for joint marketing and promote systematic information exchange (Recs 8 & 9)**

(i) Designate an institution as counterpart<sup>1</sup>

(i) Designate an institution as counterpart

(ii) Counterparts to correspond to plan study

**(c) Shipping**

**Formulation of proposals to strengthen links (Recs 10 & 11)**

(i) Encourage discussion among departments and NGOs

(i) Encourage discussion among departments and NGOs

**(d) Joint ventures**

**Identification of areas for joint ventures (Rec 12)**

-- to be determined --

**Feasibility studies in identified areas (Rec 13)**

-- to be determined --

**Exchanges of information and visits (Recs 14, 15 & 16)**

(i) Designate an institution as contact point<sup>2</sup>

(i) Designate an institution as contact point

(ii) Contact points to collaborate to initiate both types of exchanges

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<sup>2</sup> National Industry Development Corporation designated by Government of India.

**Exchanges of visits (Rec. 7)**

- (i) Promote the exchanges
- (ii) Provide full list and addresses of NGOs in the region
- (iii) Cooperation with UNCTAD, UNDP, etc. in servicing exchanges

**(b) Joint marketing of commodities**

**Joint study to identify exports for joint marketing and promote systematic information exchange (Recs 8 & 9)**

- (i) Assist planning of the study
- (ii) Propose mechanisms for interregional information flows

**(c) Shipping**

**Formulation of proposals to strengthen links (Recs 10 & 11)**

- (i) Undertake joint studies in consultation with member Governments

**(d) Joint ventures**

**Identification of areas for joint ventures (Rec 12)**

-- to be determined --

**Feasibility studies in identified areas (Rec 13)**

-- to be determined --

**Exchanges of information and visits (Recs 14, 15 & 16)**

- (i) Assist designation of contact points
- (ii) Promote the exchanges
- (iii) Propose mechanisms for interregional information flows

*Tasks for the Government of  
India*

*Tasks for each Latin American  
Government*

**(e) Collaboration in consultancy**

**Directory(ies) of services in CEPAL and ESCAP countries (Rec 17)**

- |                               |                               |
|-------------------------------|-------------------------------|
| (i) Assist collection of data | (i) Assist collection of data |
|-------------------------------|-------------------------------|

**Exchanges of information and visits (Recs 18 & 19)**

- |  |   |
|--|---|
| (i) Designate an institution as contact point <sup>3</sup>   | (i) Designate an institution as contact point                     |
| (ii) Contact points to collaborate on information flows prior to and to supplement activity 17 above |   |
| (iii) Encourage relevant sectoral Government departments and NGOs                                    | (iii) Encourage relevant sectoral Government departments and NGOs |

**Governmental and NGO efforts to utilize services (Rec 20)**

- |                                |  |
|--------------------------------|--|
| (i) FIEO to initiate proposals | (i) See task (i) for activity 18, 19 above |
|--------------------------------|--|

**(f) R & D and technology transfer**

**Directory(ies) of ongoing research and success achieved in CEPAL and ESCAP countries (Rec 21)**

- |   |                                    |
|---|------------------------------------|
| (i) Prepare lists <sup>4</sup> and collect data | (i) Prepare lists and collect data |
|---|------------------------------------|

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<sup>3</sup> Federation of Indian Export Organizations (FIEO) designated by Government of India.

<sup>4</sup> Department of Science and Technology designated by Government of India.

*Tasks for the CEPAL secretariat*

*Tasks for the ESCAP secretariat*

**(e) Collaboration in consultancy**

**Directory(ies) of services in CEPAL and ESCAP countries (Rec 17)**

- |   |  |
|---|--|
| (i) Prepare directory for CEPAL region                      | (i) Update and improve 1977 ESCAP handbook, perhaps sectorally |
| (ii) Propose mechanisms for interregional information flows |  |

**Exchanges of information and visits (Recs 18 & 19)**

-- to be determined --

**Governmental and NGO efforts to utilize services (Rec 20)**

-- to be determined --

**(f) R & D and technology transfer**

**Directory(ies) of ongoing research and success achieved in CEPAL and ESCAP countries (Rec 21)**

- |  |  |
|--|--|
| (i) Assist compilation of national data  | (i) Encourage other ESCAP countries to participate                           |
| (ii) Coordination production of regional directory   | (ii) Include R&D in sectoral volumes of regional TCDC publications programme |
| (iii) Propose mechanisms for interregional information flows, including continuous updating of the directory |  |

*Tasks for the Government of  
India*

*Tasks for each Latin American  
Government*

**Exchanges of visits, provision of training and evaluation of activities (Recs 22, 23 & 25)**

- |   |   |
|---|---|
| (i) Designate an institution as contact point <sup>4</sup>                              | (i) Designate an institution as contact point       |
| (ii) Contact points to collaborate to encourage and assist exchanges in various sectors |   |
| (iii) Facilitate evaluation by scientific community                                     | (iii) Facilitate evaluation by scientific community |

**Identification of opportunities for joint R&D (Rec 24)**

- |  |   |
|--|---|
| (i) Designate an institution as contact point <sup>5</sup>           | (i) Designate an institution as contact point |
| (ii) Institutions to collaborate to arrange identification exercises |   |

**(g) Institutional links for training and research**

**Directory(ies) of institutions in India and CEPAL countries (Rec 26)**

- |   |                                    |
|---|------------------------------------|
| (i) Prepare lists <sup>4</sup> and collect data | (i) Prepare lists and collect data |
|---|------------------------------------|

**Exchanges of information and visits (Rec 27) – See 22, 23, 25 and 26 above**

**Formulation of joint study projects (Rec 28)**

- |  |   |
|--|---|
| (i) Designate an institution as contact point <sup>4</sup>   | (i) Designate an institution as contact point |
| (ii) Contact points to correspond to identify institutions and areas for collaborative research (see also activity 24 above) |   |

**Enlargement and increase in bilateral agreements (Rec 29)**

-- to be determined --

---

<sup>5</sup> National Research and Development Corporation (NRDC) designated by Government of India.

*Tasks for the CEPAL secretariat*

*Tasks for the ESCAP secretariat*

**Exchanges of visits, provision of training and evaluation of activities (Recs 22, 23 & 25)**

- |  |  |
|--|--|
| (i) Assist designation of contact points   | (i) Encourage other ESCAP countries to participate |
| (ii) Promote exchanges and help find supplementary financial assistance for training   |  |
| (iii) Assist or sponsor interregional seminars, meetings and workshops in co-operation with other United Nations organizations |  |

**Identification of opportunities for joint R&D (Rec 24)**

- |  |
|--|
| (i) Assist designation of contact points |
|--|

**(g) Institutional links for training and research**

**Directory(ies) of institutions in India and CEPAL countries (Rec 26)**

- |   |  |
|---|--|
| (i) Assist compilation of national data   | (i) Increase efforts on regional TCDC publications programme |
| (ii) Coordinate production of regional directory  | (ii) Assist production of national volume                    |
| (iii) Propose mechanisms for interregional information flows, including continuous updating of the directory (see also activity 21 above) |  |

**Exchanges of information and visits (Rec 27) – See 22, 23, 25 and 26 above**

**Formulation of joint study projects (Rec 28)**

- |  |  |
|--|--|
| (i) Assist designation of contact points | (i) Encourage other ESCAP countries to participate |
|--|--|

**Enlargement and increase in bilateral agreements (Rec 29)**

-- to be determined --

*Annex*

**LIST OF PARTICIPANTS**

**Latin American countries**

**ARGENTINA**

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Mr. Hector I. Niki, Second Secretary (Commercial), Embassy in India

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Mr. Terry Somersall, Chief Economist, Ministry of Trade and Industry

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Ms. Nelly Turbay de Muñoz, Ambassador of Colombia in India

Mr. Raul Torres-Salamanca, First Secretary, Ministry of Foreign Relations

**COSTA RICA**

Mr. Jorge Cespedes G., Assistant to the President of the Republic

**CUBA**

Mr. Abelardo Moreno, Ministry of Foreign Affairs

**CHILE**

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Mr. Miguel Poklepovic, First Secretary, Embassy in India

Mr. Cristian Maqueira, First Secretary, Mission to the International Organizations, Geneva

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**Mr. Edward V. Luckhov, High Commissioner of Guyana in India**

**Mr. C.J.E. Barker, Deputy High Commissioner in India**

**Mr. Mumtaz Ali, Second Secretary, High Commission in India**

## **JAMAICA**

**Mr. Roy E. Mattar, Minister/Deputy Permanent Representative to the International Organizations, Geneva**

## **MEXICO**

**Mr. Jesus Garcia-Chavez, Chargé d’Affaires, Embassy in India**

**Mr. Antonio Vizcaino L., Third Secretary, Embassy in India**

## **PANAMA**

**Mr. Aquilino P. Villamonte-Ramos, Ambassador/Deputy Permanent Representative to the International Organizations, Geneva**

## **URUGUAY**

**Mr. Agustin Espinosa, Counsellor of Embassy, Ministry of Foreign Affairs**

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## **India**

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**Shri R. Bhandari, Secretary (ER), Ministry of External Affairs**

**Shri P.P. D’Souza, Joint Secretary**

**Shri K.K. Bhargava, Joint Secretary**

**Shri Hardev Bhalla, Joint Secretary**

Shri T.C.A. Rangachari, Deputy Secretary

Miss Pushpa Rege, Deputy Director

Shri D.K. Trehan, Senior Research Officer

Shri Mohan Dharia, **Minister for Commerce**

Shri Krishnaswamy Rao Saheb, Secretary, Ministry of Commerce

Shri Vijay Kelkar, Economic Adviser

Shri T. Balakrishnan, Joint Secretary

Shri S.S. Saxena, Director

Shri R.N. Malhotra, Additional Secretary, **Department of Economic Affairs**

Shri D.K. Chatterjee, Joint Secretary

Shri V. Krishnamurthy, Secretary, **Department of Heavy Industry**

Shri T.S. Vijayaraghavan, Officer on Special Duty

Prof. M.G. K. Menon, Secretary, **Department of Science and Technology**

Dr. Ashok Jain, Principal Scientific Officer

Shri C.B. Budguzar, Director, **Ministry of Shipping and Transport**

Prof. D.T. Lakdawala, Deputy Chairman, **Planning Commission**

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Dr. K.N. Johry, Chief, International Division, **Council for Scientific and Industrial Research**

## OTHER

Shri D.N. Saxena, Director General, **Indian Institute of Foreign Trade**

Shri S.B. Kulkarni, Assistant Chief

Shri K.N. Modi, Vice President, **Federation of Indian Chambers of Commerce and Industry**

Dr. Ram Gopal Aggarwal, Deputy Secretary General

Shri J.C. Srivastava, Senior Assistant Secretary

Shri P.K.K. Vaidyar, Secretary General, **Federation of Indian Export Organizations**

Shri D.R. Kalra, Additional Secretary

Shri Tarun Das, Executive Director, **Association of Indian Engineering Industry**

Shri Harbans Singh, Executive Director, **Indian Investment Centre**

Shri P. Soundararajan, Project Co-ordinator, **National Research and Development Corporation**

**Shri K.D. Mariwalla, Managing Director, National Industrial Development Corporation**

**Dr. A. Das Gupta, General Manager, Engineering Projects (India) Ltd.**

**Shri A.R. Jagannathan, Director, Tata Consultancy Services**

**Shri A. Kapoor, M.N. Dastur & Company**

**Shri T.K. Roy, Managing Director, Chemical & Metallurgical Design Co.**

### **United Nations bodies**

#### **ECONOMIC COMMISSION FOR LATIN AMERICA**

**Mr. Enrique V. Iglesias, Executive Secretary**

**Mr. Nessim Arditi, Director, Division of Operations**

#### **ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC**

**Mr. Princy H. Siriwardene, Deputy Executive Secretary**

**Mr. H. Rudy Gontha, Special Assistant to the Executive Secretary**

**Mr. Charles Draper, Economic Affairs Officer, ECDC TCDC Services, Office of the Executive Secretary**

#### **UNITED NATIONS DEVELOPMENT PROGRAMME**

**Mr. Necdet Sumer, Officer-in-Charge, UNDP office, New Delhi**

**Mr. M.R. Malhotra, Senior Programme Officer, UNDP office, New Delhi**

**Mr. A. Krasiakov, Senior Industrial Development Field Adviser, UNDP office, New Delhi**

#### **UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT**

**Mr. Nassau Adams, Deputy Director, Division for ECDC**

**Mr. Radomiro Tomic, Regional Adviser for Latin America, Division for ECDC**

#### **UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

**Mr. N.N. Tandon, Head, Policy Co-ordination Section**

**Mr. Wilfredo Pflucker, Special Assistant to the Executive Director**

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