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THE SITUATION OF SOME ECONOMIC AND SOCIAL SECTORS IN LATIN AMERICA AND NATIONAL REPORTS ON TCDC EXPERIENCE, CAPACITIES AND NEEDS

Information Note

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/I. BRIEFS

I. BRIEFS ON THE SITUATION OF SOME ECONOMIC AND SOCIAL SECTORS IN LATIN AMERICA

A. International trade sector

The most important features of current Latin American development from the standpoint of the region's relations with the main developed areas are outlined below.

1. Asymmetrical trade structure

The structure of Latin American foreign trade is heavily unbalanced: the composition of imports and exports is very different, unlike what occurs in the developed economies. Raw materials and fuels still represent about 85% of the region's total exports (see table 1). Even in the case of Argentina and Brazil this figure is almost 75%, and a little lower in Mexico, due to the reexport of assembled products. World demand for and trade in commodities are growing much more slowly than for manufactures; between 1950 and 1975 the share of raw materials and food in total world trade dropped steadily from 46.4% to 19.0%, while during the same period the share of manufactures rose from 43.7 to 60.4%, and that of fuels from 9.9 to 18.6%, above all due to higher prices. Thus it is not surprising that Latin America has clearly lost ground in world trade.

Table 1

LATIN AMERICA: PERCENTAGE BREAKDOWN OF EXPORTS, AT CURRENT PRICES

	1955	1960	1965	1970	1975	Annual average growth, 1955-1975 (%)
Raw materials	66.8	64.7	66.0	64.8	47.0	6.6
Fuels	30.1	32.0	28.6	24.0	39.4	9.9
Manufactures	3.1	3.3	5.4	9.1	13.6	16.8
Total	100.0	100.0	100.0	100.0	100.0	8.6

Source: The economic relations of Latin America with Europe (CEPAL/CID/Preliminary version/175), 1978.

/Although manufactures

Although manufactures still represent a small proportion of exports, they are certainly the most dynamic element in them, as shown by the significant growth in their share over the last ten years. Some countries are already in a position to export competitively not only non-durable consumer goods but also durable consumer goods and capital goods involving intermediate technology, and even entire plants "key in hand"; and this is one of the reasons why such countries can be considered semi-industrialized. The cases of exports of this kind have arisen where progress has been made in the process of industrialization, particularly light industry, which has gone on from production for domestic consumption to win external markets. The countries in this stage of exporting manufactures already have an industrial scene characterized by the existence of external economies, diversified industry producing quite complex products, and a long experience in the operation of productive and marketing processes.

The share of manufacturing in the total product of the region rose from 18% in 1950 to 24% in 1975, when it represented 26.6 of the total product in the case of the larger, more industrialized countries. Significant although still insufficient progress was made in the adaptation of technology, leading to the introduction of many small innovations aimed at making productive process better suited to resource endowment, and the products better suited to the particular use made of them in developing countries. All this has naturally increased the competitiveness of Latin America.

2. Balance-of-payments deficit

The region's serious balance-of-payments deficit in recent years, and the considerable growth of its external debt, which have occurred despite the very modest growth rates of the economy, are a clear sign of an external bottleneck. The balance-of-payments deficit on current account of the non-oil-exporting Latin American countries increased in both absolute and relative terms, reaching a high proportion of their exports in 1975. Although in 1977 the deficit dropped in relation to exports, returning to levels resembling those of 1966-1969, this reduction occurred at the expense of a significant drop in the growth rate of the economy: the region's gross product

/rose by

rose by only 4.4% in 1977 after an annual average of 6% in the period 1966-1969. In 1978 the deficit again increased in relative terms, even though the economy recorded a mediocre growth rate.

The world recession has affected the growth rate of Latin American exports. Two options are open to the countries to tackle this situation: to adjust the growth rate of the economy by holding it down to the lower levels warranted by the capacity to import, or to resort to heavier external borrowing. In practice, they have chosen to combine these two solutions. The balance-of-payments deficit on current account and the ensuing external indebtedness of the Latin American countries have helped to prevent the critical problems of unemployment and poverty in the region from growing worse. At the same time, the Latin American countries have thereby helped to avert an even more serious decline in the growth rate of world trade and have thus helped to place the developed countries - from whom they buy most of their imports - in a better position to tackle their balance of payments, unemployment and recessionary problems.

3. External financing and debt

In the external financing obtained by Latin America, public sources have rapidly been losing ground. With a few exceptions, the countries of the region, even including those with intermediate or low levels of development, have tended to be excluded from concessionary financing and their share of non-concessionary official financing has dropped considerably. On the other hand, the proportion of funds from private sources, particularly banks, has grown steadily. The terms and conditions of external financing have hardened: repayment periods have grown shorter and interests rates have risen.

The external debt of the non-oil-exporting Latin American countries has grown considerably. The guaranteed and non-guaranteed debt amounted to 90,000 million dollars in 1977, and passed the 100,000 million dollar mark in 1978. This growth, together with the deteriorating conditions in which loans have been obtained, have increased debt servicing as a proportion of exports for many Latin American countries. Nevertheless, debt service payments have been made possible, despite their adverse effect on the growth rate, thanks to the relatively rapid growth of exports until recent years. However, if the trend is confirmed for the latter to grow more slowly,

/service payments

service payments will have an even more serious effect on imports and the unfavourable consequences of the debt on the growth of many countries of the region will grow worse.

Two important points emerge from the above. The first is that since much of their external financing stems from private sources, some Latin American countries are very sensitive to any deterioration in their credit worthiness; at the same time, some countries attach high priority to the possibility of gaining access to private medium- and long-term capital markets, and particularly the issue of securities. Before the Second World War many Latin American countries had effective access to those markets and regularly issued their securities; subsequently they lost this possibility, until in recent years a few countries began to issue securities with some success, although still on a limited scale.

The second point is that to overcome these problems posed by external restrictions, steady and dynamic growth of exports is vital. Commodities must have stable, remunerative prices, and adequate access to the markets of the developed countries. The fundamental growth element in export will continue to be the sale of manufactures, which must also be diversified and increasingly include mechanical products, particularly bearing in mind the growing protectionism of the industrialized countries with respect to the more traditional manufactures. This growth of exports must be accompanied by the rapid development of the capital goods industry for the domestic market and also for export, as a means of ensuring that a too rapid growth of import requirements does not cause insurmountable balance-of-payments problems.

4. Trends in Latin American exports

The protectionism of the developed countries should be viewed in the light of the long-term evolution of Latin America's place in world trade.

Latin America 1/ suffered an appreciable drop in its share of world trade between 1950 and 1975, a period in which its share of world exports fell from 10.4% to 3.9%, thereafter rising a little to 4.4% in 1977, partly thanks to high prices of a number of its main export products from 1976 onwards (see table 2).

1/ Excluding Venezuela and Trinidad and Tobago, as oil-exporting countries.

/Table 2

Table 2

EVOLUTION OF WORLD TRADE BY MAJOR AREAS

	Exports FOB							Imports CIF						
	Share of total (percentages)				Average annual growth rate over period			Share of total (percentages)				Average annual growth rate over period		
	1950	1975	1976	1977	1950-1975	1976-1975	1977-1976	1950	1975	1976	1977	1950-1975	1976-1975	1977-1976
A. Developed market-economy countries	60.2	66.3	64.9	64.5	11.7	11.2	13.7	65.0	66.3	67.4	67.1	11.4	16.3	13.6
United States	16.6	12.2	11.5	10.5	9.9	6.8	5.0	14.6	10.7	11.8	12.8	10.0	25.5	23.2
Canada	4.7	3.7	3.9	3.7	10.1	18.8	8.3	4.6	3.5	3.5	3.3	10.2	10.3	5.8
EEC (9 countries) a/	26.5	33.9	32.9	33.6	12.3	10.1	16.5	31.7	33.1	33.7	33.1	11.5	17.0	12.1
EFTA (8 countries) b/	5.6	6.1	5.9	5.8	11.7	10.3	11.8	6.1	7.0	6.8	6.8	11.9	2.5	15.0
Japan	1.3	6.4	6.8	7.1	18.4	20.6	23.4	1.6	5.9	5.8	5.6	17.2	13.7	11.0
Others	5.6	3.8	4.0	3.9	9.5	14.0	13.3	5.9	6.1	5.8	5.5	11.0	30.0	7.9
B. Countries with centrally-planned economies	8.1	9.8	9.3	9.5	12.1	8.9	16.5	7.9	10.4	9.5	9.2	12.5	3.4	10.0
Eastern Europe	6.8	9.0	8.5	8.7	12.5	8.7	17.2	6.3	9.4	8.8	8.4	13.1	5.0	9.7
Asia	1.3	0.8	0.8	0.8	9.3	10.7	9.7	1.6	1.0	0.7	0.7	9.0	-13.4	15.1
C. Developing countries	31.7	23.9	25.7	25.8	10.0	20.9	14.4	27.1	22.6	22.2	22.7	10.5	9.4	16.5
Oil-exporting countries	7.3	13.4	14.5	13.6	13.9	21.0	7.2	4.2	6.5	7.0	7.4	13.3	14.1	21.3
Non-oil-exporting countries	24.4	10.5	11.2	12.2	7.6	20.9	23.5	22.9	16.1	14.8	15.3	9.7	4.7	11.5
Africa	4.0	1.8	1.6	1.6	7.7	10.1	12.9	4.4	2.7	2.6	2.7	9.1	0.4	16.5
Latin America	10.4	3.9	4.0	4.4	6.8	11.8	23.3	9.0	5.7	5.2	4.9	8.2	3.2	7.9
Asia	9.1	4.3	5.1	5.4	7.9	34.3	20.0	8.3	5.7	5.6	5.7	9.6	9.7	16.1
Middle East	0.8	0.4	0.4	0.4	7.8	13.9	-2.4	1.0	1.7	1.8	1.7	13.8	-0.6	7.9

Sources: United Nations, Yearbook of International Trade Statistics and Monthly Bulletin of Statistics; International Monetary Fund, International Financial Statistics.

a/ European Economic Community.

b/ European Free Trade Association.

/The slow

The slow growth of Latin American exports has been due to problems of both demand and supply.

One of the main factors on the demand side is that the conditions of access to the markets of the industrialized countries have grown more difficult, which reflects the growth of their output as a result of technological progress and support policies for producers (such as the common agricultural policy of the European Economic Community). Thus in some cases the developed countries seek to import complementary rather than competitive amounts of raw materials in order to maintain employment levels and benefit from the value added in processing them, and they have increased their share not only of exports of manufactures but also of world exports of commodities, as may be seen in tables 2 and 3.

Table 3

GROWTH INDEX OF SHARES IN COMMODITY EXPORTS (1955 = 100)

	Latin America		Developing countries		Developed countries	
	1970	1975	1970	1975	1970	1975
Food	76	71	75	67	121	130
Agricultural raw materials	68	55	75	65	118	124
Minerals	108	97	95	99	110	103
Non-ferrous metals	78	49	85	65	107	115

The share of the developed countries in food and agricultural raw materials increased sharply, while that of the developing countries declined; in the second group, the relative importance of Latin America also declined in comparison with the other developing countries.

With regard to raw materials, the share of Latin America and also that of the other developing areas declined slightly only in the case of minerals.

In the case of non-ferrous metals, Latin America's share dropped sharply, and significantly more than that of the other developing countries, while the share of the developed countries increased substantially.

/Another factor

Another factor which should be taken into account in connexion with the slow growth of the exports of developing countries is the lower price-elasticity and income-elasticity of demand for commodities in the industrialized countries. By way of example, it might be mentioned that the price-elasticity of imports of the United States, Japan and the EEC for animal products is -0.53, -1.13 and -0.50 respectively; for fats and oils, -0.43, -0.62 and -0.57, and for vegetable products -0.90, -0.85 and -0.52.2/ The income-elasticity of demand for commodities is about 1.

Until 1965 the proportion of manufactures in Latin America's exports was very low. Between 1965 and 1975 manufacturing exports grew significantly, and their share more than doubled, amounting to 13.6% of total exports in 1975. However, this sharp rise did not have much effect on the growth of total exports since their share was so small at the beginning of the 1960s. If this growth continues, its future effect will be much greater, although many of the manufactures exported by Latin America are precisely those which run into the greatest barriers in the industrial countries. As the competitiveness of Latin America and the other developing areas has increased, access to the markets of the central countries has become more difficult. This has occurred in the case of textiles, footwear, processed foods and various other more traditional manufactures, as will be seen below.

In addition to these factors affecting demand, there are others which limit supply. The possibilities of expanding output of many commodities, above all agricultural raw materials, are more rigid in the short term than the expansion of manufactures, and price instability in world commodity markets also has the effect of discouraging production.

The transnational enterprises have also helped to some extent to limit the growth of exports and primarily of manufactures. Broadly speaking, the goals of the transnational enterprises has been to produce for domestic market and to a lesser extent for export to neighbouring countries; only recently have exports begun to be directed to other markets. The geographical distribution of markets is reflected in the fact that exports

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2/ See W.R. Cline, H. Kawanabe, T.O.M. Kronsjo and T. Williams, Trade Negotiations in the Tokyo Round, A Quantitative Assessment, Brookings Institution, Washington, D.C., 1978.

/of parts

of parts and components are largely made to other subsidiaries or to the parent company itself.

5. The origin of Latin American imports

Latin America's share of world imports has also declined, although relatively less than in the case of exports (see table 2).

The United States, whose importance in the region's imports declined between 1955 and 1976, continued to be its main supplier, furnishing 28.8% of Latin American imports in 1976. The EEC, in second place, slightly increased its share, which amounted to 17.6% of total Latin American imports in 1976. Imports from Japan increased by a greater amount, and its share rose from 2.2% in 1955 to 8.1% in 1976 (see table 4).

Latin America's trade with the developed countries is characterized by a striking imbalance in its composition. Whereas agricultural and mineral products showed surpluses - 7,800 and 2,400 million dollars respectively in 1975 -, manufactures recorded a considerable deficit (27,100 million dollars), or 85% of total exports to the industrialized countries.3/

If the protectionist trends continue, they will affect Latin America's export capacity, and also its industrialization process by restricting its capacity to import. This situation would also have adverse effects on the industrialized countries, which are the principal suppliers of the intermediate products and capital goods which Latin American industry requires for its development.

6. Latin America's trade balance with other major areas

Latin American exports to the United States increased, particularly over the last decade, at a higher rate than imports, so that the trade balance with that country, previously in the red, turned into a surplus (2,200 million dollars) representing 11.4% of exports to that country in 1976. Excluding Venezuela and Trinidad and Tobago, however, Latin America shows an accumulated deficit of 1,700 million dollars between 1970 and 1975 on trade account with the United States.

3/ CEPAL, "The economic relations of Latin America with Europe", CEPAL/CID/ Preliminary version/175, June 1978.

/Table 4

Table 4

LATIN AMERICA: TRADE WITH THE MAIN DEVELOPED AREAS

	Year	Exports		Imports		Balance	
		Billions of dollars	Percentage of total Latin American exports	Billions of dollars	Percentage of total Latin American imports	Thousands of dollars	Percentage of Latin American exports a/
European Economic Community (EEC)	1955b/	1.4	15.1	1.4	16.0	0.03	+2.1
	1965b/	2.5	19.2	2.0	16.7	+0.5	+19.3
	1970b/	3.4	19.7	3.3	17.8	+0.2	+3.2
	1973b/	5.3	17.9	5.4	17.2	-0.1	-2.5
	1973c/	6.6	22.5	6.8	21.6	-0.2	2.7
	1975c/	8.2	16.9	11.2	19.7	-3.0	-36.5
	1976c/	10.0	18.6	10.4	17.6	-0.4	-3.9
European Free Trade Association (EFTA)	1955d/	1.2	13.0	1.0	11.0	+0.2	+21.3
	1965d/	1.5	11.4	1.3	10.9	+0.2	+10.9
	1970d/	1.6	9.2	1.8	9.9	-0.2	-15.0
	1973d/	2.4	8.1	2.7	8.4	-0.3	-10.9
	1973e/	0.9	3.1	1.3	4.1	-0.4	-40.2
	1975e/	1.2	2.5	2.0	3.6	-0.8	-69.7
	1976e/	1.5	2.8	2.0	3.4	-0.5	-33.1
Japan	1955	0.2	2.6	0.2	2.2	0.05	20.8
	1965	0.5	4.1	0.5	3.8	0.04	8.2
	1970	1.0	5.7	1.1	5.9	-0.1	-12.1
	1975	1.9	3.8	4.7	8.2	-2.8	-150.5
	1976	2.0	3.8	4.8	8.1	-2.8	-136.5
European countries with centrally planned economies	1955	0.2	1.9	0.1	1.6	+0.1	+20.0
	1965	0.7	5.6	0.6	5.0	+0.1	+17.8
	1970	1.0	5.7	0.9	5.0	+0.1	+6.1
	1975	3.9	7.9	2.5	4.5	+1.3	+34.0
	1976	3.8	7.1	2.8	4.8	+1.0	+26.7
United States	1955	3.8	40.3	3.5	40.2	+0.3	+7.6
	1965	4.2	32.1	4.2	35.1	-0.09	-2.2
	1970	5.6	32.2	6.5	34.7	-0.9	-15.3
	1975	17.1	35.2	16.9	29.8	+10.2	+1.0
	1976	19.2	35.8	17.0	28.8	+12.2	+11.4

Source: UNCTAD, Yearbook of International Trade and Development Statistics, 1976.

a/ Percentage calculated on a larger number of digits.
b/ Six original members.
c/ Nine members.
d/ EFTA (original members).
e/ Excluding the United Kingdom and Denmark.

/The situation

The situation is exactly the opposite with the European Economic Community (EEC). From 1970 onwards the trade surplus with the EEC became an increasingly large deficit, amounting to 400 million dollars in 1976, which represented 3.9% of Latin American exports to the area. Much the same is true in the case of the European Free Trade Association (EFTA), with which the region has had a trade deficit since the mid-1960s, amounting to 500 million dollars in 1976, or 33.1% of exports to that group of countries.

Trade with Japan has followed a similar course, since the surplus obtained until the mid-1960s thereafter became an increasingly large deficit. The gap between imports and exports amounted to 2,800 million dollars in 1976, i.e., 136.5% of the latter.

Trade with the European countries with centrally-planned economies has followed a trend favourable to Latin America, with increasingly large surpluses throughout the period (see table 4).

7. TCDC possibilities

In the context of Latin America in recent years a significant increase has occurred in the intensity of co-operation among countries of the region. The proportion of total intra-area trade has increased. Exports to Latin America have a larger component of sophisticated manufactures which makes a more distinct contribution to the industrial development process than exports to the rest of the world. Intra-area trade has been playing a positive role in order to offset part of the effects of the international crisis on the external sector in Latin America.

Within Latin America, in addition to the formal integration processes, numerous specific forms of co-operation among governments, public and private enterprises have been developing in infrastructure, technology, joint investment, market arrangements, etc.

There has also been an increase in relations - particularly of a commercial nature - between Latin American and African and Asian countries, but this is only just beginning. A few Latin American countries, especially Brazil, have begun to turn their attention to expanding and further exploring their relations with Africa; but this is a very recent process which to date has only given very limited results. It is clear, however, that vis-à-vis the major role that co-operation can play with other developing

/areas in

areas in the external relations of Latin America, and bearing in mind the experience already gained in co-operation among countries of the region where this is susceptible of being extended to other areas, a very important line of activities may be developed in the fields of trade and investment in activities producing goods and services and technology.

To illustrate this, some topics which could be explored might be:

(a) Examination of the trade flows between Latin America and India, and their evolution and structure, so as to identify sectors or goods in which these relations could be intensified and given greater depth.

(b) Preliminary analytical inventory of forms of co-operation which have 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. These co-operation possibilities involved aspects of marketing and of investment, industrial development, technology and infrastructure which may facilitate and aid trade relations.

(c) Review of the possibility of applying a preference among Latin American and Asian countries, including India. We understand that a group of countries has been negotiating a scheme of this type within GATT. The progress of these negotiations to date should be examined and the means sought of going ahead with their application of the scheme either by continuing with the negotiations or by taking advantage of their experience to implement a programme of this type.

/B. Technology

B. Technology in Latin America and the Caribbean

It is far easier to list the constraints on technology in Latin America and the Caribbean than to offer solutions. Still, it is useful to catalogue the problems, as currently seen in the region, to allow developing countries elsewhere in the world to decide for themselves whether they may have resources for and insights on the situation to permit economic or technical co-operation between the regions which may be to their mutual advantage. The present "profile" therefore intends to (a) state the problems; (b) suggest some possible remedies; and (c) describe the status of any progress to date in the field of technology in Latin America and the Caribbean.

1. Main problems facing the technology sector in Latin America

Whether the question of Latin American technology is approached historically, socially or economically, the conclusion is generally the same: too little, too late. Trained human and scientific resources in the region are very limited and unevenly available. While notable pockets of enviable technological progress do exist, the region, broadly speaking, lays significantly behind its neighbours to the north and its forebears in Europe.

Technological investment consequently is low and tends to be inchoate and sporadic in most countries and territories, despite the existence of abundant natural resources and a potential stock of human resources in the lower economic groups which largely goes under-utilized as far as technology is concerned. Meanwhile, a marked dependence on the technologies of transnational corporations prevails. With few exceptions, the interests of the corporations do not coincide with the economic and social interests of the countries where they operate. The pertinent technologies prove transient and untransferred to the areas where they are most needed.

Bilateral and international co-operation has among its stated purposes the transfer of modern technology to the Americas region. Frequently, however, the purported goal diverges to unstated goals such as foreign aid, the

/technology "assistance"

technology "assistance" being tied to conditions benefiting the giver more than the receiver. The end result of a training programme, for example, may well be an increase in the emigration of skilled personnel from a given country to a wealthier country.

The roots of such problems run deep, however, and problems arise from within as well as from without. Within particular subregions and nations in the Americas communication gaps are found among nearby institutions such as ministries of labour and education as well as among private and public enterprises and academic faculties. Similarly, the linkage between the creators of know-how and the users of know-how is often tenuous. Not only is there a lack of co-ordination and communication of this kind, there is a failure to promote the development of local technologies, the attitude being "if it's imported, it's better".

In many countries, political instability and economic uncertainty discourage the demand for and the supply of new technologies. Clearly defined national priorities are not part of the political process. Individualism and parochialism takes precedence over national and regional technological interests. Moreover, geographical barriers mitigate against the flow of scientific information. Island countries in the Caribbean are isolated. South American nations are separated from each other and a few even within themselves by jungle, mountain and coastal differences.

Linguistic diversity also contributes to the problem of technology transfer. Except for the relatively small countries and territories around the Caribbean of English, French and Dutch background, the remainder of the region must cope with not only a new technology but also a foreign language like Japanese, German and English. Even though pre-Colombian civilizations in the Americas were forerunners, for their day, in the creation of new technologies, now the Aymara, Quechua and other widely-spoken indigenous languages are more barriers than carriers of scientific developments. Finally, even as modernization has brought its changes, albeit unevenly, to much of Latin America and the Caribbean relatively rigid stratifications remain

/economically and

economically and socially. A man who is wealthy in talent only, will not easily be able to become a trained professional in some new technology which also pays well. A woman, even though she may be skilled technically and well placed socially, still has to overcome existing attitudinal barriers of whether it is her proper role to work at all in some field of modern technology.

2. Suggested measures to remedy the problem

It would be simplistic merely to recite the obverse of the above-mentioned problems as suggested remedies. Nevertheless one factor, investment capital, is of major importance and bears emphasis. Whether from foreign or local sources, capital investments are essential if technology is to play a major part in the regions development efforts. Enhanced financial machinery should be available to assist the scientific and technological progress of the developing countries, in accordance with the guidelines laid down in regional and world programmes of action. This financial machinery should be controlled by the developing countries, accord preferential treatment to the relatively less developed countries and promote joint programmes of scientific and technological development aimed at solving the common problems of the developing countries in activities oriented 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.

Thus, specific measures which may be suggested and undertaken include:

(a) Establishment of national science and technology councils or of national institutions for scientific and technological planning and research;

(b) Formulation of science and technology plans in conjunction with national and regional planning activities;

/(c) Creation

(c) Creation of appropriate liaison units between ministries;

(d) Adoption of programme budgeting by governments to allow for concerted action on science and technology even though the activities overlap different ministries and differing institutional components of the society;

(e) Formation of industrial, agricultural and technological research institutes;

(f) Regulation of imports of technology in the region which among other things promotes legal and commercial advice to local entrepreneurs in their negotiations with the suppliers of technology;

(g) Dissemination of information on science and technology at relatively low costs to potential users.

3. Progress made in the sector in recent years

It bears saying from the outset that an assessment of the status of technology in Latin America and the Caribbean today is entirely relative. If the achievements in technology in Mexico, for example, are compared with the achievements in technology in the United States of America there is a sharp contrast. South of the border, progress has been slow; just to the north, where the necessary infrastructural support is prevalent, achievements such as water desalinization and farming and livestock technology have been and continue to be solid. The more useful comparison might be made with other countries in other regions of the world such as with Egypt, India or the Philippines. It is beyond the scope of this profile however to undertake such a task. Suffice it to say that like other regions of the developing world, the Americas is characterized by unknown technological development. Although, as has been suggested above, the overall level of technology in the Americas is lower than it could be; given the available human and physical resource potential, there are specific examples of progress: programme budgeting (including technology as a component) in Colombia; massive academic training in Venezuela, specially in the energy subsectors; the creation of the Institute of Technological Research (INTEC) in Chile and Institute of Industrial Technological Research and Technical Standards (ININTEC) in Peru,

/as well

as well the Central American Institute for Research and Technology (ICAITI), the Inter-American Institute of Agricultural Sciences (IICA) and the Caribbean Industrial Research Institute (CAR-IRI) in Trinidad and Tobago.

One country, moreover, Cuba, already has a specialized organization at the ministerial level, the State Science and Technological Committee (CECT). Technological progress has also been marked in the manufacturing sector in Argentina, Brazil and Mexico, and to a lesser extent Colombia. The Andean Pact countries of South America have for a decade been reducing barriers to trade and transfer of technology within their own sub-region and have been exploiting each others economic comparative advantages to their mutual benefit.

On a larger scale, as communication and transportation improvements continue apace, similar exchanges of technology are in store for the Latin America and Caribbean region and other regions of the world at an increasing rate. To the extent that the exchange of technology is promoted efficiently, with sensitivity and with due consideration to environmental trade-offs, mankind is likely to be better off and certain to enjoy greater alternatives.

C. The industrial sector

Taken as a whole, Latin American industry has developed considerably in recent years: between 1970 and 1978 it increased at an annual rate of 6.1%, which was higher than that recorded by the economy as a whole, and has brought its present share in the generation of the region's total gross domestic product to nearly 26%.

1. Main problems facing the industrial sector in Latin America

During the period under consideration, two very dissimilar forms of behaviour must be distinguished: up to 1972-1973, annual growth rates reached nearly 10%, but as from 1974, and to a large extent as a consequence of balance-of-payments problems and the effects of the world economic recession, this figure has dropped to a much lower rate, and despite some recovery recorded in recent years, has not succeeded in returning to a satisfactory rate of sectoral growth.

/In addition

In addition to the limitations of the international conjuncture, mention should be made of the concurrent action of other factors more directly linked to the problems of the sector; some considerations on these problems are given below.

The analysis of the structure of the sector shows that although the industries supplying non-durable consumer goods have lost in relative importance, there is still some lag in the development of the industries producing intermediate goods, and in particular capital goods, compared with the rest of manufacturing activities, thus making industrial development uneven.

The often excessive and indiscriminate protection which has generally characterized industrial promotion, in addition to the existence of narrow domestic market, still further reduced by the continued existence of patterns of highly concentrated income distribution, have contributed in not a few cases to making up structures of production with scales below the minimum economic levels with inadequate degrees of specialization and high costs.

The progress achieved in different fields of industrialization have not, generally speaking, been accompanied as much as might be desired by any substantial increase in the local capacity for selecting and adapting foreign technology, and still less for generating technological innovations, these being elements which suggest that the region has had a relatively passive attitude to technological matters, although notable differences may be observed, depending on the country.

The value of regional exports of manufactures has increased rapidly, reaching around 9 billion dollars, and accounting for nearly 20% of total exports. Despite considerable progress in terms of diversification of the products exported, of which a noteworthy example is the improvement in the share of engineering products, miscellaneous manufactures still predominate. Although a large proportion of exports of manufactures are destined for countries outside the region, in particular the developed market economy countries, it should be noted that the regional market also has an important place, since in recent years it has absorbed nearly 40% of these exports, a relatively high proportion of which consists of engineering products.

/The share

The share of the transnational corporations in the flow of exports of manufactures, and more generally, in the industrialization process, is particularly important in the most dynamic and progressive areas of the manufacturing sector, sometimes to the detriment of local enterprises. Their economic, trade and financial potential, and their technological superiority, tend to imbue their activities with a projection and scope such that it is essential to bring them into line with the orientation of the industrialization process, and more broadly speaking, with the patterns and directives which go to make up the general economic development of each country.

The direct contribution of the manufacturing sector to solving the region's serious employment problems was less than expected, particularly at the beginning of the 1950s. Only during boom periods did the generation of industrial jobs reach fairly high levels.

Both in this case and with reference to several of the remaining problems and limitations referred to, it would seem to be a matter of urgency to speed up the industrialization process to a level well above the average rates of recent years.

2. Suggested measures to remedy the problem

Possible lines of action in relation to limitations of the development process were sketched earlier when these deficiencies were listed. Mention may be made of the following:

(a) The need to balance the structure of the sector, by means of a more rapid development of capital goods industries;

(b) A more extensive use of the regional economic integration processes and the rationalization of protection for industry;

(c) The need to ensure the generation of appropriate technologies and the selection and adaptation of foreign technologies;

(d) The intensification of the flow of exports of manufactured and

(e) The strengthening of private enterprise and the bringing by the transnational corporations into line with the patterns and directives which go to make up the industrial and economic development of the countries.

/3. Progress

3. Progress made in the sector in recent years

Generally speaking, it is considered that industrialization has contributed to improving the living conditions of broad sectors of the population, and has been a primordial element in modernizing the economic and social structures of the region, contributing with its outputs to satisfying a large part of the demand for industrial products.

More specifically, noteworthy progress in recent years has been the notable increase in the above-mentioned flow of exports of manufactures and diversification in terms of structure and destination. Mention should be made here of the increase in interregional transactions and the increasing share of metal manufactures and machinery in particular, in regional trade.

This is certainly linked with the improvement of the structure of production, in which the capital goods sector also stands out: at present it is estimated that around 50% of the supply of these goods comes from local sources, and this proportion is strongly influenced by the similar share of the largest countries of the region.

This improvement in production was largely the result of successful efforts towards the greater vertical integration of industry, which in turn took the form of a better utilization of the natural resources of the region, accomplished in several different sectors of industry.

Given their characteristics, the prospects for the sector are closely bound up with the future evolution of the world economic situation and also, inter alia, with local efforts to achieve greater co-operation in the region and with developing countries in other regions.

To illustrate this, some examples may be given of significant progress in industry, in different sectors and countries of the region.

In the metal manufactures and machinery sector referred to above, in addition to the progress made, as is well-known, by the largest countries of the region, mention should be made of the progress of industry in Colombia, with notable achievements in exports, and of progress in Peru in the naval construction and other industries in this sector.

Venezuela has made very considerable progress, particularly in its steel and aluminium industries.

/Particularly noteworthy

Particularly noteworthy is the progress also recorded in smaller countries: in the case of Ecuador, the use made by exporting electrodomestic products, of the advantages obtained within the Andean Group, and in the case of Paraguay, the share in the manufacture of certain equipment in connexion with the Itaipú hydroelectric plant.

The progress made by Brazil and Mexico in the field of nitrogenous fertilizers is a fact which should be highlighted. It is considered that this progress, together with that of Venezuela, will shortly turn the region into an important area for surpluses. The situation produced by the rise in oil prices led several countries of the region to engage in vigorous efforts to counter its adverse effects by a better use of specific natural resources. With the aim of reducing oil consumption, for example, production of ammonia from Brazilian coal has been started; with the same aim, several countries of the region have embarked on programmes to obtain alcohol from certain agricultural products, and thus be in a position to cut down consumption of liquid fuels.

The existence of the traditional long-fibre resources for the manufacture of cellulose and paper products has fostered the consolidation of an export-oriented industry in Chile which has made notable progress in recent years, with considerable diversification of the destinations of its exports.

The relative scarcity of these resources in countries like Argentina and Peru, however, meant that short-fibre resources were used for products traditionally manufactured with long fibres. Mention should be made of the Peruvian plant which makes newsprint from bagasse, using Mexican technology in part of the process, and the new newsprint factory in Argentina, which has also incorporated modern technologies as a part substitute for its long fibre needs.

In Brazil, too, the use of short-fibre resources is of note, and has made it possible to start a very considerable export flow of cellulose paste on this basis.

D. The transport sector

An efficient transport system is a basic requirement for the mobilization of human and natural resources, expansion of exports, stimulation of economic and social development on the national scale, and co-operation and economic integration on the regional scale. To accomplish these ends each of the modes should play the role in which it has a comparative advantage, so that the cost of transport to the economy is minimized.

1. Main problems facing the transport sector in Latin America

On the whole, physical infrastructure in Latin America is sufficiently developed to permit the movement of passengers and goods from origin to desired destinations. In the case of high-ways, while certain missing links remain to be constructed or improved, in most instances these will serve to shorten distances rather than to provide non-existing connexions.

In the case of railways, the Southern Cone countries have a well developed international system, but the variation in gauge that exists among certain national railways forms the principal obstacle to better utilization for international transport. The rest of the region has either bi-national links or no international links at all.

In the case of river transport, the region has a number of major international river basins that could be better utilized for both national and international transport. At present, they are underutilized.

Maritime transport has traditionally handled the bulk of the region's international trade. Nonetheless, in many instances it carries goods that could be more efficiently handled by other modes.

However, the factor that most limits the expansion of international transport - within Latin America as well as with other regions - is non-tariff barriers. This is in part because the region lacks interrelated inter-governmental agreements which would enable such transport to be carried out with a minimum of uncertainty.

Another problem facing the transport sector in the region, both on the national and international scales, is the inadequacy of planning and policy formulation. In addition, valuable information and experience which are generated and documented are lost to future users because of lack of systems to preserve the documents or to make their existence known.

/2. Suggested

2. Suggested measures to remedy the problems

While work remains to be done to improve the quality of the physical infrastructure on certain segments of the network, the most urgent improvements are required for operations and services, especially in the case of international land transport. These could be accomplished by the establishment of institutional infrastructure aimed at facilitating international trade and transport through the reduction and, where possible, the elimination of non-tariff barriers.

A second measure needed to increase the efficiency of the sector is to improve the effectiveness of planning and policy formulation through the application of specific techniques for handling information and improving its quality, and through centralization of information for decision making processes. Better planning and more precise information for decision-making would lead, in turn, to better utilization of each mode of transport for the operations in which it has a comparative advantage, resulting in a decrease in transport costs.

If this were to take place, land transport operations which could best serve the growing economic interdependence of the region would expand. In much of the area, roads and railroads are potentially faster and less expansive than shipment by sea as a means for conducting this trade, yet their potential is largely unrealized due to the existence of non-tariff barriers in the form of excessive documentation, incompatible technical and procedural requirements and conflicting legislation. Creation of standardized procedures for customs transit, uniform waybills for international transport, limitations on the civil liability of carriers and others engaged in international transport, and appropriate compensation for the use of roads in countries of transit by vehicles from other countries would all be significant contributions to regional development.

3. Progress made in the sector in recent years

In recent years there has been an increase in intra-regional land transport, especially of high value products. CEPAL's work in this area, especially the study of the São Paulo - Lima and Buenos Aires - Lima transport corridors, and the international rail waybill of the Latin American Association of Railways for transport under the MULTILAF convention have contributed to

/the creation

the creation of services that make this traffic possible. Within this area, the design and implementation of the Integrated Transit System has rationalized the transshipment of cargo in transit to Bolivia through the ports of Arica and Antofagasta, Chile, and has provided the basis for similar improvements in other regional ports that handle Bolivian commerce.

The publication of the Spanish language bimonthly bulletin Facilitation of Trade and Transport in Latin America has assisted in disseminating within and outside the region relevant facilitation information to government agencies, international organizations, carriers, shippers, importers and exporters.

Finally, CEPAL's Draft Convention on Civil Liability of Carriers may lead to the establishment of an intergovernmental mechanism for the examination of one very important factor in the facilitation of commerce in the region.

E. The agricultural sector

1. Main problems facing the agricultural sector in Latin America

Latin America is not a unit in terms of the general and specific problems affecting the agricultural sector of the countries composing it. Agriculture in the individual countries presents very special situations which differ widely as regards the size of the economic and social problems. On the basis of its common elements, however, some generalizations may be made concerning the salient regional characteristics and features:

(a) Both a progressive accentuation of the integrated and interdependent nature of agriculture in relation to the development and progress of other economic sectors, and its growing internationalization, are observable. All this means an increasingly complex spectrum of links and repercussions;

(b) An expansion of the process of technological change in agriculture is noted, even though as a whole it remains technologically backward compared with other sectors of the economic system;

(c) The growth of annual production is based on the particular dynamics with which the modern segment of Latin American agriculture has been operating and its selective capacity to respond to attractive market conditions;

(d) The persistence - despite the progress achieved - of problems of employment, income and lack of personnel training. The technical and

/socio-economic limitations

socio-economic limitations that are currently hindering the progress of millions of small producers from a subsistence economy to one in which they can improve the conditions and quality of their lives;

(e) Latin American agriculture has experienced significant social changes, which have given way to new forms of relationship in practically all the important spheres of daily life in the rural setting.

2. Suggested measures to remedy the problem

Agriculture in Latin America is being analysed in the context of the integral economic and social transformation of the economic system and above all in terms of the factors that have favoured a growth structure in which a modern sub-sector responding to dynamic stimuli co-exists with a traditional or rural sub-sector where the major problems identified above are rooted. This rural sub-sector must therefore start to play an active role in agricultural development and thus contribute towards the solution of the economic and social problems involved in the existing dichotomy.

The disequilibrium between the rural and the urban area should not be allowed to persist. It is not possible to find solutions to the problem of agriculture, especially in its social dimension, if it continues to be considered merely as a residual component of national policies. To maintain accelerated industrial development requires a solid and dynamic agricultural base. Together with a more balanced approach in favour of agriculture in the formulation of the region's general policies, it is more than even necessary to plan agricultural development and especially to give continuity and consistency to agricultural policies so that programmes and projects will be on a sound and clear-cut basis instead of being improvised.

3. Progress made in the sector in recent years

Agriculture in the region has been gradually transformed by means of different methods and policy approaches. As indicated above, the penetration of technical progress has played a pre-eminent role in this process. Agriculture in 1979 is fundamentally different from the agriculture of two or more decades ago, not only because it covers an area 2.6 times larger than in 1950, but also because the bases for its own growth have been modified. Generally speaking, there are today new technologies and inputs and more efficient systems of production.

/The image

The image of agriculture has been changing slowly and new elements are gradually moving it further from the old system of routine and primitive production techniques. There has undoubtedly been significant progress in both agricultural production proper and the economic organization of agriculture. The continual migration from the country to the cities, combined with the penetration of means of information and communication in the rural area, has helped to change urban-rural relations and those existing between the various social groups in Latin American agriculture.

If the modernization process continues, and if rural agriculture in particular shows more dynamism and its technical and socio-economic problems may soon be relatively solved, regional agriculture could develop more rapidly than in the past and achieve a sustained growth rate of 4% annually as proposed in the IDS. Various studies on present and potential land use support the widespread conviction that land is not in itself a limiting factor in achieving an annual production twice or three times the volume currently produced, according to the commodity. It must be borne in mind, however, that if, on the one hand, there are fairly considerable land reserves suitable for obtaining a large proportion of the production increases, and also a good margin for improving the productivity of the land already under cultivation, there exists, on the other hand, awareness of the magnitude of the investment and the tremendous effort in every sense that will be required to incorporate and fully and rationally utilize the production potential and improve the distribution of benefits deriving from such increased production.

Since the 1960s, many countries of the region 1/ have established institutions and general services to implement rural development programmes in support of a rapid increase in production, productivity, and agricultural and rural income; expand and increase the opportunities of economic and social participation, in particular for the less privileged rural population; and link the rural economy with other sectors of the national economy and facilitate its integration.

1/ In particular, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Panama, Paraguay, Peru and Venezuela.

/There is

There is general agreement regarding the modest progress that has been made in rural development programmes - although a number of countries have made significant advances in some of their components - which has led to a constant search for optional methods. These programmes have in one way or another permitted the supply of goods and services to reach sectors which had never before received them, and have kept in the rural area a proportion of the population which would inevitably have even further congested the urban sector.

Other types of programme which are consistent with development aims and whose activities have been mainly concerned with crop improvement and management, the production of seeds and other improved genetic material, crop protection and the reduction of losses following the harvest, mechanization, storage and agricultural facilities, the establishment of agricultural food industries and the various aspects of livestock development have shown more apparent results, particularly inasmuch as they were utilized by the modern and dynamic sub-sector of the countries' agriculture.

F. The mining sector

1. Main problems facing the mining sector in Latin America

(a) Incomplete geological-mining knowledge in several countries of the region, especially of some minerals and certain areas of difficult access (mountains, jungle, unpopulated areas, etc.);

(b) Lack in some countries of the region of the necessary institutional and legal structures to make mining activities more dynamic. This situation is reflected *inter alia*, in the absence or weakness of agencies concerned with research, policy formulation, the co-ordination of mining with other economic sectors, technical assistance, market studies, mining censuses and inventories, professional training, up-dating of mining codes;

(c) Low level of development in some Latin American countries as regards the vertical integration of the mining products they export, and inadequate use of modern techniques in some production strata of the sector (medium- and small-scale mining);

(d) Little participation by the Latin American governments in the establishment of prices of minerals and metals sold on the world markets;

/(e) Relatively

(e) Relatively low rates of investment in the sector, a fact which impedes Latin America's continued or increased participation in the world production of certain mining products;

(f) Lack of greater horizontal integration among the countries of the region or other regions at a similar stage of development, in the context of reciprocal technical co-operation among countries with a mining tradition; geological research in border areas; technological research aimed at improving or developing new processes in extractive-metallurgy; promotion of the intra-regional mining trade in both mining products and mining machinery, equipment, tools, etc.; establishment of multinational mining enterprises with a high level of ore-processing, etc.;

(g) General lack of an efficient information system to enable the mining potential of both the individual countries and the region as a whole to be evaluated homogeneously and with a certain degree of precision.

2. Suggested measures to remedy the problem

(a) To strengthen both technically and financially the bodies responsible for the management of the mining sector. To increase and improve the quality of the human resources concerned, with emphasis on their training in the use of up-to-date prospecting, production, business management, marketing and other techniques;

(b) To undertake techno-economic and social feasibility studies to determine at the national level the advisability of a higher degree of processing for mining products;

(c) To form groups of mineral exporting countries in order to establish marketing policies, either through the establishment of metal exchanges in the region or with a view to joint action in defence of their interests in transactions involving mining resources;

(d) Need for continued enhancement of the nations' right to permanent sovereignty over their natural resources, especially in those countries possessing a large mining potential, so that the surpluses generated by the expoitation and marketing of these products may help towards the accelerated growth of their economies;

/(e) To

(e) To promote investment in the production of minerals which show favourable prospects as regards profitability or the possibility of obtaining foreign exchange, so as to keep up the supply of these minerals on international markets in relative terms, since it is difficult for certain minerals to recover their former levels of exports on world markets;

(f) To promote horizontal integration among the countries of the region or of other regions at a similar stage of development in various fields, inter alia, through training courses, the exchange of research specialists, the joint development of technological research applicable to the sector, the establishment of multinational mining complexes, the mutual transfer of knowledge on the management, operation and marketing methods of mining enterprises;

(g) To implement modern and efficient systems of compilation, processing and use of information on the sector, employing standard nomenclature for the compilation of such information at both the national and the regional level.

3. Progress made in the sector in recent years

In the last few years there have undoubtedly been important achievements in this sector. For example, thanks to the use of modern prospecting techniques, important copper, iron, bauxite, nickel, sulphur, phosphate and other deposits have been discovered. Mining products present a higher level of processing in the producing countries. The State's role in the whole process of marketing the countries' mining products has increased considerably as these resources have passed into the hands of the public sector. The establishment of international associations of countries producing certain mining products such as copper, bauxite, iron, lead, zinc and tin has in one way or another made it possible to exert more influence on the establishment of prices of mining products.

G. The energy sector

1. Main problems facing the energy sector in Latin America

The main problem in the present supply of energy in Latin America seems to be its dependence on petroleum, which the majority of the countries either do not produce or only do so in insufficient quantity for their own needs, and imports of which absorb considerable resources in terms of money. Furthermore, the use of petroleum is causing serious environmental pollution problems in a growing number of cities.

On the other hand, the high cost of carrying commercial energy to the rural sector, coupled with the low income of this sector, has made it very difficult to improve the supply of energy to the rural population, which has remained far behind that of the urban sector. This situation gives rise to considerable socioeconomic problems.

The construction by some countries of nuclear electricity plants as a substitute for petroleum in thermo-electricity generation has meant both technical problems (installation, operation, maintenance of equipment), problems of security in connexion with the supply of nuclear fuels, and environmental problems (elimination of radioactive waste materials).

2. Suggested measures to remedy the problem

The negative effects of petroleum consumption could be reduced by:

(a) Exploring new local oil resources, since geological conditions in the region suggest that there are still important undiscovered reservoirs; and at the same time stepping up the rational development of existing reservoirs. However, the success of these measures would mitigate the problem of petroleum imports but not that of environmental pollution;

(b) Exploring other local sources of clean renewable resources such as hydroelectric resources and non-conventional sources of energy, such as solar, wind, geothermic, alcohol, organic waste, etc. There is at present considerable activity in the utilization of hydroelectric resources as a substitute for petroleum in thermal energy generation, but there seems to be little research on non-conventional sources;

/(c) Orienting

(c) Orienting consumption, by means of planning and rational price policies, towards the sources indicated in (b) above. Thus, for example, consumption of gasoline and diesel oil for motor cars and lorries could be discouraged by the development of suitable passenger and freight transport systems based on electric energy (trolley-buses and metropolitan and inter-urban trains), accompanied by increases in the price of those fuels;

(d) The considerable dispersion of the rural population and its low economic level are factors which impede any type of solution. It would appear, therefore, that if more rapid progress is desired in this sector it will be necessary to deal directly with these basic factors. At present the governments are placing more emphasis than before on the use of strictly economic criteria in solving this problem, and on the possibility of introducing non-conventional sources to cover energy requirements in this field;

(e) The problems introduced with the growing use of nuclear technology may be dealt with in the following stages:

(i) Establishing close links with countries which have already succeeded in developing suitable technology, with a view to becoming acquainted with each of its complex phases.

(ii) After this foreign technology has been absorbed, disseminating information about it at the level of specialized national and regional centres so that they may analyse it and, in the case of some specific problems, seek solutions according to local conditions.

3. Progress made in the sector in recent years

(a) In Latin America, there has been a considerable measure of success in prospecting for oil resources (in Mexico, Peru, Ecuador, Bolivia, and, on a lesser scale, Chile and Argentina). Generally speaking, hydroelectric resources are being developed intensively in all those countries of the region which are rich in them. The existing programmes suggest that they will be in full use in the first or second decade of the next century. The following are some examples of the successful results achieved:

/(i) Demand

(i) Demand for energy in its various forms has grown rapidly in Latin America in the post-war period and the energy industry has responded most satisfactorily to this growth. This was achieved simultaneously with the transfer of a major proportion of the ownership of the energy industry to the public sector;

(ii) The rapid development of this industry has been possible because it has well-trained personnel which has been able to absorb without much difficulty the complex technologies used in the processes of energy generation, transmission and distribution or in oil exploration, transport and refining. This has facilitated many of the successful oil exploration and development activities mentioned above, as well as the progress achieved, for example in the hydroelectric systems of Brazil, Chile, Uruguay, Paraguay, Colombia, etc., and their transmission plants.

(b) In the 1960s, Latin America became concerned about carrying electricity to the countryside. Some progress has been made in a number of countries but, for the reasons explained above, it is still far from satisfactory;

(c) Nuclear energy was introduced in the region by Argentina in 1974, when it was used to operate the Atucha plant which has worked without any problems up to now. Other countries which have important programmes for nuclear plants are Brazil and Mexico, which will shortly be putting them into operation. This is undoubtedly an important technological achievement for these countries. In what remains of the present century it is probable that other countries such as Chile, Cuba, Uruguay, Venezuela and Peru will join the group.

H. The water sector

1. Main problems facing the water sector in Latin America

Latin America, the region best endowed with water in the world, is generally facing problems which could be described as "shortage amidst plenty". Human settlements were originally established, as is natural, near to adequate water supplies, but now with the concentrated growth of the population and productive activities in the big cities and industrial

/centres, the

centres, the traditional sources of water have become inadequate and it is becoming necessary to make relatively onerous investment to satisfy the new needs. In turn, the same concentration of activities which is transforming the countryside has made the centres vulnerable to the great rains and the ensuing floods.

Finally, the metabolism of the cities, with its complex biological-industrial activity, is producing increasing volumes of waste which can no longer be emptied into the neighbouring rivers because the size of the pollution problem they represent.

In addition to the above, mention should be made also of the traditional problems, which Latin American water engineers and professionals in related fields have been dealing with soundly, but which are acquiring awesome dimensions. This is a reference to environmental health, which depends on an ample supply of clean water. Despite the great progress made by the region in this field, thanks to the work of the ministries of health and the effective collaboration of specialized United Nations agencies, Latin America still has 130 million inhabitants who do not have easy access to drinking water, 40 million of whom live in urban areas. Thus the incidence of gastroenteritic diseases continues to be distressingly high. Many of these unsanitary situations, connected with the sewage systems, have become so great that several countries are forced to put off solving them until their economic position is brighter.

Floods in various parts of the region are another traditional problem. In several countries the population pressure which leads to the occupation of vulnerable land gives rise to increasing losses, and even tragedies during the rainy seasons.

On the other hand the potentialities still offered by this resource are very great. Latin America is rich in potential hydroelectric resources, of which only around 8% have so far been used. The infrastructure of electricity enterprises, with their trained personnel and the bright prospects of the new world energy systems are auspicious factors for the utilization of this vast resource.

/Of the

Of the cultivated land in Latin America, which amounts to around 100 million hectares, 10% is under irrigation, although 25% requires it in varying degree and water actually exists for the purpose.

In the rainy tropics there are some 600 million hectares of land liable to flooding, 50 million hectares of which is of good quality and is used for some kind of crop.

2. Suggested measures to remedy the problem

To a greater or lesser extent, all the countries of the region are engaged in planning, and the majority believe that there is considerable room for improvement in the systems of co-ordination and planning of this sector, and in their relationship with overall planning.

An immediate sequel to this attitude is the reorganization of the institutional system with the introduction of new legal instruments, and a radical pruning of the top-heavy administrative apparatus.

For plans and systems to materialize it is, of course, essential to have the necessary financing. Considering that investment in water projects represents an average of 4 to 5% of the countries' gross annual investment, it is clearly an important item in the national budgets. It is estimated that investment in water projects throughout the region in the 1970s triples the figure for the 1960s, which was 7,700 million dollars. Fortunately, there is an increasingly widespread tendency to give the respective services more financial autonomy through the collection of remunerative rates. This trend has the support of international financing agencies and, consequently, a bigger flow of funds is expected from these sources, which would exceed 6 billion dollars if their contribution in relation to the total were similar to that of the 1960s.

Professional training and the use of new technologies are of crucial importance in all this. Generally speaking, the upper technical cadres seem to possess the essential knowledge, but the incentives to these professionals are very uneven. It would seem necessary to devise a policy designed to retain the best of them and to create the proper

/conditions for

conditions for the training and recruitment of new personnel as consistent with future activities. Among the intermediate technical cadres the situation is more difficult, since the need for qualified personnel is proportionately greater. The other sector that should be induced to employ more efficient technologies is perhaps the most neglected of all, i.e., the users. Their education by direct demonstration methods and by the use of incentives in the form of rates and taxes is indispensable in order to improve the general efficiency of the larger and more complex projects of the future.

Technology holds out so many future possibilities that there is no room to summarize them here. Moreover, considerable literature has been published on the subject.

3. Progress made in the sector in recent years

The United Nations Water Conference (Mar del Plata, March 1977), adopted an Action Plan which is progressively being implemented.

The regional meeting on the Action Plan (Santiago, October 1978) adopted resolutions which give 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.

In the context of horizontal co-operation the possibilities of exchange of experience with other regions, would seem very relevant.

Horizontal co-operation already exists to some extent in Latin America. Examples of this are the advisory services which the National Electricity Enterprise of Chile (ENDESA) has been furnishing to Ecuador for some years, technical co-operation from Venezuela to Peru in global water planning, the joint development of hydroelectric resources by Argentina and Uruguay, Argentina and Paraguay, and Brazil and Paraguay, the work of the Intergovernmental Co-ordinating Committee of the River Plate Basin, the Central American Regional Committee for Water Resources, etc.

I. The statistical sector

1. Main problems facing the statistical sector in Latin America

The development of statistics is part of the socio-economic development of the countries, and in particular is an aspect of the institutional and organizational development of the socio-economic processes and the apparatus of the State. From this viewpoint, the development of statistics generally lags behind compared with the levels of economic development which have been reached, and with other aspects of institutional development with which it is closely linked. In particular, in almost all the countries there are serious shortcomings in statistical output compared with the requirements for government decision-making for the purpose of guiding development processes which have attained a considerable degree of complexity.

The principal shortcomings of national statistical systems in meeting the growing and increasingly varied demand for information may be summed up as follows:

(a) Insufficient coverage by the statistics produced of the range of problems faced by policy makers; the statistical systems have proved to lack flexibility in properly incorporating new areas of interest;

(b) The same lack of flexibility appears in the conceptual inappropriateness of statistics in some areas (employment, public sector, income, technology, social welfare, environment, and so on) vis-à-vis the requirements for analysis and decision-making;

(c) Inadequate levels of reliability of data, including lack of clarity;

(d) The data are not updated, timely or readily available;

(e) Insufficient analysis of the statistics which are produced.

The reason for these problems may be found in the above-mentioned lag in the development of statistics, and in institutional weaknesses in the statistical systems. In particular, it is reflected in:

(a) Insufficient financial resources, even compared with other equivalent activities of the State apparatus;

/(b) Shortage

(b) Shortage of skilled human resources, which is aggravated by the rapid turnover of senior and middle-level technical personnel attributable both to the uncompetitive levels of remuneration compared with production activities and even with other jobs in the public sector, and, in some cases, to the frequency and extent of political changes;

(c) Organizational deficiencies and managerial inefficiency, which are closely linked to the above, and which usually make it difficult, with the meagre resources available to give a flexible response to information requirements.

2. Progress made in the Sector in recent years

Within the context of the circumstances described above, mention may be made of the following:

(a) Some techniques for the production of statistics have become more sophisticated (for example: introduction of multipurpose household surveys, better techniques in census organization, more extensive use of sampling);

(b) The diversity of statistics has increased, though not always accompanied by minimum levels of reliability, nor by a rationalization of resources;

(c) The interaction between producers and users of statistics has increased somewhat;

(d) Electronic data processing has been introduced rapidly - though with some exceptions, which are all the more striking for that reason; nevertheless, emphasis has been placed on the acquisition of equipment, and there is still an alarming shortage of skills in systems analysis and programming, with inefficient use of the available equipment and software.

It may be concluded that the development of statistics has continued in the past decade, though in an unbalanced, muddled and irregular way.

In the past decade some countries have achieved notable progress in their statistical organization and in standards of data production, though none of them have completely overcome the obstacles described above.

/Mention should

Mention should be made in this respect of Brazil, Venezuela and Panama. Other countries which had already made significant progress in the previous decade have a nominally well organized statistical system, but some of the problems set out above still pose serious problems in some aspects of operations; this is the case in Argentina, Colombia, Costa Rica, Chile and Jamaica. Another group of countries have recently embarked on a thorough reorganization of their statistical systems, in pursuit of a rapid improvement in their output of statistics; mention may be made of Bolivia, Ecuador and Peru. Most of the remaining countries of the region are still in a situation where they have not consolidated their statistical capabilities, which in some cases are absolutely embryonic.

3. Areas of possible co-operation between India and Latin American countries in the field of statistics

(a) Design of samples, especially Indian experience with interpenetrating subsamples;

(b) Multipurpose household surveys; particularly investigation problems in rural areas;

(c) Surveys of agricultural output.

J. The social development sector

1. Main contradiction of Latin American development: 1/

The growth which has occurred in the economic variables has not given rise to equivalent major qualitative changes in welfare and social justice. This is shown by the persistence of such serious problems as mass poverty, the inability of the system of production to provide employment for the growing labour force and the lack of economic and social participation of broad strata of the population.

2. More specific contradictions of social development in Latin America

(a) A very high concentration of ownership of assets and distribution of income in favour of the upper and middle-upper strata of society. This unfair distribution of income leads to two extremes of consumption: luxury and sophisticated at the top and medium-level strata of society, and sub-consumption and mass poverty at the bottom.

The comparative data for the 1960s and 1970s suggest that two different patterns have appeared within the overall persistence of extremely uneven income distribution:

(i) In almost all countries the 5% of the population with the highest incomes have gained far more than the rest in per capita terms. Furthermore, in some countries (particularly Brazil) their share of national income have increased notably. In a larger number of countries (particularly Mexico), their share has dropped to some extent;

(ii) In the first group of countries, the groups representing the 15% of the population immediately below the 5% with the highest income has maintained their relative share and have gained appreciably in absolute terms. In the second group, they have gained markedly in relative terms at the expense of the top 5% and to a certain extent also from the poorer groups, and their salaries appear to be more important than in the former group, in comparison with profits, as a source of income in the top two deciles;

(iii) In the first group of countries, the groups nearest to the medium - i.e., the lower and middle occupational strata and some manual

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1/ Excluding Cuba.

/workers in

workers in the secondary and tertiary sectors - have lost more in relative terms than any other group on the income ladder although the overall rises in income levels may have been big enough to enable the majority to maintain their absolute incomes. In the second group, these income groups maintained or improved their relative position and naturally have gained in absolute terms, although much less than the top groups;

(iv) In both patterns of distribution, most of the groups below the median have lost ground, relatively speaking. In the first group of countries these losses have been less pronounced than those of the groups immediately above them. In the second group, their losses contrast markedly with the gains of the upper groups. In both patterns the absolute income levels of the poorest groups have remained practically constant, while their share of total income have dropped sharply.

(b) This concentrative style of development is accompanied by a sharp rise in social differentiation. This may be seen in the demographic trends and the spatial distribution of the population, in the employment structure and wages and salaries, in the segmentation of labour markets, in occupational stratification and mobility, in educational opportunity and in the economic value of education, in levels of consumption and in the possibilities existing in urban and rural life, as well as in the contrast between the real participation of the managing élite of the economy, society and the State in comparison with the limited effective participation of the majority of the population. The gap is increasing between the broad base of the social pyramid and its narrow apex.

3. Situation by sectors

(a) Growth of the urban middle sectors. The factors underlying the considerable growth of these sectors which can be highlighted are: rapid urbanization with increasing metropolization; great expansion of education in the middle and upper sectors; increasing bureaucratization of public and private activity; large growth of professional services, and particularly welfare and education services; the specialization, technification and greater complexity of many economic activities and of the State; and the predominance of middle class cultural patterns. These have all contributed to a considerable extent to opening up new and better opportunities for members of

/these classes,

these classes, with many possible repercussions on the social structure and the development process.

(b) Rural social development trends. Income differences between urban and rural areas are large and have remained constant or even increased despite the emigration from the countryside to the towns in the countries of the region. The distribution of rural income worsened not only in relation to urban trends but also in itself.

In the rural areas there is a process of increasing concentration of commercial production through the adoption of new production methods; the ability of medium- and large-scale enterprises to respond to the growth of commercial demand, and their organized lobbying power as regards the State, together with the fact that they are effectively favoured by the credit, marketing, irrigation, etc., policies and programmes which were designed to favour small producers.

Linked to these large enterprises is a growing sector of intermediate groups of administrators, professionals and technicians serving the modern sector who benefit from the modalities of distribution of the benefits for rural development within the sector.

The highest growth occurs in the groups characterized by continued low incomes, underemployment and increasing hidden and even open unemployment. With regard to employment and relations of production, the small land-holder is becoming relatively impoverished and declining in importance. There is a limited process of agriculture proletarianization, because the supply of labour is growing more rapidly than the demand generated by the growth of the modern agricultural business sector, which in addition depends more on mechanization of agricultural work than on labour. Consequently, landless workers and small land-holders with plots of land too small to support a family adopt a wide range of survival strategies.

(c) Demographic situation. From the standpoint of its demographic situation, Latin America is in a midway position between the more developed regions and the less developed regions. Population growth trends show that the growth rate of the total population reached a peak in the mid-1960s and is beginning to drop slowly.

/There are

There are two main consequences of these demographic trends: The first is the growth of the labour force. The population growth rates of past decades and the age structure of the population mean that the population of active age will grow at an annual rate of about 2.9% until the year 2000, thus rising from around 170 million in 1975 to over 345 million at the end of the century. The second consequence of these trends is that all the countries of the region will become urban within about 20 years. This process of urbanization will continue rapidly in the region, leading to urban and metropolitan concentration and a scattered rural population.

(d) Employment and changes in the labour force. Urban growth has led to a sectoral redistribution of employment. Changes in the occupational structure are closely linked to the problem of employment and poverty:

(i) Growth of open unemployment during the 1970s;

(ii) About 27% of the total labour force is underemployed, 20% openly unemployed and 80% underemployed in different ways;

(iii) About 60% of unemployment and underemployment, and particularly the latter, in Latin America, is in urban zones;

(iv) Drop in the relative share of labour employed in agriculture. Growth of the services, trade and construction sectors. The size of the modern sector is too small to absorb more than a small part of the enormous growth of the urban labour force;

(v) The increasingly unfair income distribution and the decline in real salaries means that at the beginning of the present decade more than half the labour force of the region was below a reasonable income line;

(vi) The informal sector, where poverty and underemployment are closely linked, accounts for approximately 35% of the urban labour force in 11 Latin American countries for which data are available;

(vii) Personal services and commerce have the highest concentration of persons receiving less than the legal minimum wage, although this is a major problem in all branches of non-agricultural economic activity. Employed persons earning less than the minimum wage are also found in the various occupational categories, but relatively the most important group is own-account workers. The principal personal characteristics of low wage earners also include low levels of education, the young or aged, and women.

/(e) Education

(e) Education

(i) Expansion of the coverage of primary education, which has doubled in absolute terms since 1960, which largely explains the drop in illiteracy in the decade 1960-1970, especially in the younger sectors. However, while enrolment in primary education doubled in that period, in secondary education it rose five-fold and in higher education more than six-fold;

(ii) This growth trend in higher and particularly university education shows clear signs of acceleration in recent years with the following characteristics: (a) a large rise in the number of institutions and new long-term, but more especially intermediate, courses; (b) a stratified segmentation of higher education in a multiplicity of institutions providing different types and qualities of education, in response to different economic demands and social needs. Thus the structure of higher education has taken the form of a pyramid, with a clear tendency to a growing gap between the base and apex, where the importance of post-graduate studies is enormous. All this is clearly in line with other effects of concentration and exclusiveness of the prevailing styles of development in most of the region, which can be seen, for example, in the occupational structure and distribution of income; (c) the growth of the last five years (1970-1975) is largely explained by the trend towards greater female participation in enrolment as women move increasingly into professions which were previously the preserve of men.

(f) Women 1/

The living conditions of women in the region are not a problem affecting women alone but rather problems of the entire society. They should therefore be studied in the framework of the global process of development and social change in the region. While it may be said that the situation of women in the

1/ An analysis by sectors of the status of women can be found in the Regional Plan of Action (RPA) and in the document "The position of women in Latin America in relation to the implementation of the Regional Plan of Action" (E/CEPAL/CRM/R.1/2), 1979.

/region has

region has improved steadily, it varies enormously according to the socioeconomic stratum to which they belong. This also affects their modes of pariticpation in economic, political, social and cultural life, as well as the source and manifestations of discrimination to which they are subject. These differences should be borne in mind when adopting measures aimed at guaranteeing the equality of men and women and promoting the economic and social development of the countries. Since the worst situations are those of women belonging to the poor groups, primarily in rural areas, these must be given priority in the development strategies to be designed and particularly in the action aimed at lessening the burden of domestic chores and the conditions of housing, infrastructure services, health, employment, education and other social aspects. Special attention should be paid to ensuring that greater recognition is given to the contribution of women to society and to improving their social image, currently distorted by the mass communication media and the prevailing cultural patterns.

Since almost all adult women in the region are responsible for and carry out domestic chores and a considerable percentage of the women of the poorer strata are heads of household, this link with family units should be borne in mind in terms both of its consequences on the situation of women and also of its repercussions on children, i.e., the future population. Consequently, special attention should be paid to improving the living conditions of family units which, besides alleviating the burden of women's work and opening up new possibilities of social participation for women, would make it possible to improve the quality of life of the population.

4. Some achievements and limitations

These demographic and societal trends give rise to two apparently contradictory but complicated interrelated consequences for the standards of living and public services which affect them.

In the first place, while consumption has become diversified in most cases and in most of the social strata, there are no general indications that the two essential components of the standard of living, food and housing, have improved appreciably for the low-income majority. In these two spheres

/of consumption

of consumption the role of public services and social security, while becoming increasingly important, continues to be subordinated to reciprocal action among family incomes, family decisions on spending patterns, the influence on such decisions of the information media and the capacity of the economies to supply such goods at prices which are withih their reach. As regards food and housing, the low level of effective demand caused by inadequate incomes, inefficient systems of production and distribution, some well-known consequences of rapid urbanization, some equally well-known effects of modernization depending on consumption patterns, and hesitant or self-defeating government policies has led to a continuing or possibly even a worsening of a chronically unsatisfactory situation.

Secondly, the variety and coverage of the social services financed by the public sector has increased enormously. The distribution of such services continues to be very uneven and corresponds roughly to the differences among the various kinds of national situations, among the regions within a country, between urban and rural settlements, and among occupational and income groups; but this growth has had a major impact in almost all countries, regions and groups. The lines of growth have depended more on the relative force of the pressures brought to bear within society and on the availability of external aid for this or that purpose than on coherent views about the place of social services in a development strategy. And the efficiency of most of the services has been limited in relation to the public resources they absorb. However, social services are unquestionably making a real contribution to welfare of the population, improving the quality of life and generating new opportunities as well as new restrictions for the development policy. For the middle class, these services now constitute a very important part of their preferred job market; their values predominate in the fight for the services, and they are in a position to grab a disproportionately large part of the benefits they offer. However, the role played by their members in the services as teachers, social workers or public health officials, brings them up against the negative side-effects of the prevailing development styles, although in an ambivalent

/manner and

manner and encourages them to seek alternative solutions which would not be the case if they were earning their living in private-sector activities. At the same time the limits of poverty change when the least privileged strata begin to have access to school and health services and perceive that the State has assumed some responsibility for protecting them, even though the prevailing social relations tend to distort their perception of this, leading to a dependent relationship and unrealistic views of the State's capacity and intentions.

The growth of the social services has been headed by education both in terms of the proportion of resources it absorbs and in the importance and complexity of its effects in the societies. The growth of health services has also been important in almost all the countries, as is shown by the general decline in infant mortality and the rise in life expectancy at birth, in the absence of improved consumption of food and housing on a scale which could influence those rates. Social security coverage has been extended, although in most countries the rural population and the marginal urban strata are in fact still excluded from it, whether legally covered or not, and there continue to be great differences in the benefits received by the different occupational strata.

II. CAPACITIES AND NEEDS FOR TCDC IN COUNTRIES OF LATIN AMERICA 1/

1/ The national reports attached hereto have been prepared by the governments themselves in response to General Assembly resolution 31/179 of 21 December 1976 and compiled by UNDP as document A/CONF.79/NR.1 and addendums 1 to 4 for submission to the United Nations Conference on Technical Co-operation among Developing Countries (Buenos Aires, 30 August-12 September 1978).

ARGENTINA

A. ARGENTINA'S EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Development of a country's scientific and technological potential is a prerequisite for overall growth, and technical co-operation is one of the appropriate tools for achieving it.

Consequently, the Argentine Republic has a long tradition and broad and fruitful experience of co-operation, both bilateral and multilateral.

Bilateral action at the official level has taken the form of programmes developed under the terms of conventions. These conventions have covered both specific subjects or areas and matters of a more general nature but conceptually conducive to national, regional and subregional development.

This type of co-operation has also taken place in the private sector, particularly through national consultant services. There can be no doubt that a study of the technical, economic, financial and legal soundness of any proposed project is a prerequisite and a necessary phase in every country's efforts to set up its own infrastructure. Accordingly, Argentine consultants have participated in an increasingly active and efficient manner in many large-scale projects.

The characteristics of bilateral co-operation activities have been as follows:

(a) They have been carried out both inside and outside the country and the methods adopted have been geared to the desired objectives;

(b) They have covered the following areas: granting of fellowships, exchange of experts and information, technical advice, supply of equipment and consultant services;

(c) They have been carried out mainly with neighbouring countries of the Latin American region. More recently, co-operation with countries in other geographical regions, at both the governmental and the private levels, has been intensified;

/(d) In

(d) In the case of private activities, priority has tended to be given to the implementation of engineering projects. At the official level, on the other hand, activities have covered a wide range of educational, social, economic, industrial and other matters;

(c) The cost of financing programmes under co-operation conventions has generally been borne by the parties involved in accordance with the customary arrangements. For example, in the case of an exchange of experts, the country of origin has defrayed travel expenses and the host country has defrayed subsistence costs.

In the field of multilateral relations, Argentina has participated and continues to participate in regional and subregional programmes with other countries.

Activities stemming from this type of co-operation have had the following characteristics:

(a) Projects have been implemented in each of the countries involved, according to the areas of competence laid down in the relevant programme, and management arrangements have varied according to the particular case;

(b) Activities have been carried out mostly with countries of the Latin American region;

(c) A number of countries have participated, in some cases with the involment of international organizations and institutions (OAS, UNDP, WHO, FAO, UNESCO, etc.);

(d) They have covered the same areas of co-operation as bilateral activities;

(e) They have covered a wide range of educational, social, industrial, economic and other matters;

(f) They have been financed by contributions from each of the countries involved and, in some cases, with contributions from international sources such as funds, specialized agencies and credit institutions.

Such are the general characteristics of this type of co-operation; quantitatively, the following indications may be given:

(a) Cultural, scientific and technological co-operation agreements signed with the Governments of various developing countries:

/Area

Area	Africa	America	Asia and Pacific	Europe	Total
General	6	16	4	11	37
Agriculture and livestock production	3	6	-	2	11
Nuclear energy	-	7	2	2	11
Educational technology	1	5	2	2	10
Natural resources	1	4	-	2	7
Telecommunications	1	3	-	1	5
Other	2	5	1	3	11
TOTAL	14	46	9	23	92

(b) Activities carried out by Argentine consultants during the past three years with developing countries:

Area	Africa	America	Asia	Total
Agriculture and livestock production	5	8	2	15
Industry	3	7	2	12
Roads	4	7	1	12
Water resources	2	6	-	8
Civil engineering	1	5	-	6
Transport	1	4	-	5
Environmental hygiene	1	3	1	5
Health	2	-	1	3
Other	6	11	3	20
TOTAL	25	51	10	86

(c) Interagency technical co-operation in the form of technical assistance carried out during the past three years with developing countries:

/Area

Area	Agency	Africa	America	Asia	Europe	Total
Agriculture and livestock production	INTA	3	12	2	1	18
Nuclear energy	CNEA	-	5	2	1	8
Water resources	INCYTH	-	6	-	2	8
Telecommunications	ENTEL	1	5	-	-	6
Petroleum and gas	YPF	2	3	-	1	6
Industry	INTI	1	3	-	1	5
Other	Various	4	18	5	6	33
TOTAL		11	52	9	12	84

(d) Official technical co-operation involving the exchange of experts carried out during the last two years with developing countries:

Area	Africa	America	Asia	Europe	Total
Science and technology	15	59	8	22	104
Agriculture and livestock production	12	42	9	15	78
Health	10	31	9	17	67
Industry	5	39	6	11	61
Education	5	20	5	10	40
Administration	2	16	3	7	28
Other	8	40	8	29	85
TOTAL	57	247	48	111	463

Argentina's experience of technical co-operation clearly shows that success is assured when the co-operation is directed towards problems that take account of real needs and when it is formulated on an equitable basis. Of course, there must be proper planning and budgetary provision so that projects can actually be carried out, when the time comes, without delay.

There has been a gradual growth in consultant services; this has coincided with an increasing awareness of the advantages of the use of such services among developing countries.

/Another very

Another very important point is the co-operation that can be established, on the basis of experience acquired by the relatively more developed countries, in the selection, purchase and adaptation of technology and in the development of indigenous technologies.

The Argentine Republic regards international co-operation as an extension of national efforts, as a means of gaining access to what it needs to complement its own resources and as a means of contributing its own capacities under a mutual support plan.

The adoption of a continuing policy of technical co-operation among developing countries that will enable them to make systematic use of each other's capacities will be a decisive factor in the overall advancement of their peoples.

B. CAPACITIES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

The Argentine Republic has a potential capacity to participate in technical co-operation among developing countries in the following subsectors:

Agriculture and livestock production, forestry and fisheries

0510 Agricultural and livestock policy and planning
0520 Agricultural production
0530 Animal production and health
0560 Land and water use
0570 Agricultural institutions, services and rural training

Culture and social and human sciences

1050 Libraries and documentation

Health

2540 Communicable disease prevention and control
2550 Non-communicable disease prevention and control

Industry

3510 Industry planning, policy and programming
3520 Manufacturing industries
3530 Handicrafts
3560 Industry training

/Labour, management

Labour, management and employment

4540 Management training and development

4550 Clerical, commercial and service training

Natural resources

5020 Energy resources development

5030 Mineral resources development

5040 Water resources development

5050 Multipurpose development

5060 Cartography

Science and technology

6510 Science and technology policy planning and co-ordination

6520 Life sciences

6530 Physical sciences

Environment

8520 Meteorology

The degree of participation hoped for from co-operation in the above-mentioned subsectors will depend, in large measure, on the differences in the potential of each of the countries concerned.

Among the special capacities developed by Argentina, mention may be made of those it has acquired in the peaceful use of nuclear energy, through the National Atomic Energy Commission (CNEA); in applied research on the development of water resources and in the training of personnel in disciplines relating to water supply, through the National Institute of Water Sciences and Technology (INCYTH); in applied research for industry, through the National Institute of Industrial Technology (INTI), and for agriculture, through the National Institute of Agricultural and Livestock Technology (INTA); in the implementation of engineering infrastructure projects, through the various national firms of consultants; in the planning and budgeting of scientific and technological activities, through the specialized bodies; in the operation of telephone systems, advisory services and training of specialized personnel, through the Empresa Nacional de Telecomunicaciones /(ENTEL); in

(ENTEL); in exploration, prospecting and drilling for petroleum, through Yacimientos Petrolíferos Fiscales (YPF); and in the training of human resources at various levels, through the country's universities and specialized institutions.

C. NEEDS FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

The Argentine Republic is interested in receiving technical co-operation from those countries that are well advanced in the following subsectors:

Agriculture and livestock production, forestry and fisheries

0540 Fisheries

0560 Land and water use

Culture and social and human sciences

1030 Cultural heritage

1050 Libraries and documentation

Industry

3520 Manufacturing industries

3530 Service industries

International trade and tourism

4020 Trade in commodities

4040 Tourism

Natural resources

5020 Energy resources development

5030 Mineral resources development

Science and technology

6520 Life sciences

6530 Physical sciences

6540 General multipurpose computer technology

/Transport and

Transport and communications

7520 Transport by land

Human settlements

8060 Building materials and support for the construction industry

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Bilateral activities under an intergovernmental convention are programmed through a Joint Commission consisting of representatives of both signatory countries, and their implementation is followed up through the appropriate bodies and/or individuals in each country.

However, it should be noted that many activities have been carried out directly through interagency and/or intergroup (scientific and business) relationships.

Multilateral activities have been followed up mainly under the terms of conventions, agreements or institutional arrangements. Some have been implemented between countries, and others with the participation of international organizations and agencies (OAS, UNDP, WHO, FAO, UNESCO, etc.).

The Ministry of Planning is responsible for co-ordinating international technical co-operation. It does so in close collaboration with the Ministry of Foreign Affairs and Warship and with the specialized governmental bodies.

E. CO-ORDINATION OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES AT THE INTERNATIONAL LEVEL

Technical co-operation among developing countries being a new dimension of traditional co-operation and a complement to, rather than a substitute for, such co-operation, it is desirable that international bodies, such as those of the United Nations development system, and regional, interregional, subregional and world-wide agencies (including funds of any kind which are intended for the financing of technical co-operation) should participate in it.

/In order

In order to allow the necessary local capacities to develop and to be transferred to countries at the same level of development, it will be desirable to amend the statutes, rules and procedures of multilateral bodies so that they may help rather than hinder this process.

For these reasons, such multilateral bodies will have to promote and act as catalysts for this new dimension of international technical co-operation, the countries themselves being the main forgers of their own destiny.

BARBADOS

Experience of technical co-operation among developing countries

Since its attainment of independence twelve years ago Barbados has been participating in a number of development assistance type activities which involved technical co-operation with other developing countries. Its experience in this regard has been limited largely to the English-speaking Caribbean countries. These activities have taken place mainly outside of Barbados and under the umbrella of the Commonwealth Caribbean Technical Assistance Programme - a programme of technical co-operation which was established among member countries of the Caribbean Community (CARICOM) in November 1970. Under this arrangement all participating countries are required to bear some costs in accordance with the Memorandum of Understanding which sets out the responsibilities of both the donor and recipient countries. Barbados, as the donor country in the majority of cases, has been financing the greater portion of the costs of professionals which it has made available to other countries.

The Government of Barbados has so far over the life of this programme provided the services of over twenty-five professionals to assist the lesser developed countries. These have included agricultural technicians, health personnel, coaches, organization, management and training, food promotion, air traffic personnel, legal personnel and other types of technicians.

The Government of Barbados has also provided attachments to nationals from the lesser developed countries in various departments of the public service.

Possibilities for other technical assistance exchange programmes also exist for Barbados under the following schemes:

(a) Commonwealth Fund for Technical Co-operation

This Fund was formally established in April 1971 and Barbados became a signatory to the Agreement in February 1972. Since its inception Barbados has received valuable assistance in the form of fellowships for training purposes, manpower, seminars and equipment. The experts provided under this scheme have all been drawn from other developing countries.

/(b) United

(b) United Nations Development Programme

A number of projects involving technical co-operation with other developing countries have also been carried out within the framework of the UNDP programme. Some of the activities so far have been the provision of training attachments and loan of expertise. These activities were mainly in co-operation with neighbouring countries and the financing was done by the UNDP or the particular specialized agency responsible for executing the programme.

(c) Organization of American States

The Organization of American States is granting assistance in the execution of a sugar cane by-products project in Barbados involving TCDC. The participating countries in this regard are Guatemala, Haiti, Jamaica, Mexico, Dominican Republic, Trinidad and Tobago and Barbados.

(d) Inter-American Development Bank's Intra-Regional Technical Co-operation

This scheme was institutionalized in 1976 by the Inter-American Development Bank in recognition of the volume of technical co-operation requirements by the Latin American countries and of the valuable experience of many of these countries in different areas of economic and social activity, as well as the important results which have already been achieved through intra-regional co-operation. Barbados signed the agreement in January 1977 and is in the process of formulating projects.

(e) Bilateral arrangements

Barbados has, in addition, signed cultural agreements and engaged in TCDC activities with various developing countries.

1. Cultural agreements. A cultural agreement has been signed with Venezuela which allows for the development of closer cultural and educational co-operation between the two countries. A similar agreement with Nigeria is in the process of negotiation.

2. Other fields in which Barbados has received technical assistance from developing countries are consultancy in pest matter (Israel), advisory services in insurance matters (India).

Barbados has also availed itself of a large number of fellowships offered for studies in developing countries. For example, under the Indian Technical Co-operation Programme training has been received in the fields of

/standardization and

standardization and insurance. Training fellowships have also been received from Venezuela, Brazil and Mexico.

Barbados recognizes that technical co-operation among developing countries provides an opportunity for mutual exchange of knowledge and experiencies among the participating countries particularly in view of the fact that these countries themselves face similar problems and handicaps at one stage or another in their process of development, and therefore has the capacity to contribute in a very positive way to development efforts of the countries.

Capacities for technical co-operation among developing countries

To the extent that its resources permit and the capacity to deliver the assistance at a particular point in time exists, Barbados could offer technical co-operation in the following sectors:

(a)	Agriculture:	a research capability exists in yam processing and sugar cane by-products
(b)	Education:	teacher training
(c)	Labour, management and employment:	consultancy work on all business problems including small businesses provided by the Barbados Institute of Management and Productivity
(d)	Environment:	advanced training in meteorology leading to a degree programme
(e)	Natural Resources:	expertise and experience in Water Resources Development.

Needs for technical co-operation among developing countries

Like other developing countries, Barbados considers TCDC a useful activity and its needs in this regard cover a wide range. The main areas identified are as follows:

- Natural Resources: solar energy development and utilization; energy conservation; survey of wind energy and installations; survey of bio-gas production from agricultural and other wastes.

/- Agriculture

- Agriculture and agro-industry: processing of agricultural products particularly with a view to reducing imports; irrigation; livestock production and animal nutrition; production of single cell protein from molasses; information on the level of technology and the availability compatible with small scale production processes in Barbados; development of fisheries, including methods of processing and development of inland fish farms; intensification of research and development and uses of sugar cane products.
- Housing: low income housing including general investigation on new building materials, including planning and layout.
- Trade: promotion and development of exports and marketing of agricultural and industrial products.
- Industry: development of handicrafts; development of industries encouraging and developing the use of local raw materials.
- Culture: cultural exchange promotion.

Procedures for technical co-operation among developing countries

As a general rule a basic agreement or Memorandum of Understanding setting out the responsibilities of both governments or parties and giving general guidelines (terms and conditions) for the operation of the programme is worked out between Barbados and other countries with which technical co-operation is desired. Basic agreements are also entered into between Barbados and other technical assistance agencies, for example, the Organization of American States (OAS) or the Commonwealth Fund for Technical Co-operation (CFTC). In a few cases, where no agreement exists, the procedures are worked out on a case by case basis.

The focal point for all technical co-operation matters is the Planning Division of the Ministry of Finance and Planning which has the overall co-ordination responsibility for all technical and financial co-operation matters.

It is considered that for the effective co-ordination of technical co-operation activities a central agency or liaison office should exist in each country with full responsibility for all technical co-operation matters, both bilateral and multilateral.

/There is

There is a definite need for the overall co-ordination of activities of technical co-operation among developing countries.

For this co-ordination to be realized, UNDP appears to be the most suitable organization to assume the role of global co-ordination since the experience and other resources required in performing such a task would be of a similar nature to those provided by this agency. The establishment of new machinery in the form of a new international or regional body is not recommended since this could prove duplicatory. However, greater use of existing regional organizations is also recommended. These should be strengthened with the capacity to carry out specific studies on the potential and requirements for technical co-operation among developing countries.

The UNDP need not however be the only international organization to carry out this role of co-ordinator for the activities of technical co-operation among developing countries. Other international organizations such as the CFTC and the OAS could also play an instrumental part.

/BRAZIL

BRAZIL

INTRODUCTION

Characterization

Technical Co-operation among Developing Countries - TCDC - is part of the general area of international co-operation for development, proceeding from and converging to it. As a new and promising factor in scientific and technical co-operation relations amongst developing countries, TCDC is not meant to substitute for the traditional co-operation programmes, whether they are bilateral or multilateral, but constitutes an additional element.

Important resources which are available in developing countries have not been properly incorporated into the international development process. These resources, if directed as per the proper channels, would result in great benefits for the developing regions as a whole.

Aware of this fact, the developing countries prepare themselves for a more active participation through self-assistance and mutual co-operation. The benefits are of a double nature: on the one part, they would, as stressed above, serve to appropriately utilize the existing capacity, and, on the other part, they would cotribute to modify the traditional structures of economic and technological dependency.

Nature and objectives

TCDC, however, should not be seen as a new version of the current bilateral and/or multilateral co-operation programmes, nor as an end in itself. It is rather a mean that is at the disposal of the developing countries so that they can attain their national objectives.

TCDC should contribute to increase the number of possibilities for technological co-operation, allow for the implementation of projects in a more agile and flexible way, more in line with the needs and characteristics of the countries concerned, as well as expand the flux of human, financial, economic and technological resources amongst developing countries.

/These activities

These activities cannot be restricted to intergovernmental co-operation, the so-called "co-operation in concessional terms". They should include all possible forms of exchange or transfer of knowledge, starting from collaboration amongst universities to technical commercial assistance. The only essential factor should be the transfer of knowledge.

Technical co-operation amongst developing countries cannot and shall not be a form of medium- or long-term investment with the only objective of promoting consultant services, goods and equipment, apart from know-how. Actions of this nature fail to meet the essential objectives of technical co-operation and tend to maintain the traditional relations of technological dependency, without taking into account the economic, cultural, social and even climatic conditions of the developing countries, and do not provide, the necessary "in situ" conditions for the creation and local improvement of technology.

It would be even less acceptable to agree to the use of multilateral mechanisms to maintain the traditional relations of technological dependency. Numerous surveys, including the one recently carried out by the consultant Odero-Jowi, show that in practice the United Nations System for Development, serves such vertical relationships. In fact, the system utilizes, almost exclusively, goods and services from developed countries.

Experts constitute the only exception, inasmuch as a relatively important share of them is constituted by nationals of developing countries. If a more thorough survey was carried out, it would be concluded that a large part of them are expatriates who maintain only limited ties with their countries of origin.

It is concluded that the system should be transformed into a vehicle for goods and services of developing countries through measures that effectively reduce the virtual monopoly of the developed countries. This is another important aspect of TCDC which should be analysed during the World Conference in Buenos Aires.

/Exchange of

Exchange of knowledge

If TCDC is an activity that basically involves exchange of information and experience amongst countries in a parallel stage of development, then, certain consequences of the relationship donor/recipient countries, as mentioned above, disappear. The parties concerned complement their needs with knowledge (as well as goods and services) in order to attain their respective priority objectives. In this sense, TCDC multiplies communication channels, possibilities for regional integration, improvement of the national capacities, development of own technologies which would be adapted to the individual country's needs and in accordance with the trade cycle that determines the factors involved in the development process.

Participation of international organizations and agencies

Although national development is primarily the task and responsibility of each individual country, the developing countries - where there is lack or insufficiency of financial and human resources for basic investments - should count on the support of international organizations and developed countries in order to fill the existing gaps.

The United Nations System for Development, together with other international entities which are apt and ready to provide technical co-operation, should assume larger responsibilities in the support of TCDC.

UNDP being the central organ of the United Nations System for Development, with its extensive network of offices all over the world and having at its disposal a technical body of approved quality, with a capacity to provide support in the elaboration of projects, experience in financing technology transfers, flexibility in finding and hiring experts, should be the main catalyzing agent in TCDC activities as well as the co-ordinator of the Information Referral System (IRS).

UNDP's functions are not restricted to the responsibilities of other organizations of the United Nations System for Development. They should amongst other measures, allocate more resources within their budgets to TCDC. The same is also applicable to developed countries. The international organizations should be encouraged to finance TCDC from their regular budgets, as this could contribute effectively to the diversification of technical co-operation sources, adding thus to the clearly insufficient budget of UNDP.

/However, none

However, none of these entities, not even UNDP, should be exclusively competent for the stimulation of TCDC, nor should this activity result in the creation of a specific organization, not even at a regional level, for the execution of TCDC programmes and projects. This type of institutionalization has to be avoided, not only to ensure that the sources providing funds for technical co-operation are as diversified as possible, but also to make it clear that TCDC should be considered as a regular and priority activity within the whole United Nations System for Development. Each developing country for its part is the first responsible for its own TCDC programmes. As already pointed out, multilateral support and support from developed countries will complement bilateral technical co-operation programmes.

Participation of developed countries

The first responsibility of the developing countries is a part of their general responsibilities within the international community, within which they act. In this respect, TCDC should be supported directly by the industrialized countries which should stimulate these activities, striving for an increasing participation in TCDC projects through provision of specific financial resources and accepting goods, equipment and services in general from the developing countries within bilateral projects financed by the developed countries.

It is essential to increase the utilization of expert and consultancy services, equipment and other services from developing countries in the projects implemented by developed countries, as well as opening fellowship opportunities, specialization and post-graduation courses, as an important factor for the effective and non-discriminatory transfer of know-how.

The Information Referral System

One of the principal elements for the satisfactory execution of activities related with TCDC is doubtlessly the proper functioning of the Information Referral System (IRS) which is co-ordinated by a special unit established within UNDP.

/The main

The main objective of the IRS is to collect data concerning offers from qualified institutions in developing countries which would be able to provide co-operation, disseminate these offers and facilitate contacts with entities that are interested in receiving co-operation.

The initial result of the IRS was published by UNDP in June 1977: this was the first edition of the catalogue of TCDC services which consists of lists of institutions in developing countries with the respective services they offer.

New editions should follow, and it is hoped that also suppliers of goods and equipment will be included in the IRS.

The IRS will be an important element in opening the United Nations System for Development, to goods and services from developing countries. The criticism of the present systems of selection of the executing and participating agencies is well justified inasmuch as they are too much based on tradition and experience which favours the maintenance of the "status quo", and does not allow for an appropriate introduction of new elements, i.e., inputs from developing countries.

The IRS should be a fundamental element for the selection referred to above and thus should be adopted within the "Rosters" of the agencies.

The Brazilian experience in TCDC

Brazil has developed TCDC programmes well before the subject came before the United Nations. The participation of the Brazilian Government in horizontal technical co-operation activities has been a constant element in the national efforts for the exchange and adaptation of technologies for the solution of development problems.

The Brazilian experience in TCDC began immediately after the Second World War, when the concepts of continental solidarity raised the need for co-operation within Latin American countries, with the objective of finding solutions for similar development problems. The Organization of American States (OAS), the Latin American Free Trade Association (ALALC), the Economic Commission for Latin America (CEPAL), the Inter-American Development Bank (IDB), and, more recently, the Latin American Economic System (SELA), reflect the high priority which Latin American countries give to co-operation amongst developing countries.

/This awareness,

This awareness, as far as the Brazilian Government is concerned, strengthens its responsibility vis-à-vis other developing countries, either in the Americas, Africa or Asia, with which it is also legally tied through numerous bilateral agreements of technical and scientific co-operation.

Bilateral technical co-operation programmes

The bilateral technical co-operation programmes with other Latin American countries and, more recently, African and Asian countries, have implemented using the large experience which Brazil has gained in its technical assistance programmes with developed countries and international organizations and agencies, trying to avoid the shortcomings of the latter ones.

Since Brazil belongs to the group of relatively advanced countries within developing countries, and taking into account the difficulties for the allocation of resources, its technical co-operation programmes with foreign countries are oriented primarily towards countries with similar geographic conditions thus favouring a more rapid assimilation of new knowledge.

Brazilian co-operation with foreign countries is governed by the principles of international solidarity, striving, to the extent possible, to meet the requirements of developing countries that are interested in benefiting from technology available in Brazil. Keeping in mind these principles, the Brazilian System of Technical Co-operation tries to establish elements for the dissemination of techniques, favouring the creation and strengthening of institutions that have the capacity to conduct the sectoral development process, adapting technological know-how available abroad to the specific conditions of each country, provides conditions for the evaluation of the phenomena related to the development process of the respective countries, maintains the spirit of reciprocity of technical co-operation as, even amongst countries on a different level of development, there are possibilities for a fruitful exchange of techniques and know-how.

In this way technical co-operation is provided without conditions and primarily depends on the initiative, interest and need of the country requiring technical co-operation. Technical co-operation always includes the provision for counterpart support and a joint evaluation of the results obtained.

/The provision

The provision of consultant services is never conditioned by the supply of goods and equipment, although this can be facilitated if the recipient party so requires.

In a more advanced phase of co-operation, Bilateral Programmes of Technical Co-operation (BPTC) can be organized vis-à-vis each supplying source.

The BPTC, co-ordinating document of the bilateral co-operation activities, has as its purpose, as per its pluriannual and open nature, providing flexibility for the implementation of projects which are contemplated in it, in accordance with the technical possibilities and existing financial resources for each budgetary exercise. Above all BPTC should be the result of initiatives by the requesting party, which is the only one competent to decide about its own priorities.

Brazilian capacity and needs in the TCDC ambit

Being a country of continental dimensions, with natural resources whose potential is not yet being fully utilized, and with constant economic growth, Brazil has obtained high development rates.

Since the import substitution phase, after the Second World War, and now going through a period of adaptation of foreign sophisticated technology from the outside to the actual conditions of the country - at the same time when it tries to develop its own technology in several fields - Brazilian development is taking place harmonically in those sectors related with science and technology.

For all those reasons - dimensions, sophistication of the economy and support of research - the field of action of the Brazilian Government within TCDC is wide.

Consequently, possibilities for co-operation stretch out through a very diversified number of sectors, already capable of furnishing assistance to the other developing countries. Among them, only as an example, we can distinguish the following:

Agricultural policy and planning, agricultural production, animal and health production, fisheries, forestry, agricultural co-operatives, rural training services, agricultural financing, bibliotheconomy and documentation,

/industrial property,

industrial property, development of education, professional didactic training, non-formal education, educational television, educational technology, economic and social policy and planning, public administration, health services, professional training in health, prevention and control of diseases, tropical medicine, promotion of environmental sciences, industrial planning and programming, manufacturing industries, handicrafts, service industry, industrial training, trade policy and planning, trade, tourism, promotion manpower, manpower planning and employment, vocational promotion, management and administradion of enterprises, industrial relationships, development planning and policy, energy, mineral resources, water resources, communications, education and information, development of programmes, planning and co-ordination of technological and scientific policy, social security, rehabilitation and social services, policy and planning for transports and communications, surface, water-sea and air transportation, telecommunications and postal services, financial and administrative planning and policy, regional physical planning, urban planning and municipal administration, housing planning, community development, building industry, oceanography and meteorology, food technology, forestry development, distribution and supply of alimentary goods, pisciculture, naval construction, steel industry, power stations, harbour administration, informatics.

Information on entities which can provide technical co-operation can be obtained through IRS or through the Ministry of Foreign Affairs.

Execution of bilateral programmes

Bilateral programmes of technical co-operation with other developing countries have been executed through the following instruments of action:

(a) Courses and/or periods of specialization of short or medium duration in Brazilian entities enterprises of proved excellency;

(b) Courses of long duration: at intermediate technical level, at academic formation level and at post-graduation level: Ph.D. or similar;

(c) Seminar and specialized courses, organized together with government entities and institutions of superior education (universities);

(d) Consultancy services at different levels and intensities;

(e) Remittance of experts and equipment in small quantities, since the emphasis is given to the transfer of knowledge and not to that of resources, once these are necessarily limited in a developing country as Brazil;

/(f) Participation

(f) Participation in regional, interregional projects, including through making resources available, to international organizations.

INSTITUTIONALIZATION AND FINANCING OF BRAZILIAN TECHNICAL CO-OPERATION ABROAD

The interministerial system

As of 1969 the Brazilian Government regulated national activities of technical co-operation, through the establishment of an Interministerial System of External Technical Co-operation.

The Division of Technical Co-operation (DCOPT) of the Ministry of Foreign Affairs and the Secretariat of Economic and International Technical Co-operation (SUBIN), of the Planning Secretariat of the Presidency of the Republic, are the central co-ordination units of the System.

DCOPT collaborates in project elaboration, co-ordinates action with the different supplying sources, analyses projects' convenience as per external relations and negotiates with governments, organizations and international agencies the approval of those projects. Through specific budgetary resources the DCOPT finances programmes and projects, when the issue involved is technical co-operation to be provided to developing countries.

SUBIN is entrusted with the co-ordination with different sectorial organs, at the internal level, concerning formulation, execution and evaluation of projects and programmes, as well as with providing eventual financial support, when the executing institutions do not have sufficient resources available.

The several Ministries, principal organs responsible for the execution of the programmes included in the National Development Plan, identify those sectors interested in the elaboration of projects, select the institutions which will be responsible for their implementation and supply, through them, sometimes even directly, the counterpart in material, human and financial resources for the good execution of the projects and programmes as approved.

/Basic instruments

Basic instruments

The following are basic instruments for technical co-operation activities related to other countries:

(a) Basic Agreements on Scientific and Technological Co-operation signed either with international organizations and agencies, or with other countries such as: UNDP, UNICEF, OAS, Canada, Mexico, Guatemala, Honduras, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Suriname, Uruguay, Venezuela, Cape Verde, Ivory Coast, United Republic of Cameroon, Benin, Egypt, Gabon, Ghana, Iraq, Israel, Nigeria, Senegal, Togo, Zaire, Spain, France, United Kingdom, Italy, Yugoslavia, Poland, Portugal, Federal Republic of Germany, Switzerland, Netherlands, Czechoslovakia, Japan.

(b) Bilateral Programmes of Technical Co-operation (BPTC), documents which encompass all projects and programmes of technical co-operation from each source. These PBCTs, are an orientation instrument of a pluriannual nature, non-comminatory, as per the objective of giving flexibility to technical co-operation commitments assumed with each country in order to ensure due execution of projects and programmes. At present they exist or are being negotiated with a few developed countries as: Federal Republic of Germany, Canada, France, United Kingdom and Japan. The variety and particular nature of technical co-operation with each developing country does not yet justify the negotiation of BPTC with Latin American, African or Asian countries, notwithstanding this being desirable as soon as it is possible.

The non-existence of Basic Agreements on Technical Co-operation or of BPTCs does not preclude the possibility of developing activities of technical co-operation with other countries. In these cases, the formalization of a request through diplomatic channels is, generally, the instrument utilized.

Sources of financing

The financing of Brazilian external technical co-operation, in the TCDC context has been the responsibility of the Federal Government, through specific budgetary provisions of special resources. Furthermore, in almost all cases, resources from the executing entities themselves are also utilized.

/The participation

The participation of these executing entities takes place in different ways, depending on the case or on their available resources. The defrayal of disbursements in Brazil for different programmes and projects can be: (a) fully covered by own budgetary resources, under specific items, such as, for instance, formation and upgrading of personnel, (b) partially covered, as for example, costs of boarding and meals, travel inside the country needed for the satisfactory development of programmes, or finally, provision of office personnel (secretariat) and material facilities. It is intended that TCDC activities qualify, as an instrument which benefits all parties concerned through a joint effort.

The participation of the Brazilian Government can cover, therefore, a varied number of actions, which go from the concession of free enrolment in any educational institution, within the scope of bilateral cultural agreements already established up to full coverage for the implementation of a programme.

In the case of projects and programmes of a multilateral nature the Brazilian participation takes place through the provision of financial resources and/or making available infrastructure of services and technicians, enrolment and fellowships in Brazilian institutions being also included.

Volume of services

In the light of the diversification of areas, types and modalities of courses and training opportunities offered, its quantification in financial terms would not really reflect the availability of training opportunities and courses offered by the Brazilian Government to students and trainers of other developing countries.

During the last three years, Brazilian Universities and similars have received, approximately 6,000 students per year from developing countries for graduate and specialization courses. As for students at the post-graduate level the annual number is over 250.

Concerning programmes of technical co-operation with other developing countries, activities have been accelerated during the last three years. The hosting of 900 national technicians from developing countries for training in Brazil is foreseen for 1979. Consultants and experts in lower number, will also be sent abroad.

/Summarizing, the

Summarizing, the last three years witnessed in Brazil the implementation of 112,000 man/month of courses at superior and high school levels as well as training at aspecialized graduate and post-graduate levels.

COLOMBIA

Introduction

1. Technical Co-operation among Developing Countries (TCDC) is welcomed by Colombia as a valuable and effective instrument for the transfer of appropriate technology. In accordance with paragraph 15 of General Assembly resolution 31/179, the Colombian Government has prepared this report on its experience and capacity, as well as its needs on a global and sectoral basis in regard to TCDC.

2. The report is intended to provide a brief description of the following:

(a) the nature and extent of its experience in TCDC activities;

(b) the types of capacity available for the provision of co-operation to other countries; and

(c) the volume and nature of the domestic needs which could be met through TCDC.

A. Experience

3. Colombia's experience has been very positive with regard to both co-operation received and co-operation provided.

(a) Co-operation received: the cases described below received financial support from the UNDP indicative planning figure and from the IDB Intra-regional Co-operation Programme. The following projects provided some of the most valuable experience:

(i) the Integrated Rural Development Programme (DRI), which is one of the most important programmes in the Government's current Development Plan and forms part of the National Food Plan. Co-operation takes the form of an intensive dialogue between DRI, on the one hand, and the Overall Rural Development Programme (PIDER) and the Rural Development Evaluation Centre (CIDER) of Mexico, on the other. Through the latter, Colombia benefits from Mexico's experience in the execution of rural development projects and the evaluation of systems for the execution of such projects;

/(ii) the

(ii) the utilization of sugar cane bagasse. Colombia received advice from the Cuban Sugar Cane Research Institute on the cultivation of sugar cane and the use of its by-products, principally for pulp and paper;

(iii) organization and working methods of the National Federation of Coffee Growers. The IDB financed part of the travel expenses of Costa Rican technical experts who were to observe the methods used in promoting coffee cultivation, the programmes for assistance to coffee growers and plans for agricultural diversification in the coffee-producing areas.

(b) Co-operation provided: this is provided through financing from international organizations. Colombia's experiences have been much more numerous in this respect: examples are given below:

(i) Vocational training

In this field, the National Apprenticeship Service (SENA) has maintained many direct contacts with similar institutions, providing technological information and up-to-date specialized advice in a number of developing countries. In El Salvador SENA concluded an agreement with the Ministry of Education for the development of a rural education project. In Panama, it has an agreement with the Ministry of Labour and an administrative agreement for the training of Panamanian personnel. It is providing advisory services to the island of Aruba in the organization of vocational training for agricultural technicians. A mission was also sent to Bolivia to study FOMO, and an institutional co-operation agreement has been concluded with Venezuela for the provision of a course in textiles; in Ecuador, under an interinstitutional agreement, SENA is organizing apprenticeship courses for SECAP staff in the Petrochemical Centre. It participated in Colombian aid to earthquake victims in Guatemala and is providing advisory services in the field of planning to Government and private enterprise personnel in Costa Rica.

(ii) Transport

Peru and Panama have received advisory services in the physical and operational planning of overland transport terminals. The Overland Transport Department of Peru requested the Transport Financing Corporation to provide assistance by seconding to it a United Nations land transport expert engaged

/for Colombia,

for Colombia, for short-term consultations, without requiring reimbursement of the relevant costs.

(iii) Educational loans

The Colombian Institute for Educational Loans and Technical Studies Abroad (ICETEX) has provided advisory services in the field of educational loans to Zaire and a number of Latin American countries.

(iv) Export promotion

The Export Promotion Fund (PROEXPO) is providing advisory services to Jamaica in questions relating to export promotion, receiving foreign government officials, etc. In 1977, 10 Philippine officials belonging to the equivalent institution in the Philippines visited PROEXPO to obtain first-hand information and to learn from the export promotion methods used by PROEXPO.

B. Capacity for TCDC

4. In a number of fields, Colombia has achieved a level of development where it considers itself able to provide technical co-operation. The organizations and institutions which are considered capable of providing technical co-operation to other developing countries are listed in the Directory of Services for Technical Co-operation among Developing Countries, published in June 1977 by UNDP, and are active in the following fields:

(a) Photo-interpretation

(b) System for the organization and operation of passenger transport services, transport infrastructures

(c) Industry (small- and medium-scale)

(d) Tourism

(e) Economic and social planning

(f) Public administration (training of public sector employees)

(g) Coffee cultivation

(h) Science and technology

(i) Export promotion

(j) Agricultural research

(k) Nutrition research

(l) Educational loans

(m) Culture

/(n) Hydrology,

(n) Hydrology, hydrometry, climatology, agroclimatology, land development, irrigation and drainage

(o) Industrial standardization

(p) Housing

(q) Cadastre, cartographic and agrological studies

(r) Water supply and sewerage systems

(s) Natural resources: development and conservation

(t) Vocational, technical, pedagogical and post-secondary training and short-term training.

5. Although Colombia's capacity for training foreign students is considerable in quantitative terms, it is difficult to express in specific figures. Many students are currently receiving specialized training, many of them on fellowships provided by Latin American international organizations. The high academic standard and the scale of research centres in Colombian universities are well known in the region. The same is true of Colombian advisory services. In addition to those listed in section A of this report, other Colombian entities such as the Colombian Fund for Scientific Research (COLCIENCIAS), the Colombian Agricultural Institute (ICA), and the Technological Research Institute (IIT) are already providing services to a number of countries in the region, not to mention ICETEX, where a project is to be carried out with financing from IDB to the extent of 4 million dollars, a portion of which will be earmarked for co-operation with Latin American developing countries to enable their technical and professional personnel to undertake training or post-graduate studies in Colombian institutions.

C. Needs in regard to TCDC

6. Although it has the capacity to provide technical co-operation in a number of fields, as shown in part B of this report, Colombia is a country which still has innumerable needs with regard to technical co-operation. The value of the technical assistance received by Colombia in 1976 is estimated at 48 million dollars.

7. TCDC is warmly welcomed and, as far as the projects of which developing countries have had experience are concerned, is considered an appropriate mechanism for achieving the necessary transfer of technology.

/8. Among

8. Among the areas in which Colombia would be interested in receiving co-operation are the following:

(a) Natural resources (exploration, exploitation, mining safety, transport, industrialization, profits and marketing of coal, copper and other minerals, fish farming and small-scale fisheries, and reforestation);

(b) Regional development;

(c) Industrial design;

(d) Food technology;

(e) Mass transport;

(f) Refrigeration and preservation of foodstuffs;

(g) Social security systems;

(h) Co-operative development.

D. TCDC procedure

9. In Colombia, the co-ordination of TCDC, as is the case with all activities relating to technical co-operation, is channelled through the National Planning Department.

10. As was mentioned earlier, the IDB Intra-regional Programme is similar to the TCDC programme of the United Nations. It has a fund which currently amounts to 200,000 dollars, subject to repayment. UNDP also has a regional project in which Colombia is involved, namely RLA/76/005, which has a budget of approximately 200,000 dollars for this year. It is felt that the most useful step would be for the various international organizations to establish a similar fund.

E. Co-ordination of TCDC

11. Colombia feels that TCDC activities can be co-ordinated by the developing countries and by the various financing bodies, and that no single overall co-ordinating body is required.

COSTA RICA

A. EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Costa Rica's experience of technical co-operation among developing countries is primarily in the area of fellowships granted under bilateral agreements with friendly countries. The following Latin American countries granted fellowships to Costa Rica in 1976: Argentina, Brazil, Guatemala, Honduras, Mexico and Venezuela.

Costa Rica also received technical advice on the exploitation of geothermal energy sources from the Government of El Salvador and on the management of water resources from the Government of Mexico.

In the case of the Government of Argentina, two projects have been identified and are now under consideration. They involve feasibility studies for setting up a winery and a banana flour factory in Costa Rica. The Government is preparing a programme for technical co-operation, cultural exchange and trade with Brazil; the programme will be discussed at a forthcoming joint meeting. Similarly, the Government has identified with other Governments in the region fields suitable for technical co-operation under existing agreements with the Governments of Mexico, Brazil and Peru.

Mention should also be made of co-operation with developing countries in Eastern Europe. The Socialist Republic of Romania has started a broad fellowship programme and a substantial cultural exchange programme. Likewise, the Socialist Republic of Yugoslavia has given the Government numerous fellowships, including fellowships for professional trainees.

Most of the technical co-operation programmes based on bilateral agreements concluded by the Government with developing countries have not been implemented owing to financial difficulties.

The only fellowships granted to foreign officials or students for study in Costa Rica have been those financed by international agencies such as UNDP, UNESCO and OAS.

Fellowships given to Costa Rica under bilateral agreements are financed wholly or partly by the donor countries.

/Some universities

Some universities and research institutes maintain a satisfactory level of co-operation by means of exchanges of staff and information. Technical co-operation has also been received from some regional organizations, such as the Latin American Economic System (SELA), the Central American Bank for Economic Integration (BCIE), SIECA, the Central American Institute for Public Administration (ICAP) and the Central American Research Institute for Industry (ICAITI).

Under the INTRA/IDB system, officials of the Bureau for National Planning and Economic Policy visited Brazil, Colombia, Ecuador and Mexico to observe the work of the bodies responsible for promoting pre-investment projects in those countries.

Some of the regional programmes of international organizations have organized a beneficial exchange of experience among national officials responsible for projects.

The Government considers that although activities in the area of technical co-operation with developing countries have been limited, as stated earlier, they have benefited Costa Rica and have had a favourable impact on the sectors to which they were directed.

B. CAPACITIES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Costa Rica could offer technical co-operation under the programme of technical co-operation among developing countries (TCDC) in the following sectors:

Food technology;
Health (particularly rural health);
Nutrition;
Manpower training;
Development of energy resources (water resources);
Telecommunications;
Social security;
Regional and urban physical planning;
Classification and use of tropical soils;
Water supply and sewage system;
Administration of private insurance by State entities.

/C. NEEDS

C. NEEDS FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Like other Latin American countries, Costa Rica needs international technical co-operation and its requirements cover a wide range. That is why technical co-operation among developing countries (TCDC) could become a potential source of resources for Costa Rica and other developing countries.

The main areas in which Costa Rica needs technical co-operation among developing countries might be: development of mineral resources (metallic and non-metallic), economic and social planning, environmental protection, agro-industry, human settlements, employment promotion, development of non-conventional energy sources, transfer of technology, scientific and technological development, low-cost housing and fisheries.

It is impossible to determine the dimensions of such co-operation without first knowing how TCDC will operate and what resources will be available to it. Both short-term consultants and interinstitutional collaboration would be helpful.

One of the most attractive features of TCDC would be the possibility of utilizing the experience of countries whose circumstances, problems and levels of development are closer to those of the recipient country. Another useful feature would be the expansion of technical co-operation resources by applying TCDC inputs made, to country programmes of technical co-operation now receiving multilateral inputs from sources such as UNDP, OAS and the Inter-American Development Bank. It is also valuable for a developing country to have an opportunity to establish direct ties between national institutions and those of countries at the same or a similar level of development, because such ties can be beneficial to both. Finally, TCDC involves utilization of national talent, which is an enormous advantage in itself because it provides a broader and challenging field of action.

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Since TCDC has dealt almost exclusively with fellowships and to a much lesser degree with expert missions and exchanges of information, it has been provided chiefly under bilateral agreements which lay down a general framework for such activities. In Costa Rica technical co-operation in

/is co-ordinated

is co-ordinated through a system administered by the Ministry of Foreign Affairs and the National Planning Bureau. The former is responsible for such matters as negotiating agreements and conventions with countries and international organizations, and the latter is responsible for co-ordinating and evaluating the programmes. In the event of TCDC being established formally, it will probably have to be handled through the same Ministry of Foreign Affairs/National Planning Office (OFIPLAN) system.

This system is considered to be the simplest and most effective way of handling TCDC. Costa Rica holds that TCDC should be an integral part of technical co-operation and that it should therefore be managed by the same instruments; accordingly, no new instruments will have to be set up for this type of international co-operation.

E. CO-ORDINATION OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES AT THE INTERNATIONAL LEVEL

With regard to the regional organization of technical co-operation among developing countries within Latin America, we believe that we have the basic information tools needed, in the form of the two books recently published by the United Nations for the TCDC programme, which outline the technical co-operation potential of a series of institutions in all developing countries. For that reason, the Government considers that it is necessary to have co-ordinating machinery in Latin America which will make it possible to use existing information and to determine what programmes must be developed.

It would also be advantageous to study the responsibilities and limitations of bilateral agreements so that they, too, can be used to promote effective exchanges.

The Government would welcome, in principle, the establishment of a consultation forum of Governments which could be a mechanism for drawing up programmes. The forum would have to base its work on specific studies carried out in advance on which practical and final decisions could be made. The secretariats of international agencies, including UNDP, could be utilized for support activities, including the preparation of specific studies.

CHILE

A. Experience of technical co-operation among developing countries

An analysis of the technical co-operation which Chile has supplied to or received from developing countries can only be based on co-operation through official government channels in recent years, since, unfortunately, while there has been a great deal of other experience of such co-operation carried out not through those channels but by direct contact between the institutions concerned, no data are available about it of about the results achieved.

1. Experience of bilateral technical co-operation among developing countries between Chile and other Latin American countries under formal agreements on technical co-operation is still meagre, since in most cases Joint Commissions have only recently begun to meet under agreements concluded in the past few years with Argentina (1974), Uruguay (1975), Ecuador (1962), Paraguay (1963), Brazil (1974), Colombia (1971), Peru (draft agreement, 1976), Bolivia (draft agreement, 1977), Panama (1962), the Dominican Republic (1975) and Grenada (1976).

The most frequent relations of this kind have been with Brazil, where Chile has for the most part been the recipient of co-operation, and with Paraguay, where Chile has been the supplier. It is hoped that activities with the other countries will be stepped up in the coming months.

2. As regards co-operation among developing countries between Chile and other countries of the region under programmes operated and financed by multilateral organizations, the major organizations involved are OAS, UNDP and, more recently, IDB.

Under OAS multinational and special projects, Chilean counterpart institutions accepted during the period 1975-1976 a total of 259 Latin American fellowship-holders, from the following countries: Bolivia (23), Colombia (22), Peru (21), Guatemala (19), Ecuador (18), Venezuela (18), Paraguay (17), Costa Rica (17), Argentina (17), Honduras (15), Dominican Republic (15), El Salvador (11), Uruguay (10), Brazil (9), Panama (8), Nicaragua (8), Haiti (6) and Mexico (5).

/Under the

Under the United Nations fellowships system, during the same period 1975-1976 a total of 21 Latin American fellowship-holders received training in Chilean institutions. They came from the following countries: Honduras (6), Ecuador (5), Mexico (3), Nicaragua (2), Uruguay (2), Paraguay (2) and El Salvador (1).

It should also be noted that in 1976-1977 a total of 104 Latin American students participated in courses given by ILPES, which has its headquarters in Chile.

Lastly, under the IDB machinery for intra-regional technical co-operation, which has recently begun to operate with Chile, a total of 14 technicians from the region have received training in Chile, 10 of them being from Honduras and four from Guatemala.

To sum up, in the past three years Chile has provided training to a total of 398 Latin American fellowship-holders.

At the same time, during the years 1975-1976 and 1977 a total of 521 Chilean fellowship-holders received training in countries of the region, representing 34.5 per cent of all fellowships for studies abroad.

The number of Chilean experts employed on projects of technical co-operation with other countries amounted, in the case of projects financed by the United Nations system alone, to 214 in 1974 and 256 in 1975, according to figures given in the 1975 report of the Administrator of UNDP.

B. Capacity for technical co-operation among developing countries

Chile is well advanced in a number of disciplines, which can be offered under programmes of horizontal co-operation with other countries at a similar or lower stage of advancement; in this connexion, there are three possible situations with regard to the capacity available in Chile:

1. Chile may be more advanced in all scientific and technological aspects than the other countries;
2. It may be more advanced in some areas of science and technology and less advanced in others;
3. It may be at the same stage of advancement as other countries in various areas of scientific and technological knowledge.

Case (1) would offer a number of advantages, such as demonstration, introduction of technology and engineering services, expert of equipment, possible investment and new sources of employment. In this case, Chile will act under programmes of technical co-operation only as a supplier of such co-operation.

In case (2), the situation would be as follows:

In those sectors where Chile is more advanced, the positive effects would be the same as in case (1);

In those areas where it is less advanced, Chile would benefit from such positive effects as access to more advanced knowledge originating in circumstances nore comparable to its own than those of other, more highly developed countries, so that parity could quickly be achieved and the situation would become that referred to in case (3).

Lastly, where Chile is at the same stage of advancement as other countries with regard to certain disciplines and certain areas of science and technology, co-operation would still be beneficial because:

There would always be some aspects of a given discipline or area of science and technology in which one country had more experience than the other, in which case exchanges of experience under technical co-operation programmes would make it possible for the different capacities to complement each other;

The existence of general capacities would make it possible to combine resources, efforts and experience for the purpose of joint research, which would be conducive to a higher stage of advancement than each country could achieve on its own;

Combining the scientific and technological capacities of countries of the region may be the only way in which to undertake research aimed at solving problems of vital concer to each of them, in view of the high cost of such research.

Having indicated the three possible situations for Chile with regard to technical co-operation among developing countries, we can state, in general terms, that Chile is in a position to offer the following specialities:

/I. Agriculture

I. Agriculture, livestock production, forestry and fishing

(a) Applied research on the production of cereals, maize and sorghum, oil-seeds, legumes, potatoes and other vegetables, fruits and vines, pastureland, production of milk, production of meat, production of sheep, goats, pigs and poultry, soil fertility, irrigation, agrometeorology, weed control and plant pathology and dissemination of the results.

(b) Applied research and experimental development for the improvement of manufactured fish products and industrial processes and artificial rearing techniques; provision of services concerning standards of quality for fish products. Fishing operations, fishing industry.

(c) Human nutrition (clinical nutrition and public health nutrition, basic nutrition); animal nutrition (basic, applied, endocrinal, nutritional); food technology (biochemistry of food, food sciences); biochemistry (basic, endocrinal, nutritional); renewable natural resources (ecology).

(d) Hygienic production of milk, chemistry and microbiology of milk, dairy products technology and economics and processing of milk.

II. Education

(a) Curriculum, evaluation, research methodology, basics of education, educational administration and planning, educational technology.

(b) Planning and administration of courses of individualized instruction in teacher training colleges or in advanced training courses for teachers, elaboration and application of Keller units in basic or advanced teacher training.

(c) Doctorates in electrical engineering, mechanics and chemistry, master's degrees in civil and electrical engineering, mechanics, metallurgy and chemistry. Master's degrees in computing and information science, applied mathematics, design and application of microcomputers. Harnessing and use of solar energy. Civil engineering, mechanics, electrical engineering, chemistry, metallurgy. Chemical analysis and quality control.

/III. General

III. General economic and social policies and planning and public administration

(a) Social planning (popular participation, planning for children and youth, community development, methods and techniques of social training), planning of special or differential education.

(b) Policies, plans and programmes for low-income sectors (multisectoral programmes).
Training in rural development, housing, production co-operatives and elaboration of social development projects.

(c) Public administration (organization of levels of government and administration, decentralization, administration, administrative support systems, formulation and evaluation of projects or organizational institutions); regionalization (regional organization and regional operations in accordance with national policies), regional planning for development.

(d) Public administration, administrative techniques, administrative management, financial and budgetary administration, methodology and administration of training.

(e) Public accounting, government auditing, general administration (administrative science), administrative law.

IV. Health

(a) Microbiology: medical bacteriology, virology and immunology; formulation and control of biological products used for diagnosis, prevention and treatment; chemical and biological control of pharmaceutical products; epidemiological and epizootic research, food research.
Medical microbiology (bacteriology, virology and immunology); laboratory administration and management, including handling of laboratory animal; production and control of biological products (diagnosis, treatment and prevention).

V. Industry

(a) Industrial economic and planning studies, assistance in administrative, financial and commercial techniques, technological

/assistance to

assistance to industry, organizational assistance, co-operatives, subcontracting and supplementary industrial activities (medium-size and small industry and craft industries).

(b) Industrial production quality testing, measuring, inspection and analysis and training of experts.

Specifications for the manufacture of new products or for import-substitution programmes.

Establishment or improvement of internal quality control systems.

(c) Engineering, project feasibility, preparation of calls for tenders for engineering supplies and/or services; evaluation of proposals; supervision of construction; design of structures for the iron and steel industry.

(d) Applied research on food technology, industrial microbiology, chemical industries; metals and alloys, pulverization of metals, mechanical design, industrial design, industrial refrigeration, environmental pollution, coal technology, electronics, control and instrumentation, polymers and plastics.

(e) Design of industrial equipment for processes of all kinds, technical and economic feasibility studies of chemical projects.

(f) Development of standardization techniques at the national level; creation of technical and administrative infrastructure; establishment and development of standadization and quality control documentation centres; establishment and development of standardization and quality control courses and seminars as part of workers' training and post-graduate training.

Advisory services on quality certification systems, technical standardization, handling of documentation, standardization and quality control.

VI. Labour, business management and employment

(a) Labour relations and collective bargaining, development of human resources and economics of labour, social security, organizational theory, organizational practices and organizational development, personnel and wage administration, administration and organization of co-operatives.

/(b) Vocational

(b) Vocational training in metal-working and machine-making, mining, fishing, agricultural engineering, livstock production, horticulture, fruit-growing, electricity, electronics, refrigeration, manufacture of clothing, production of knitted goods, construction, teacher training, business orgnization, administration.

VII. Natural resources

(a) Diagnosis of natural resources, especially soil, climate, water, vegetation; diagnosis of the productive infrastructure of the area; development strategy; pre-feasibility study; proposal for a development plan.

(b) Mining engineering, mechanics of rocks, extractive metallurgy, chemical analysis, transport of solids by pipeline, microscopy, laboratory techniques, applied research and technical services related to the operation of mines, microscopic analysis and chemical analysis, environmental control, floatation, gravitational and magnetic concentration, hydrometallurgy, extraction by solvents, bacterial lixiviation, electrometallurgy, fluid dynamics and mechanics of suspensions, etc., pilot plants for crushing, grinding, floatation and processing of oxide ores, exploitation of deposits (characteristics, feasibility, design and commencement of operations), concentration of ores (technical and economic feasibility, design of plants), pyrometallurgy, simulation and control of processes.

(c) Advisory services for the development of mining, technical assistance, provision of services, joint co-operation in the planning of new mines, expansion of operations or new investments. Mining, promotion and development, copper smelting and refining, reduction of copper ores, floatation and lixiviation.

(d) Copper mining: ore dressing, hydrometallurgy, pyrometallurgy, electrodeposition, handling and transport of material, mining planning.

(e) Applied research on petroleum, derivatives and fuels; physical and chemical analysis; geochemistry.

/(f) Working

(f) Working of quarries and cement-making projects.

(g) Intermediate supervision, electronic control, conduits, gas, interpretation of plans by symbolic logic, work on live lines up to 23 kV, maintenance of transmission lines, use of semiconductors, operation of generating stations and substations, maintenance of lines and networks, electrical maintenance of primary equipment, introduction to computing, handling and storage of equipment, work on 220 kV live lines, high voltage circuit-breakers, operational amplifiers, auxiliary control systems, electrical laboratories, metallic structural paints, security of communications, administration by objective, etc., electrical engineering, testing of metering equipment, protection, regulation and control, testing of prototype current transformers, high voltage isolators, low voltage circuit-breakers and fuses; mechanical engineering; research, services and/or information on quality control for destructive and non-destructive materials. Electric protective devices laboratory: transfer protectors, tolerance 0.1 per cent; metering instruments class 0.5 per cent; transducer sensers of physical quantity and oscillographic recording equipment; mechanical engineering laboratory; 20-ton universal press; Sherpy for resilience testing; durometer; tachometer equipment; vibration analysing equipment.

Electric energy, particularly generation, transmission and distribution of electric energy (19 areas of specialization).

VIII. Population

(a) Formulation of policies and development of plans and programmes for the benefit of children and young people, women and families, with a multisectoral approach (education, health, nutrition, means of communication, work, social security). Mobilization, etc.

IX. Science and technology

(a) Planning of scientific and technological development; promotion of scientific and technological activities; structuring of

/information and

information and documentation systems; management, administration, co-ordination, control and evaluation of international technical co-operation; and any other kind of scientific transfer from abroad.

(b) Basic research in: mathematics (mathematical logic, analysis, algebra); physics (excited states in irradiated alkaline halides, electronic structure, metals, electronic structure in surfaces, configuration of equilibrium of crystals with impurities); chemistry (studies of the chemistry of plants, synthesis and study of polymers, chemistry of quinones, quantum chemistry and emission spectroscopy, kinetics and mechanisms of reaction, co-ordination compounds and organometric compounds, non-metallic chemistry, protein chemistry, food chemistry).

(c) Cellular biology; cellular ultrastructure, biochemistry, cellular microbiology, immunology.

(d) Pharmaceutical technology, chemistry, pharmacology, cosmetology, toxicology, biochemistry, food chemistry and biochemistry, microbiology, inorganic chemistry, organic chemistry, chemical physics. Soil chemistry, vegetable chemistry, chromatorgraphy of fatty acids, environmental chemistry, electrochemistry, natural products of soil chemistry (alophanic soil), diagnosis of foliage, pharmacology of fatty acids, refrigeration, clinical microbiology, clinical immunology, bacteriology of tuberculosis and serology of syphilis (seminars, workshops).

(e) Operational system, control and use language, COBOL computer language and workshop, information and administration system, development of information systems and workshop introduction to operational research, programming tools.

Research, evaluation and implementation of new computer technologies; development of specific studies on basic computer techniques; development of a project for the solution of specific problems involving electronic data processing.

Engineering: analysis and design of administrative information systems, handling and electronic processing of statistical and other data, basic data systems (teleprocessing).

/X. Social

X. Social security and other social services

(a) The co-operative system, history and theory, administration of co-operatives, co-operative financing, co-operative accounts and auditing, rural co-operatives, legislation concerning co-operatives, co-operative education.

XII. Miscellaneous

Transport engineering, earthquake, engineering, engineering and pollution, engineering education, economics, political science, agriculture, integration law. Engineering and environment, university administration, integrated post-graduate instruction, integration law, economics and integration, foreign investment in the Andean area, exchange of academics, protection against earthquakes.

Agrarian economy, market economy, economics, teaching of political science; international law.

C. Needs with respect to technical co-operation among developing countries

According to the information available and that provided in the various Joint Commissions established under basic technical co-operation agreements concluded between Chile and other countries in the region, as described above, the following areas, in addition to the priority areas of technical co-operation which Chile hopes to finance under the UNDP country programme (1977-1981) and the OAS country programme (1978-1980), may be mentioned as ones in which Chile is prepared to accept technical co-operation from other developing countries:

Development of basic sciences (mathematics, physics and chemistry);
Financing of scientific research and technological development;
Physical oceanography;
Aquaculture;
Marine pollution;
Development of petrochemicals and coking of coal;
Utilization of natural gas;
Geothermal energy;
Solar energy;
Nuclear energy;
Vocational training for the tertiary sector;
Export promotion;
Tax policies and administration;
Public administration and regionalization;
Telecommunications and postal services;
Marketing of agricultural products;
Shipbuilding and marine engineering;
Food technology;
Genetics in agriculture;
Detection of gastric cancer and non-transmissible chronic diseases.

/D. Procedures

D. Procedures for technical co-operation among developing countries

I. In this connexion, there are two situations which govern relations between Chile and other developing countries in respect of technical co-operation:

(a) If there is a basic agreement, any proposal for the execution of a specific technical co-operation project or supplementary agreement will be dealt with in accordance with the provisions of the basic agreement between Chile and the other developing country, through the Ministry of Foreign Affairs and with the specialized technical advice of CONICYT, the body competent at the national level for all action relating to international technical co-operation which Chile receives or is in a position to provide.

(b) If there is no basic agreement, action will be taken to determine whether one can be concluded. If the situation or circumstances are such as to preclude this, or if it is estimated that it will take an excessive length of time to negotiate such an agreement through the Ministries of Foreign Affairs, it may be that, in the interest of carrying out a worthwhile programme of technical co-operation between Chile and another developing country or between institutions of the two countries, direct negotiations will be initiated and continued with CONICYT providing advice and co-ordination and the Ministry of Foreign Affairs being kept informed, leading to the conclusion of a specific agreement, which will be incorporated in the basic agreement once the latter is concluded.

When a basic agreement on technical co-operation has been concluded, the decision to execute specific projects is taken by a Joint Commission which meets on pre-established dates, at least once a year, alternately in each of the signatory countries, with the participation of representatives of the Ministry of Foreign Affairs, CONICYT and the specialized institutions which will execute the technical co-operation projects.

II. Under current law, CONICYT is the national body competent for the management, administration and co-ordination of both the international technical co-operation which the country receives and that which it is in a position to offer to other developing countries (Supreme Decree N° 1107 of 1970; Legislative Decree N° 491 of 1971; Presidential Circular N° 3110/250 of 11 October 1976; Ministry of Foreign Affairs Circulars N° 270 of 16 June 1975 and N° 592 of 27 December 1976).

It is possible to determine in what areas the country is in a position to collaborate with other developing countries in programmes of technical co-operation or in specific projects mainly as a result of the functions

/performed by

performed by the Department of International Technical Assistance and the Department of Information and Documentation. These units keep a check on, and have up-to-date information about, those centres (university, State or private) that have achieved a sufficient standard of excellence to offer their capacities to other institutions in developing countries, which in many cases are supported by international technical co-operation activities that helped to stregthen them; similarly, keeping track of the human resources having received basic or advanced training abroad provides a knowledge of the national expertise potential in specific areas or disciplines; lastly, a regular system of surveys has provided valuable information on the most outstanding research being carried out in the country and a panel of highly qualified research workers.

III. The basis of any system of technical co-operation among developing countries is the existence of a responsible national agency, at the highest level of the country's structure, with links to the planning operations for economic and social and scientific and technological development, which will be capable of:

(a) Projecting the country's interests in all problems connected with international technical co-operation;

(b) Having a full knowledge of the broad spectrum of all the machinery, resources and activities involved in the development of international technical co-operation;

(c) Identifying, preparing, negotiating, implementing, co-ordinating, administering, supervising and evaluating the progress of programmes of international technical co-operation.

With the active and continuing participation of that body, the negotiation of programmes of technical co-operation among developing countries could be carried out very simply and effectively in two situations:

1. Directly, and entirely bilaterally, in accordance with the procedures provided for in the relevant basic agreements on scientific and technical co-operation and through the machinery of "Joint Commissions";
2. Indirectly or directly, through bilateral or multilateral contacts; where multilateral contacts are used, it would be desirable to establish at the regional or subregional level "special negotiating machinery", consisting of representatives of the national bodies specializing in the co-ordination, management and administration of international technical co-operation. This would be the only way of identifying programmes of technical co-operation among countries of the region or subregion which would make maximum use of all existing international potentialities, combined with a careful determination of the capacities for technical co-operation available in the region itself.

/However, we

However, we do not believe that the existence of a responsible national body and some of the channels for negotiation described above is sufficient to make TCDC effective. Financing is essential in order to put programmes or specific projects among developing countries into effect.

Being aware of the financial limitations affecting both the developing countries interested in TCDC and some of the international agencies which are promoting it, we may suggest some of the following alternatives as possible sources of funds for the implementation of TCDC:

(a) Full utilization of the possibilities offered at present by multilateral agencies, such as UNDP and OAS, through the traditional kind of regional, interregional and "special" projects. However, this alternative has its limitations as regards the level of resources in comparison with identified needs and the inadequacy of machinery for negotiating programmes.

(b) The possibility offered by the new special financing machinery which those same agencies have recently established in order to support the efforts of developing countries to utilize and share their capacities (e.g., the OAS programme of co-operation among member States).

(c) Possible use of the funds included in the indicative planning figure (IPF) of each country, to the extent that the amount of such funds and the internal-priority needs of each country permit.
As in the case of alternative (a), this is unlikely to prove an effective contribution because of the limitations and restrictions resulting from the financial crisis of UNDP.

(d) The possibility that regional or subregional agencies, such as SELA, JUNAC, CAF and IDB, might allocate or obtain from other agencies or countries special funds to cover this new form of co-operation. It should be noted, for example, that the OPEC member countries have contributed indirectly through existing multilateral financial agencies or new multilateral funds.

(e) The establishment of special national funds to cover the costs of technical co-operation among developing countries, the volume of whose resources would naturally depend on the financial means of each country.

/Such a

Such a fund could finance all or part of the costs, depending on the arrangements freely agreed between the countries concerned.

This alternative, in our view, makes a great deal of sense from the foreing policy standpoint, since programmes or projects directly financed by a country link it much more effectively and genuinely, so far as its image abroad is concerned, to the effect of the technical co-operation provided. At present, few Latin American countries have such a fund; Chile hopes shortly to have a modest fund of this kind, since the discussions with the authorities competent in the matter are well advanced, under the leadership and guidance of CONICYT.

Once these three requirements (a responsible national body, negotiating machinery and financing) are met, one can proceed to identify specific programmes or projects which can be carried out through TCDC.

Available for this purpose are the information already produced and the work already done on the initiative of UNDP itself and other international agencies:

1. Directory of Services for Technical Co-operation among Developing Countries: the purpose of this is to provide information on the capacity existing in developing countries which can be offered for TCDC. It is contained in a valuable document published by UNDP, which will be constantly updated.
2. UNDP country programmes of technical co-operation: These programmes provide a picture of the actual needs existing in a given country, according to its own priorities. UNDP has also compiled these country programmes in a document.
3. UNESCO survey to identify projects of scientific and technological co-operation among the Andean countries: this was carried out during 1975 and 1976, culminating in a meeting of experts in June 1976 at Bogotá to exchange the results of the surveys made in each Andean country and to identify priority areas for the development of programmes of scientific and technological co-operation of common interest.

Consequently, we believe that the next step to be taken in the light of all these basic factors would be to agree on the specific projects that could be put into effect between developing countries through the special

/negotiating machinery

negotiating machinery described above, or through an existing Joint Commission, or, lastly, at the national level through action by the responsible national body, which would determine what specific needs could be met through TCDC, this being the only way to translate into genuine and effective form the declarations of principles formulated with regard to TCDC and to obtain from it the benefits and advantages which derive from reciprocal sharing of capacities and resources available in the developing countries themselves.

Lastly, we believe that all such actions should be based on a clear decision by each country and should form part of a genuine diplomatic-technological policy, dynamic, aggresive and imaginative, which would have the following advantages, among others, for the country supplying co-operation:

(a) Projecting the image of its national culture and tradition;

(b) Providing a vocational and intellectual stimulus to its highly skilled human resources;

(c) Opening the way for subsequent export of its technology and equipment;

(d) Assembling scientific and technological information and documentation;

(e) Disclosing possible binational investments.

E. Co-ordination of technical co-operation among developing countries at the international level

I. We consider it very necessary that there should be global co-ordination of technical co-operation activities among developing countries, since there must be some machinery making it possible to identify both the supply of and the demand for such co-operation, to find sources of financing, to prevent dispersion of resources, and to negotiate programmes of mutual interest in which resources available in the participating countries themselves are combined with resources from multilateral or bilateral sources.

II. The "special negotiating machinery" proposed in the paper could be established under the guidance, sponsorship and financing of UNDP, which would serve as a focal point for the co-ordination, identification and discussion of specific programmes of technical co-operation among developing countries, with the participation of representatives of the national bodies responsible for such matters (as defined in section D.III) and the Ministries of Foreign Affairs. Its role should be

/essentially operational

essentially operational, dynamic and simple, and it might operate regionally or interregionally, through working meetings at which general agreements would be adopted, followed by direct contacts between the countries concerned through UNDP.

III. In our view, UNDP is in a position to perform this task of special and global co-ordination, performing simply a supporting role as a catalyst for the efforts and actions undertaken by developing countries themselves, since it has the appropriate experience and infrastructure to carry out such a function. It has a permanent network of local offices in all parts of the developing world; enough staff to carry out the work involved; up-to-date information on the technical co-operation needs of developing countries, as a result of preparing country programmes; easy contacts with the bodies responsible in each country for the management, co-ordination and administration of technical co-operation; a picture of the capacities existing in each country which can be offered to other developing countries; contacts and relations with other regional or world-wide agencies involved in technical co-operation; and contacts with multilateral or bilateral sources of financing.

In any event, we see the role of UNDP, described in these terms, as a subsidiary and complementary one, providing support for the particular capacities and initiatives of developing countries themselves.

/DOMINICAN REPUBLIC

DOMINICAN REPUBLIC

The flow of technical co-operation among developing countries has been increasing substantially in recent years. It takes various forms and is directed to both the public sector and the private sector. It comes mainly from Latin American countries, although in some very special cases technical co-operation has been received from other areas in the Far East.

It mostly takes the form of technical and advisory services, by specialized personnel, and training, especially through fellowships and seminars. Co-operation in the form of equipment and supplies produced in developing countries is still very rare.

In many cases, co-operation takes place under government-to-government programmes, especially with those Governments which have signed co-operation agreements with the Dominican Republic. In other cases, the international agencies act as intermediaries by providing the financial resources for the recruitment of experts and consultants or for the provision of fellowships in developing countries. Yet another very common practice is the direct recruitment of technicians by public and private enterprises.

An analysis of the data on the number of foreign experts and technicians working in the Dominican Republic shows that there is a high percentage of experts and technicians from developing countries.

A. Experience of technical co-operation among developing countries

This account does not profess to be exhaustive, but simply attempts to give a very rough picture of the main areas in which horizontal co-operation has developed.

The main institutions which have received technical assistance from developing countries are:

1. The State Sugar Board (CEA)

This is the largest sugar corporation in the country and is owned by the Dominican Government; the main areas of technical assistance have been as follows:

(a) Mexico and Guadeloupe: research has been carried out on sugar cane and cattle feed.

/(b) Sporadic

(b) Sporadic information is received from Brazil on the use of sugar cane by-products.

(c) There is an agreement with Barbados on the exchange of sugar cane varieties.

(d) Venezuela prepared a project for the installation of a pulp and paper mill.

(e) Mexico offered to carry out a similar study on pulp and paper.

2. The State Enterprises Corporation (CORDE)

This body administers the major State enterprises, with the exception of sugar-mills, which are administered by CEA.

(a) In past years, the Corporation received technical advice from Nicaragua through a specialist on cotton.

(b) ICAITI has provided technical assistance on administrative and organizational matters.

(c) Through the United Nations, Chilean and Brazilian technicians are advising on budget programming and analysis, industrial development and business organization.

(d) Technicians from the Corporation have been to Brazil for training in public enterprise administration techniques at Getulio Vargas University.

3. The Dominican Export Promotion Centre (CEDOPEX)

(a) The Mexican Foreign Trade Institute has co-operated with CEDOPEX on export promotion.

(b) The Export Promotion Centre of San José, Costa Rica, has co-operated by providing courses and seminars on the organization of trade offices abroad, transport and documentation, perishable goods, prices and quotations, etc.

(c) Latin American experts have provided advice on fumigation chambers, storage centres, production of flowers and other subjects.

4. The National Water Resources Institute

The Institute has received advice from Mexican technicians on dam design and construction and water use problems.

5. The Dominican Electricity Corporation

Advisory services have been provided to the Corporation in the following fields:

/(a) Colombian

(a) Colombian technicians advised on administrative matters and preparation of specifications in connexion with the purchase of thermoelectric plants.

(b) Venezuelan technicians gave advice on thermoelectric plant maintenance.

(c) An Ecuadorian expert is advising on petroleum and mineral prospecting.

Other fields in which the country has received technical assistance from developing countries through various public and private institutions are bank management (Mexico), industrial development (ICAITI), problems of coffee cultivation (Colombia), banana production and marketing (Panama), rehabilitation of the disabled (Uruguay), restoration of historical monuments (Venezuela) and others.

The Dominican Republic has also availed itself of a large number of fellowships offered for studies in Latin American countries. For example, Mexico offered fellowships for post-graduate studies on the public sector and public administration, social security and psychology. Venezuela offered, through the Inter-American Centre for Land and Water Resource Development, courses on the design of sprinkler irrigation systems, water and land conservation and water-supply schemes; in the health field, it offered courses on pneumology. Venezuela also offered fellowships at CORDIPLAN for studies on the use of chemical analysis techniques in mining. Brazil has granted fellowships in export promotion and other subjects. Lastly, the number of students going to Central American countries on fellowships is steadily increasing.

In addition, the Dominican Republic has signed cultural and technical co-operation agreements with various Latin American countries.

(a) Technical co-operation. An agreement was signed with Venezuela for the promotion of technical and scientific co-operation through joint or co-ordinated research, development and training programmes; the establishment of research institutes and/or product improvement and experimental production centres; and the holding of seminars and conferences, exchange of information and documentation and organization of information channels.

/(b) Cultural

(b) Cultural agreements. Cultural agreements have been signed with Argentina, Costa Rica, Colombia, Ecuador, Mexico, Panama, Nicaragua, Brazil, and Haiti, with the aim of promoting cultural and scientific exchanges with the aim of promoting cultural and scientific exchanges with those countries.

(c) Trade agreements. The Dominican Republic has signed trade agreements with Colombia and Mexico, designed to promote economic, commercial and technical co-operation.

Although most of these agreements have as yet scarcely been implemented, they certainly provide the juridical basis for strengthening international links with the developing countries in question, which can offer great potential for horizontal co-operation.

B. Capacities for technical co-operation among developing countries

Since its own level of national development is not very advanced, the Dominican Republic's capacity to provide technical co-operation to other countries is very small. However, within the limited range of its potential, some areas have been identified as ones on which its contribution might be focused.

The Dominican Institute of Industrial Technology (INDOTEC) could make a contribution in certain areas of physical science, social science, agricultural science, management of research and development, organization of information systems, libraries and documentation, management in the field of chemistry, analytical techniques, analysis and testing. The methods of co-operation could be formal training, in-service training, diagnostic studies, feasibility studies, engineering studies, and so on.

The Institute would also be able to provide co-operation with regard to agricultural marketing, development of natural resources, agricultural inputs, technical assistance to farmers, rural industries and training in certain aspects of natural sciences and technology.

Other institutions which could provide technical co-operation are the Tobacco Institute (tobacco research and development); the Juma Rice Station (rice research and development); the Romana Mill (sugar cane); CEAGANA (feeding of cattle); the Ministry of Agriculture (behaviour of cocoa hybrids); and the National Agricultural Research, Extension and Training Centre (CNIECA).

/In addition,

In addition, institutions of higher education, such as the Autonomous University of Santo Domingo (UNSD), the Pedro Henríquez Ureña National University (UNPHU), the Madre y Maestra Catholic University (UCMM) and the Santo Domingo Technological Institute (INTEC), could make available the results of their scientific and technological research in various fields.

C. Needs for technical co-operation

The needs for technical co-operation from developing countries are undoubtedly wide-ranging, but it is difficult to specify or quantify them, owing to insufficient knowledge of what other countries could offer.

The Santo Domingo Technological Institute, for instance, would be interested in co-operation in the fields of scientific and technological planning and policies, biological sciences, agricultural science, management of research and development, rural planning and policies, fishing, forestry, development of natural resources, rural industries, energy planning and policies, non-conventional energy sources and technical services for industry.

Another specific area for co-operation in research and development and scientific research would be such agricultural products as coffee, associated crops, mixed crops, sugar-cane, pasturage, potatoes, rice, maize, wheat, sorghum, beans, coconuts and tobacco.

Technical co-operation needs also include the design and construction of dams and the management of catchment areas, these being fields in which developing countries have accumulated experience.

D. Procedures for technical co-operation

Various procedures are used for the different forms of technical co-operation from developing countries, the main ones being:

(1) Agreements with Governments of developing countries, to which reference has already been made. Co-operation mainly takes the form of fellowships, experts and exchange of information.

(2) Through international agencies, which make financial resources available, usually earmarked for the recruitment of experts, the provision of fellowships and, in some cases, the purchase of equipment and supplies from developing countries.

/(3) Recruitment

(3) Recruitment of experts and technicians, by both public and private enterprises. This is the most common method and includes the engagement of firms of consultants.

(4) Bilateral agreements between specialized agencies. A number of Dominican institutions have entered into agreements with other institutions in developing countries. These arrangements mostly involve educational or research institutions (universities, INDOTEC, etc.).

(5) Participation in multilateral programmes. Both the national Government and public institutions participate in multilateral training or research programmes of various kinds.

The Dominican Government has not yet established a centre specifically to co-ordinate technical co-operation among developing countries, but these functions are being carried out by the Technical Secretariat of the Office of the President of the Republic and by the National Planning Office, which is subordinate to it, as the bodies responsible for technical co-operation in general.

Multilateral technical co-operation agreements or programmes might be the most appropriate way of ensuring that technical co-operation among developing countries is effective. These programmes should be drawn up on the basis of detailed studies of the potential and requirements for technical co-operation among developing countries. The starting-point should be identification of the basic areas in which the implementation of such programmes could begin.

E. Co-ordination

One of the major limitations, to which reference has been made above, is the fact that developing countries have little knowledge of one another's potential. Actually, the time for identifying and analysing common problems of a general character is past; what is needed is to go into specific aspects in more and more detail. At present, efforts are still being dissipated on analyses of a general nature. If practical problems are to be dealt with effectively, it is essential to have a co-ordinating mechanism which links and integrates specific aspects and projects in a single entity so that duplication and incongruities may be avoided.

/This co-ordinating

This co-ordinating body should be multilateral in character and should be something more than a documentation or information centre. It should have the capacity to carry out specific studies on the potential and requirements for technical co-operation among developing countries. It should also be capable of promoting practical experiments in co-operation, which in many cases it would have to initiate before leaving them to be carried on by the parties concerned.

However, the Dominican Republic does not envisage in its foreign policy the establishment of any new international body, and therefore believes that one of the existing regional bodies should be used to provide the necessary co-ordination. Its functions would include consultation, co-ordination, co-operation and economic and social promotion, and it would have specific responsibility for promoting intra-regional co-operation.

This regional organization should receive backing, support and collaboration from UNDP, which has an extensive world-wide structure and can at any time co-ordinate the various agencies of the United Nations system, with their wide experience in developing countries.

ECUADOR

Introduction

1. The Government of Ecuador believes that the United Nations Conference on Technical Co-operation among Developing Countries is one of the most important instruments for achieving the fundamental goal of establishing a new international economic order, thereby bringing us a step nearer to human development in which dependence, stagnation, poverty, illiteracy and the other problems confronting the third world have no place.

It likewise believes that co-operation among developing countries should be based on fundamental principles such as those set forth in the Charter of Economic Rights and Duties of States.

It further holds that the effort to bring about co-operation should be planned in such a way that national, subregional, regional and third world priorities are identified and fully represented in the selection of co-operation options.

In addition, it considers that technical co-operation among developing countries is an essential tool in stimulating integration at all levels.

It is aware of the fact that co-operation among developing countries should make provision for preferential treatment for the relatively less developed, the least developed, and the land-locked countries.

To this end, the Government of Ecuador feels that technical co-operation among developing countries should give priority to agreements, conventions, and organizations dealing with the commodities on which our growth and economic and social development basically depend.

2. The Government also believes that it is necessary to improve or initiate the institutionalization of machinery for more flexible and integrated co-operation among developing countries. In this respect, contacts between Governments should be more systematic and there should be a more co-ordinated effort to match supply and demand in existing advisory services, both public and private, and to co-ordinate the growing links between co-operation, the generation of science and technology and the transfer of technology.

/Technology is

Technology is subject to various degrees of adaptation in accordance with the level of development of each individual country. For this reason, in many cases, it is not helpful to link the extremities of the chain, where the technological gap is widest, because of the obvious difficulties of comprehension, adaptation and implementation. It is also necessary to cushion the social, economic and political impact of technology resulting from differences in the cultural patterns of recipient and donor countries.

Horizontal transfer at levels where technological differences are less is more efficient, and changes can be effected without causing major social, political and economic disruption.

Although each country has specific problems to which it assigns priority, in many cases these problems are common to several countries and it is therefore possible and useful not to restrict horizontal technical co-operation to countries within the same geographic and cultural context, but to extend it at all levels, especially since the solution to certain problems requires a united approach by the whole of the third world.

The progress achieved in certain areas of development, such as technical standardization, quality control and metrology, for example, show the enormous difficulty, and even impossibility, of using or adapting the technologies of the highly industrialized countries. The experience gained by countries at an intermediate stage of development is therefore of more direct and effective use.

A. Review of experience of horizontal co-operation

3. Experience

Ecuador has had wide-ranging experience with technical co-operation among developing countries at the bilateral, regional, subregional and interregional levels.

The following is a list of the major activities being undertaken at this time:

3.1 At the regional level Ecuador participates in horizontal co-operation using various methods of financing.

/The Organization

The Organization of American States (OAS) has set up eight projects in Ecuador involving technical co-operation among developing countries in areas ranging from the conservation of the country's cultural heritage to various types of scientific and technological training.

Generally speaking, all the member countries of the organization have access to the projects, although some are restricted to the countries directly involved with the particular subject. It is interesting to note that in most cases Ecuador has participated in the financing.

A score or so projects for technical co-operation among developing countries have also been carried out on a regional basis in the framework of UNDP's regional programme. In general, all the Latin American countries have access to them and the projects are located in various countries of the region (Venezuela, Brazil, Chile, etc.) to which the Ecuadorian participants have been sent. These projects have mainly been aimed at training, although there have been some research projects and others providing an institutional backup to the Latin American Economic System (SELA) and other regional bodies. These projects have covered a variety of fields, but there has been a noticeable effort to concentrate on the specific problems of the region.

In addition, thanks to financing from the Inter-American Development Bank, Ecuador has provided training and institutional development programmes for Bolivia and the Dominican Republic, in areas such as development financing and the strengthening of public administration.

3.2 In the sphere of bilateral relations, Ecuador has signed basic technical, cultural and scientific agreements with most South American and some Central American countries. Technical co-operation has taken place on the basis of these agreements, principally in the field of human resource training in various areas of specialization considered to be of importance for meeting the requirements of the national development process.

In this connexion, favourable results have been achieved in the training of Ecuadorian professional and technical personnel who have attended study and research centres, principally in Brazil, Mexico, Chile, Argentina, Venezuela and Colombia.

/Although the

Although the basic agreements make provision for the promotion of exchanges of professional consultants in various spheres of activity to be determined in accordance with the needs of the parties concerned, this type of support has generally been little used. However, in recent years there has been a change in that trend and specific projects are now being launched in the framework of the basic agreements to promote the exchange of experience between professionals and specialized institutions in their fields of competence.

4. Obstacles

The principal obstacles to better use of technical co-operation among developing countries are to be found at various levels.

4.1 Training and project evaluation and execution.

It can generally be noted that, in cases where projects have been prepared without sufficient knowledge of the problem and without the minimum information necessary to plan them properly, there has been evidence of a trend towards stagnation of co-operative activities. This has been made worse in cases where the relevant documents have failed to identify clearly the immediate objectives and the institutions responsible.

4.2 Bilateral agreements

Despite the existence of general technical co-operation agreements, very little has been done within this framework and activities have been confined in the main to the granting of study fellowships and vocational apprenticeships.

The lack of knowledge of the technical capacities of other countries in the region or in the world at large is also felt to be an obstacle, and so too is the lack of contacts between bodies and sectors directly involved in the field of technical co-operation in each country. It is felt it will be possible to overcome this by means of an exchange of information on technical capacity and, above all, through an appropriate approach to and efficient management of, technical co-operation on terms of reciprocity.

In addition, the traditional apparatus of mixed commissions has failed to operate in practice, meaning that projects which could have been carried out within the scope of the agreements have, in most cases, not got beyond the stage of general statements by the parties.

/5. Major

5. Major experience

5.1 Horizontal technical co-operation at the level of institutions has in some cases taken a particular form in Ecuador. Such instances include co-operation with countries in Asia and South America on highly technical matters such as technical standardization, quality control, quality certification, legal and scientific metrology and the organization and planning of such activities at the national level.

The Ecuadorian Standards Institute (INEN), in close co-operation with the National Bureau of Standards (NBS) in the United States, has co-operated in the technical field with countries such as Turkey, South Korea, Indonesia, Bolivia and Honduras.

In the last-mentioned case the programme was financed by UNDP.

Such experience underlines the fact that a tripartite arrangement for horizontal co-operation involving various regions can achieve immediate success and have a multiplier effect.

The subsequent transfer of this experience to other countries faced with the same problems has had a very marked effect on technological progress and mutual co-operation between the nations involved, thereby reducing the degree of technological dependence which normally results from a bipartite arrangement where a considerable technological gap often complicates the direct use of scientific and technical knowledge or gives rise to serious economic, social and political conflicts due to the transplant of alien cultural patterns without any degree of adaptation.

Tripartite co-operation could, moreover, take place in circumstances where the necessary finance came from a source not directly linked with the technology, as was the case with the examples mentioned above.

5.2 Another of Ecuador's experiences in the field of horizontal technical co-operation which it thinks should be stressed is the establishment of the Pre-investment Information Centre (CIP) which is a Latin American regional body for which the National Pre-investment Fund (FONAPRE), based in Quito, acts as the executive secretariat. This is in line with the promotion of pre-investment systems set up in the country as part of the National Project System and the National Planning System, the development of which has been notably accelerated as a result of the existence and expansion of the oil industry.

/Horizontal co-operation

Horizontal co-operation has also been evident in the form of on-the-job training at FONAPRE of local technical staff and professional fellowship-holders from other countries. A case in point is that of the officials of the National Project Office of the Technical Planning Secretariat attached to the Office of the President of the Republic of Paraguay and of other technicians from Bolivia, the Dominican Republic, Chile and Jamaica, all of whom made visits to the institution to observe and study its work.

B. Capacities for technical co-operation among developing countries

6. In accordance with the experience gained, and in the context of the Government's present policy, Ecuador can offer co-operation in the sectors listed hereunder. There is a proviso however: given the range of the subsectors defined in the sectoral classification for the Information Referral System on the capacities for technical co-operation among developing countries, this offer makes no claim to be exhaustive in each subsector. Ecuador is also able to offer co-operation in some specific branches in other subsectors.

0520 Plant production (particularly research into subtropical and tropical products)

0580 Agricultural financing (advisory services)

1030 Cultural heritage (conservation and evaluation)

1040 Social sciences (especially sociological research)

1050 Libraries and documentation services (for pre-investment)

2010 Economic and social policy and planning (including pre-investment studies - see paragraph 5.2)

2030 Public administration

3510 Industry planning, policy and programming

3530 Handicrafts (folk art)

4020 Trade in commodities (banana marketing)

5040 Water resources development

6560 Quality control, technical standardization and metrology (see paragraph 5.1)

7550 Telecommunications

8020 Regional physical planning

8030 Urban planning

8040 Housing and planning policies

C. Needs

C. Needs for technical co-operation among developing countries

7. Ecuador is aware of the validity of the experiences of other developing countries as an element in determining its own search for appropriate solutions and is therefore interested in learning of them, particularly in the following subsectors.

7.1 Integrated rural development: Since Ecuador is essentially a rural country, technical co-operation with other developing countries is essential if it is to acquaint itself with and apply the various procedures which other Latin American or third world countries with similar characteristics have adopted to solve the host of rural problems confronting them, such as organization, mobilization, rural participation, agrarian reform, back-up services, improvement of agro-industrial productivity, etc.

7.2 Industrialization: The promotion of industry, which is fundamental to development, should be a priority area for horizontal co-operation. In this regard there is a special need for the creation of multinational enterprises to enable developing countries to improve their negotiating power, use economies of scale and become involved in the most advanced areas of technology, as well as exporting manufactures to the industrialized countries.

7.3 Health: Joint efforts to develop systems for the extension of preventive medicine, such as the universal supply of drinking water, are fundamental; so too is the better utlization of therapeutic medicine, especially in the rural sector.

7.4 Nutrition: United action and solidarity is required to solve the problem of hunger.

7.5 Education: It is important to share experiences on ways of eradicating illiteracy and remedying the high drop-out rate in schools, and to organize middle-level vocational training.

7.6 Commodities: Ecuador attaches particular importance to co-ordination and co-operation with regard to commodity policies, since it remains a country whose growth is essentially export-oriented.

7.7 Urbanization: It is also necessary to make a joint effort to deal with the haphazard and sometimes irrational process of urban growth and concentration of the best facilities in a very few centres, which gives rise to serious regional imbalances.

/7.8 Energy:

7.8 Energy: Adequate knowledge of energy sources and their use is an important basic component of development.

7.9 Resource research and application: The field of research into and identification of renewable and non-renewable resources is also important; so too is their optimum use domestically and internationally, particular emphasis being placed on environmental protection. In this regard, co-operation in the use of marine resources is considered fundamental.

7.10 Science and technology: It is necessary to make united efforts to generate and develop science and technology in each particular country. This is probably the best way of freeing ourselves from external dependence. The same applies to all aspects of the transfer of technology.

7.11 Integration: The best form of horizontal co-operation is to be seen in the process of regional, subregional or intercountry integration. It is vital that such co-operation should go hand in hand with the strengthening of systems of integration, since this is the essential priority and option for economic and social development.

D. Procedures for technical co-operation among developing countries

8. Reference must be made to both domestic and external procedures.

8.1 Domestic

In 1974 the Ecuadorian Government set up a high-level interinstitutional body, known as the National Committee for Technical Co-operation, which determines policy for the use of technical resources and authorized negotiations on technical co-operation programmes and the signing of basic and specific multilateral or bilateral technical co-operation agreements. The members of this body are the Minister for Foreign Affairs, the Minister of Finance and the Chairman of the National Planning Board.

Offers and requests for technical co-operation are all dealt with centrally by the National Planning Board, which acts as the technical secretariat of the Committee, making it possible to establish an effective order of priorities for projects requiring external backing, in accordance with ongoing development programmes. In addition, when offers are analysed and studied with a view to acceptance, a big effort is made to overcome the serious problem created by the dispersion of resources and their fragmentation among unimportant sectors.

/The legal

The legal framework described facilitates the functioning of a national system for the use of technical co-operation, including programming, co-ordination and evaluation of technical co-operation projects. As from this year, the Planning Board will be receiving UNDP backing to strengthen the system.

As a national liaison body (ONE) the National Planning Board co-ordinates and channels the requirements of other countries interested in receiving technical assistance from Ecuador. It is felt that centralization of these functions in the National Planning Board has enabled the necessary co-ordination and smooth functioning of horizontal co-operation.

8.2 External

Mention has been made of the need to increase co-ordination of and information on technical co-operation at all levels. This is fundamental in respect of international trade (commodities), transfer of technology, generation of science and technology, etc., especially in the field of horizontal co-operation. In other areas, however, it would be difficult to achieve global co-ordination without first strengthening the existing subregional and regional machinery. In addition, UNDP would appear to be the most suitable body at this time to initiate global co-ordination of technical co-operation among developing countries.

EL SALVADOR

Traditionally, technical co-operation from both multilateral and bilateral sources has consisted of the transfer of technology from highly developed to developing countries in order to enable the latter to achieve greater economic and social progress in priority areas requiring the assistance of more advanced technologies than those available domestically. There is no doubt that, although the developed countries are years ahead of the developing countries, this link has supplemented the efforts made by the developing countries themselves to achieve greater social and economic well-being for their peoples.

This situation, in which developing countries are seen as requiring large amounts of technology, has begun to change in recent years, because of the greater degree of scientific, technological, social and economic progress achieved. As a result, some countries with a greater wealth of resources have become producers rather than importers of technology. So much so that the technological potential generated by the developing countries in the current decade provides a good opportunity to encourage horizontal technical co-operation, that is to say technical co-operation among developing countries.

Clearly, implementation of this type of horizontal technical co-operation promises to be of great benefit to countries which adopt it in its entirety, for it will help train specialized technical cadres and strengthen social and economic sectors which are not fully developed.

Nevertheless, there is no question of belittling the importance of traditional technical co-operation - transfers from developed countries to developing countries. On the contrary, the two methods would complement one another in those areas in which the developing countries have not attained a sufficient degree of progress; this will enable them to take maximum advantage of the external assistance received in the form of technical co-operation.

/This report

This report describes the experience gained to date by the Government of El Salvador in the field of technical co-operation among developing countries and of certain specialized knowledge which it currently possesses and which it makes available to countries with similar characteristics to its own. In addition, there is a general breakdown of the technical assistance which El Salvador will be requesting in the coming years to support the implementation of its economic and social development plan 1978-1982.

1. EXPERIENCE IN THE FIELD OF CO-OPERATION AMONG DEVELOPING COUNTRIES

Even though the Government of El Salvador has for many years maintained harmonious relations with the developing countries in the region - reflected in commercial, cultural, scientific and technological exchanges based on bilateral agreements - we believe that so far exchanges within the framework of technical co-operation among developing countries are only in their initial stages, for the contacts recently established by El Salvador represent a continuation of traditional relations, which have been growing much stronger.

Excluding, in this case, commercial arrangements related to technical co-operation, it should be stated that cultural, scientific and technological exchanges have developed, both in El Salvador and in other countries organizing such exchanges; these are financed by the host country or by the participating countries and, in some cases, they have been organized and sponsored by subregional and regional technical co-operation programmes.

Since the exchanges between El Salvador and the other countries in the region constitute a bond of assistance among countries, as well as for other reasons, it is often not possible to determine in financial terms, or even to quantify in other ways, the total amount of assistance received, bearing in mind the fact that there is now a system of national technical co-operation which co-ordinates and administers these exchanges with the other countries.

Notwithstanding the above, we realize that the underlying goal of technical co-operation among developing countries is to achieve a means of aid which can be used in order to strengthen ties of friendship while at the

/same time

same time focusing efforts on solving not only social and economic problems that are peculiar to individual countries but also those that are common to countries having similar conditions. It is also extremely beneficial to countries such as El Salvador which have limited resources.

If this type of co-operation is to be effective and to increase the exchanges among countries, a co-ordinated system must be established at the regional and extraregional level. The operational machinery and the financial and administrative support for such a system must be provided by multilateral and bilateral technical co-operation bodies so that the efforts made by the countries themselves do not represent an economic sacrifice which would affect other development variables.

This view is based on the fact that the main obstacle that countries desiring to encourage further cultural, scientific and technological exchanges encounter would be the availability of resources each year to finance aid granted or received, considering that financing possibilities would depend on the economic situation in participating countries.

In brief, we can conclude that the experience acquired by El Salvador within the framework of technical co-operation among developing countries does not differ significantly from the traditional direct exchanges between countries or from exchanges encouraged through subregional and regional technical co-operation programmes. However, it is worth repeating that El Salvador has always made a point of supporting and participating actively in all efforts designed to overcome the social and economic conditions of the countries in the region and, primarily, to strengthen integration with the countries of Central America.

2. CAPACITY OF EL SALVADOR TO PROVIDE TECHNICAL CO-OPERATION

The relative degree of development that El Salvador has attained during this decade has contributed to the formation within the country of institutional and individual values in certain social and economic sectors where technological progress is more advanced. These include the following

/sectors: agriculture

sectors: agriculture and livestock, education, economic policy and planning, natural resources, communications and human settlements.1/

Generally speaking, we can say that the sectors in which El Salvador has made greatest progress are as follows:

(a) Agriculture and livestock

- Agricultural and livestock policy and planning;
- Agricultural research and production, with the emphasis on maize, rice, sorghum, coffee and cotton crops;
- Research into and production of improved seeds;
- Irrigation and drainage;
- Research into and development of fish farming;
- Intensive farming of subsistence-level farms;
- Agricultural and livestock statistics.

(b) Education

- Educational television;
- Non-formal education.

(c) Economic policy and planning

- Sectoral policy and planning;
- Economic and social statistics.

(d) Natural resources

- Development planning and policies;
- Development of energy resources.

(e) Communications

- Operation and maintenance of external networks;
- Commercial exploitation of international services;
- Traffic planning and tariff fixing.

(f) Human settlements

- Urban planning;
- Housing policy and planning;
- Community development.

1/ Sectoral classification for the information system on technical co-operation opportunities among developing countries.

3. TECHNICAL CO-OPERATION NEEDS

Since the National Development Plan 1978-1982 aims at strengthening the economic and social sectors and since, to achieve this, El Salvador's own efforts will have to be supplemented by external technical assistance, it is expected that technical co-operation will be required in the following sectors and areas:

(a) Agriculture and livestock

- Livestock breeding and health;
- Development of continental fisheries.

(b) Culture and social sciences

- Cultural heritage;
- Libraries and communications services.

(c) Education

- Educational development;
- Preparation of curricula, training of teaching personnel, methods and techniques.

(d) Health

- Prevention and control of communicable diseases;
- Promotion of environmental hygiene;
- Health statistics.

(e) Industry

- Industrial planning and programming;
- Manufacturing industries;
- Crafts;
- Industrial training.

(f) Natural resources

- Development of mineral resources;
- Development of water resources.

(g) Population

- Population policy;
- Training;
- Development of population programmes.

/(h) Science

(h) Science and technology

- Planning and co-ordination of science and technology policies.

(i) Transport and communications

- Transport policy and planning;
- Land transport by road and rail;
- Postal services.

(j) Environment

- Oceanography and meteorology.

4. PROCEDURES FOR REQUESTING AND GRANTING TECHNICAL CO-OPERATION

In accordance with the institutional structure of the Government of El Salvador, the procedures for requesting and granting technical co-operation are as follows:

(a) Procedure for requesting technical co-operation

- Initially, any public or private national institution requiring technical co-operation (experts, training fellowships, equipment, etc.) in a specific area asks the Ministry for the Planning and Co-ordination of Economic and Social Development (National Liaison Office - ONE) to discuss the required services with the bilateral sources with which the Government has relations.
- The Planning Ministry, through its Division of International Co-operation, analyses, investigates and approves the request and selects the country which is most advanced in that area. Next, the Ministry of Planning asks the Ministry for Foreign Affairs to contact the diplomatic representation involved so that it may convey the technical co-operation request to its Government.
- The Government receiving the request, considers whether it can grant the required services and lays down the conditions under which it could provide the technical co-operation. If there have been no prior exchanges of this nature between the two Governments, it is suggested that a bilateral agreement should be signed to cover relations between the contracting parties. If such an

/agreement exists,

agreement exists, the supplying country, through its diplomatic representation or Foreign Ministry, informs the other that it could provide the assistance under the conditions specified.

- The Foreign Ministry conveys the information to the Ministry of Planning and it, in turn, informs the institution from which the request originated. If there is no objection, negotiations continue until the technical co-operation is granted by the supplier country and received by the institution concerned.
- All the negotiations involved in obtaining technical co-operation are conducted in this manner through the institutions mentioned.

(b) Procedure for granting technical co-operation

Any country that believes that the Government of El Salvador may help solve cultural, scientific and technological problems arising in certain specific fields and is interested in obtaining such assistance should follow the procedure set out bewlow:

- Once the need for technical co-operation has been determined in a particular area the country concerned, acting through its diplomatic representation, submits a request to the Ministry for Foreign Affairs asking it to convey the request to the Planning Ministry (National Liaison Office) which is responsible for co-ordinating technical co-operation received and granted by El Salvador.
- The Planning Ministry, through its Division of International Co-operation, contacts representatives of the institution - whether public or private - which can provide the technical co-operation requested. The institution involved studies the request and determines the terms and conditions under which it can provide the technical assistance requested and informs the Planning Ministry of its decision.
- The Planning Ministry communicates the institution's answer to the Foreign Ministry which transmits the information to the diplomatic representation concerned. In the event that no technical co-operation agreement exists with the country making the request, it also suggests that such an agreement should be signed.

/- The

- The diplomatic representation in the country informs the Government of the terms and conditions under which the technical co-operation services are being offered. These terms and conditions are examined by the Government concerned and, if it sees no objection, approved. Then negotiations continue between the two countries until the technical co-operation is granted by the supplier country and received by the institution concerned.
- All negotiations relating to the granting of technical co-operation are carried out in this manner through the national institutions mentioned.

5. CO-ORDINATION OF TECHNICAL CO-OPERATION AT THE INTERNATIONAL LEVEL

As was stated earlier, if this technical co-operation is to be effective and to increase exchanges among countries, there must be a global co-ordination system to encourage and promote relations among developing countries. The United Nations Development Programme (UNDP) which has broad experience in the field of technical co-operation and the administrative structure to support that experience should be well able to co-ordinate the exchanges among developing countries in addition to supporting these relations financially, for financing is the greatest problem that participating countries are likely to encounter in this form of technical co-operation.

GRENADA

A. EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

8. Grenada has co-operated in developing activities with other developing countries during the last few years as follows:

Agriculture, forestry and fisheries: At the Guyana School of Agriculture three trainees are being trained in veterinary science, funded by CIDA. Two persons studied Fisheries in South Korea, funded by South Korea. Israel offered training in Regional Planning and Vegetable Production and Pesticides. One person was trained in agricultural methods in Barbados, funded by PAHO. At the college, experts made a survey of fishery potential in Grenada's waters.

Cultural, social and human sciences: Four six-month attachments to Central Library Sciences, Trinidad and Tobago, through the Eastern Caribbean Regional Library Fund. Guyana prepares Grenada's national imprints for inclusion in the Caricom Regional Bibliography.

Education: Trinidad's funded assistance in the training of library personnel. Trinidad's Common Entrance Examination questions are used for Common Entrance Examinations in Grenada. The results of this exam were processed in Trinidad. More recently, scoring alone is done in Trinidad. Barbados provides in-service training of secondary school teachers from Grenada, one per year. One blind person is being trained at Mausica Teachers' Training College in Trinidad, funded by Grenada. In Israel one person is being trained in Community Development and two teachers are being trained in Infant Education. Venezuela has offered scholarships for five persons who are now studying in Venezuela to be Spanish teachers. A district road officer made a study visit to St. Lucia to observe road construction methods, funded by BODD Eastern Caribbean Regional Course for training of trainees. Course in Educational Technology funded by PAHO-WHO. Eastern Caribbean Farm Institute, Trinidad and Tobago, has offered training of teachers to teach Agricultural Science in Grenada, funded by CIDA.

/Health: One

Health: One public health inspector is under training in Guyana. Two dental auxiliaries are being trained in Trinidad, funded by UNDP. One person was trained in rehabilitation of the disabled in Trinidad but did not return to Grenada. One public health inspector and one pharmacist were trained in Barbados, funded by UNDP. One person was trained in immunization techniques, one as a laboratory technician and one in epidemiology, funded by PAHO. The College of Arts, Science and Technology provided training for public health inspectors and nurses, funded by PAHO. Two people were trained in Nutrition at Caribbean Food and Nutrition Institute of the University of the West Indies.

Industry: Barbados offers training in Hotel Trades and Industrial Arts. One person was qualified in Motor Mechanics in Barbados.

Labour, management and employment: Two senior police officers from Nigeria were seconded to Grenada and established the Training School and did much to improve the standards of the Royal Grenada Police Force.

Library: Consultant to advise on the establishment of a national information system. Fellowship to provide core of professional librarian to develop national information system. Experienced librarians to assist in organization and implementation of training programme for library technicians (middle level personnel).

A9. The judgement of Grenada's Government holds that activities of technical co-operation among developing countries are minimal and that Grenada would endeavour to support efforts to improve the efficiency and advance the development of these activities. Activities have proved inefficient in the following cases: (1) gifts of technical equipment resulting in the need of trained personnel not available in Grenada, for the operation and maintenance of such equipment; (2) extreme difficulty of obtaining spare parts posing a serious problem; (3) the distance to the source of specialist services offered to Grenada at institutions in developing countries (e.g. Jamaica) poses a problem due to lack of efficient and/or appropriate transportation facilities and services; (4) valuable gifts of technical equipment (machinery) not usable, though potentially very useful, due to lack of a need for heavier equipment to prepare for the use of the donated equipment.

/A10.

A10.

A11. The educational aspect: This would require the promotion of identification and in-depth study and research of common heritage and attitudes which are barriers to the development of technical and vocational education as an integral part of educational systems in developing countries.

B. CAPACITIES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

12. Grenada's institution and individual assets and capacities are as follows:

1520 Teacher Training College. Produce Chemist Laboratory
1530 Non-formal Education Consultancy
0560 Agricultural Institutions Service and Rural Training (Farm School)
0520 Plant Production
6520 Taxonamist 1 Ph.D.

C. NEEDS FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

14. Grenada as a developing and newly independent country needs all possible economic and technical co-operation with other developing countries in the following areas:

Agriculture: Improvement and expansion of export crops. Provision of fertilizer. Provision of food crops, e.g., soya beans, corn, potatoes, onions, peanuts, carrots, rice by the provision of expert technical assistance and/or scholarship to Grenada Nationals. Research and control of pests and disease. Soil maintaining. Accelerated propagation and management improvement. Fertilizer blending and storage. Cultivation of limes. Forestry development and maintenance. Training programmes for farmers and processors. Expansion of land and water technology in areas of production. Veterinary Mobile Laboratory Services. Veterinary diagnostic clinics. Reference books and library. Agro-industrial development. Provision of infrastructural facilities and equipment for the resuscitation of the Sugarcane Industry. Agricultural machinery (power tractors) power tillers. Research on hill farming.

/Communication and

Communication and works: Plant and equipment. BDD Miniplaner, 10 Bitumen Sprayers (hand operated and fitted with heaters), two rollers, three trucks.

Roads: To develop local expertise in Bridge Design. Training for Grenada nationals as material technicians. Transportation and road research laboratory.

Library: Consultant to advise on the establishment of a national information system. Fellowships to provide core of professional librarians to develop national information system. Experienced librarians to assist in organization and implementation of training programme for library technicians (middle level personnel). Technicians trained in the production of local materials both print and non-print and in the operation, maintenance and repair of materials and equipment, e.g., bookbinding and mending, operation and repair of slide projectors, etc. Establishment of workable copyright and legal deposit laws that would encourage increased literary production and ensure bibliographic control. The copyright (delivery of books) ordinance 1953 needs to be revised with a view to making the Grenada Public Library the national depository. Assistance in the establishment of a national archives where material would be treated and stored under suitable physical conditions and organized for ready retrieval. To have access to any regional data bank where information may be stored or obtained. Provision of books and audio-visual materials and equipment. Library equipment, e.g., shelving, catalogue card cabinets, typewriters, display cases and display boards, etc.

Education: pre-primary education: Physical infrastructure, equipment and materials, training of teachers.

Primary education: Replacement of school buildings.

Personnel and human resource development: Teacher training for all levels. Training in specialized areas (Curriculum Development, Measurement and Evaluation, Research). Development in Educational Planning Unit.

/Educational equipment

Educational equipment and materials: Establishment of a material production unit. Development of school library service and extension service for rural library services. Two mobile library units. Audio-visual materials and equipment.

Technical and vocational education: Extension of Grenada's Technical and Vocational Institute to include the Hotel Trades. Industrial School/ Mt. Hartman-Residential Farm type institution for youth development.

Trade centres: Designing of co-ordinated comprehensive programmes for primary and post-primary education for agricultural science, craft, wood-shell, fibers, straw, plastic, etc. Boat building navigation and seamanship. Study visits to other developing countries. Supervision of industrial arts. Training in special education.

Transportation: School buses.

Physical education: Physical infrastructure - establishment of playing fields, and sporting complexes.

Training institutions (adult level): Farm school, nursing school new building, audio-visual centre. Mobile units equipment and materials.

Fisheries: Fish plant with cold storage/holding facilities. Development and demonstration of advance small-scale fishing. Developing and exploiting the fishing resources through programmes of controlled management. Providing qualified and experienced fishery officers. Organization and administration of (a) Pelgie and Dermensal fishing, (b) fresh water fish forming in the three island lakes in Grenada. Securing of larger boats, engines and spare parts. Two petrol boats to protect and secure the fishing resources in Grenada's territorial waters. Provision of small-scale fish canning machines.

Forestry: Forestry management and control. Improved forest species. Expansion of forestry nursery. Supporting equipment for development. Preservation and conservation of wild life in forest reserves.

Health: supply and delivery of drugs: Equipment and transportation.

Gastroenteritis and malnutrition: Nutrition, immunization, environmental health.

/Primary and

Primary and institutional health care delivery: Hospitals, medical centres and health clinics. Rural primary health care. Replacement of older visiting stations with the new standardized unit and updating.

Environmental health programmes: Sewage disposal system, refuse collection and garbage disposal, safe water supply.

Dental health: Education, equipment.

Health education: equipment and visual aids.

Science and technology: Energy supplies from wind and the sun.

Wind: Technical assistance to develop pilot projects utilizing wind energy to increase productivity in the agricultural sector. (1) Windspeed survey; (2) construction of appropriate windmills for pumping water for irrigation (including drip irrigation); grinding and crushing, e.g., corn; generating electricity.

Solar: Technical assistance to bring solar energy into use as an alternative energy source to build solar equipment and exploit potential use in areas like cocoa drying, etc.

Water: Sunken wells and bore-holes in dry areas and catchment areas contain vast potentials of untapped resources which can be utilized effectively for increased production of crops and livestock.

15. Grenada's Government considers the following needs of greatest priority, and whose solutions, when found, could be applied immediately to other countries. (1) Research on hill farming. (2) Research and control of pests and diseases. Beneficial results in these areas will facilitate the realization of the priority for agricultural development and expansion of export crops.

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

16. (a) The procedures are worked out by specific standard bilateral, multilateral or regional agreements used within planned programmes.

(b) Yes. The Ministry of Planning Development and Training has the co-ordinating role within the Government for technical co-operation and development among developing countries.

/E. CO-ORDINATION

E. CO-ORDINATION OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES. THE INTERNATIONAL LEVEL

18. Yes. There is a need for the overall co-ordination of activities of technical co-operation among developing countries.

19. National co-ordination mechanisms and co-operation in the submission of national information to overall co-ordination organization.

20. Yes.

GUATEMALA

I. Introduction

The Government of Guatemala, like those of other economically and socially developing countries, lacks sufficient technical and financial resources to achieve the goals and objectives of its national development plans unaided and therefore has to seek international technical and financial co-operation to support and accelerate its development activities.

Technical co-operation from other developing countries has been insignificant, constituting only a small fraction of the international technical assistance which Guatemala receives annually.

The Government of Guatemala believes that there is a need to explore in greater depth the possibilities of concluding bilateral or multilateral agreements with developing countries in support of specific development activities.

To achieve the above-mentioned objectives, it has signed several bilateral and multilateral technical co-operation agreements with both developed and developing countries, the latter group including:

II. Bilateral co-operation

(i) China (Taiwan): Agricultural Technical Co-operation Agreement, signed on 22 December 1971.

(ii) Brazil: Technical Co-operation Agreement, signed on 13 July 1971.

(iii) Venezuela: 1. Technical Co-operation Programme in respect of hydrocarbons, signed on 9 July 1976. 2. Cultural Exchange Agreement, signed on 19 November 1969.

(iv) Colombia: 1. Technical and Scientific Co-operation Agreement, signed on 13 July 1976. 2. Cultural Agreement.

(v) Peru: Technical Co-operation Programme, signed on 23 June 1977.

In addition, various technical and cultural co-operation agreements have been signed with developed countries, including Canada, France, the Federal Republic of Germany, Israel, Japan, Spain and the United States of America.

/Assistance under

Assistance under this heading has been provided through development programmes, projects and activities, some of them in the context of the national development plans.

III. Multilateral co-operation

In addition to the agreements listed in section I, subregional 1/ and other subsidiary agreements have been signed in connexion with the execution of programmes, projects and other similar activities which are covered by the basic agreements concerned. This type of co-operation has been adopted by our country when providing technical co-operation to developing countries, principally those in Central America, with which we share similar experiences.

IIIa. Subregional programmes

Guatemala has had a hand in the establishment of a number of Central American subregional organizations which are financed by the Central American countries themselves.

1. SIECA: The Permanent Secretariat of the General Treaty on Central American Economic Integration was established on 12 October 1960 to bring about the political, economic and commercial unity of the Central American countries. At the moment, SIECA is playing an important role in the Central American Common Market. At the request of governments, the Secretaria provides advice by means of research studies and technical assistance on subjects such as taxation, problems of physical infrastructure, market factors and product feasibility. Guatemala contributes US$ 250,000 annually to this institution.

2. BCIE: The Central American Bank for Economic Integration aims to promote the economic integration and balanced economic development of its member countries. To that end it provides technical assistance in the following investment sectors:

(a) Infrastructure projects which complement existing regional systems or compensate for disparities in basic sectors which hinder balanced development in Central America;

1/ Central American Agreement on Co-operation in Education, the Arts, Science and Technology, signed by the Governments of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama on 26 March 1966.

/(b) Long-term

(b) Long-term industrial investment projects of a regional nature or of interest to the Central American market;

(c) Co-ordinated specialized agricultural projects aimed at the improvement or extension of agricultural holdings or at crop substitution to supply the Central American region;

(d) Financial projects for companies needing to extend their operations, modernize their processes or restructure their production;

(e) Financial projects for services essential to the functioning of the Common Market;

(f) Other projects in the field of production which are aimed at making member countries economically complementary.

3. INCAP: The Institute of Nutrition of Central America and Panama was set up in 1946 and began operating in 1949 with the aim of providing technical co-operation on a Central American and Latin American basis in order to solve the nutritional problems of the area. Guatemala contributes a sum of US$ 250,310 annually.

4. ICAITI: The Central American Research Institute for Industry was set up especially to give advice to the countries of the Central American area on the use of industrial technology so as to enable them to benefit economically from the resources of the area. Guatemala contributes US$ 100,000 annually to the Institute.

5. CSUCA: The Supreme Council of Central American Universities, which is the governing body of the Confederation of Central American Universities, was set up in 1948 at the first Central American University Congress, held at San Salvador. It aims to bring about greater diversification of university studies in Central America by extending them to the post-graduate level to respond more effectively to the need for professionally qualified and trained staff implicit in the economic and social development process of the Central American region, and to promote research and contribute to speeding up the cultural, technological and scientific progress of the countries of the isthmus by the concentration of resources and better utilization of the available facilities and staff of the universities of Central America. The San Carlos University of Guatemala makes an annual contribution of US$ 56,000 towards the achievement of these objectives.

/6. ICAP:

6. ICAP: The Central American Institute of Public Administration, which originally arose from a need for experts in public administration in Central America and which furnishes technical assistance to governments by means of courses, extension programmes and consultancy services, was set up on the initiative of the Ministers of the Economy of the region, together with the Central American Higher School for Public Administration (ESAPAC). Guatemala's annual contribution is US$ 85,000.

Machinery for co-operation and technical assistance has been diversified and intensified within the subregional programmes, of which the above are merely the major examples.

IV. Where financing of assistance and technical co-operation activities was carried out with maximum flexibility, it was on the basis of an equal apportionment among the countries which participated in the subregional development programme.

In cases where assistance is obtained through bilateral agreements, financing is provided from the funds of international agencies or organizations through the usual channels.

Where technical assistance is obtained on an ad hoc basis, all sorts of channels are used, ranging from national budget appropriations to outright grants.

V. The Guatemalan Government's assessment of the conditions indicated is commensurate with the importance it attaches to the economic development of the Central American subregion.

In this connexion, co-operation and technical assistance among developing countries complements national efforts and, at the same time, provides an opportunity to pool capacities within the context of joint development.

At the subregional level, the outlook is more optimistic now, for really improving bargaining power, strengthening the human resources infrastructure and unifying the machinery for financing.

VI. Assets gained from experience in technical co-operation with neighbouring developing countries in subregional programmes:

/1. Improvement

1. Improvement of teaching and educational planning capacity in the countries of the subregion;

2. Strengthening of national economies, products and goods and of joint bargaining power;

3. Improvement and diversification of research capacity;

4. Greater expertise in various aspects of public administration;

5. Extension of credit and financing facilities available to the governments of the subregion;

6. Machinery for vocational training for production;

7. Unification of machinery and methodology for solving joint problems of central banks, resulting in a strengthening of local capacities to handle unified monetary procedures with the purpose of providing suitable structures for the Central American monetary union.

VII. Guatemala would be able to provide technical advice in the following subsectors:

Agriculture, livestock-breeding, forestry and fisheries

0530 Animal production and health

General economic and social policy, planning and public administration

2030 Public administration

Health

2530 Development of health manpower

2540 Communicable disease prevention and control

Industry

3510 Industry planning, policy and programming

3520 Manufacturing industry

Labour, management and employment

4540 Management training and development

Relief activities

6040 Aid in natural disasters

Human settlements

8030 Urban planning

8050 Community development

/VIII. Heads

VIII. Needs for technical co-operation

The general sectors in which Guatemala requires assistance from the developing countries in accordance with the classification set out in annex I are:

Agriculture, livestock-breeding, forestry and fisheries

0520 Plant production

0540 Fisheries

0550 Forestry

0560 Land and water use

Cultural and social and human sciences

1030 Cultural heritage

1040 Social sciences

Education

1520 Curriculum development, teacher training, methods and techniques

1550 Educational technology

General economic and social policy, planning and public administration

2020 General economic and social statistics

Health

2570 Promotion of environmental health

2580 Health statistics

Industry

3530 Handicrafts

3540 Service industries

3550 General industrial services and institutions

International trade and tourism

4020 Trade in commodities

4040 Tourism

Labour, management and employment

4510 Employment promotion

4520 Employment and manpower planning

4530 Vocational guidance and employment services

4560 Migration for employment

/Natural resources

Natural resources

5010 Development planning and policy

5020 Energy development

5030 Mineral resources development

5040 Water resources development

5050 Multipurpose development

5060 Cartography

Population

5510 Collection and appraisal of population statistics

5520 Population dynamics

5530 Population policy

5560 Training

Science and technology

6520 Life sciences

6530 Physical sciences

6540 General multipurpose computer technology

6550 Patents, licensing and proprietary technology

Social security and other social services

7010 Social security

7020 Welfare services and rehabilitation

Transport and communications

7510 Transportation and communications policy and planning

7530 Transport by water

7540 Transport by air

7550 Telecommunications

Human settlements

8020 Regional physical planning

8040 Housing and planning policies

8060 Building materials and construction industry support

Environment

8510 Oceanography

IX. The Government has adopted traditional procedures vis-à-vis developing countries as both recipient and donor of technical assistance, the most important being the following:

/A. Ad hoc

A. Ad hoc procedures, which are used to solve specific problems and to deal with special circumstances. Most of the specific problems have been in areas such as agriculture and institutional organization and operation or have been of a monetary character. Where there are special circumstances, most of the technical assistance has been provided under agreements reached following the February 1976 earthquake and has been channelled through the National Reconstruction Committee to reconstruction-related activities.

B. The specific unit of the Guatemalan Ministry of Foreign Affairs responsible for registering bilateral agreements relating to technical assistance uses a model bilateral agreement as a basis for signature.

C. Another procedure used is State participation in multilateral agreements under which assistance and technical co-operation take place between the developing countries which are parties to such agreements and the body which initiates them.

As an example of the bilateral procedures listed above, the Government of Guatemala has signed technical co-operation agreements with Brazil and Venezuela. Co-operation and technical assistance agreements with Colombia, Peru and Chile are in the process of being approved by the Congress of the Republic.

Likewise, the Government of Guatemala has signed agreements calling for participation in IBRD, IDB, AID, SELA, CEMLA, ISBI and UDUAL.

D. The most frequently used and therefore most important agreements are those which have been reached in the context of the Central American subregion, under which most assistance and technical co-operation take place. These instruments have made possible the establishment of permanent bodies which encourage such activities, including SIECA, CABEI, INCAP, ICAITI, CSUCA and ICAP.

X. The national liaison body responsible for co-ordinating technical co-operation is the Technical Assistance Department of the General Secretariat of the National Council for Economic Planning, and there are other sectoral focal points for technical co-operation in the various ministries.

/XI. The

XI. The simplest and most efficient procedure which could be recommended for dealing adequately with co-operation and technical assistance among developing countries would be:

A. To circulate programmes which annually identify needs for co-operation and technical assistance and the given country's capacity to provide such assistance.

B. To circulate programmes which identify the country's needs and capacities for the 5- or 10-year period of its development plans.

A suggestion of a secondary nature would be to establish a regional liaison office to co-ordinate co-operation and technical assistance among developing countries and hold annual conferences to evaluate and establish machinery for co-operation.

XII. Overall co-ordination of technical co-operation activities among developing countries is essential, and for that reason those involved should clearly define:

A. Short- and long-term objectives;

B. Co-ordination machinery;

C. Priority areas for technical assistance reflecting the common needs and capacities identified by the various countries.

XIII. UNDP could co-ordinate technical co-operation activities among developing countries provided that the following points are taken into account:

A. The overall plan should include activities in which assistance and technical co-operation are directly involved and which are at present being carried out under multilateral agreements or by subregional organizations, associations, etc.

B. UNDP subregional offices should be used to provide a direct link between various co-operation and technical assistance activities.

C. Activities should be organized through the subregional offices to promote the strengthening of the capacity of the region as a whole and the satisfaction of common needs.

/GUYANA

GUYANA

Introduction

While the primary objective of this paper is to provide information on the national experience, capacity and needs in relation to TCDC activities, it is necessary to provide at the outset Guyana's understanding of TCDC and also its relationship to the wider concept of ECDC (Economic Co-operation among Developing Countries).

TCDC relates to a wide range of co-operation activities among developing countries involving the transfer and exchange of various forms of technical capacities, including technology (both in the form of expertise and equipment), organizational, administrative and managerial techniques, etc. - all of which should be geared to the development needs of the developing countries and also to the creation of a rational allocation of technical resources in the international system, which is implicit in the demand for the establishment of a new international economic order. Needless to say, those activities can take place bilaterally or multilaterally, within the United Nations system or outside of that system.

It should be stated, too, that TCDC - which deals essentially with relations between developing countries - is primarily the responsibility of the developing countries themselves, although these countries have in the past sought, and will continue to seek, the support of the developed countries, the United Nations system and other appropriate international organizations in achieving the objectives of the various programmes of TCDC being pursued by them. The role of the developed countries, the United Nations system and other appropriate international organizations must therefore be seen as essentially supportive of the efforts of the developing countries.

As regards the relationship between TCDC and ECDC, the latter is by definition a much wider concept since it relates to the whole spectrum of economic co-operation activities among developing countries. As such, TCDC must be seen as an integral part of ECDC rather than as merely a part of United Nations technical co-operation activities. In this respect it should be pointed out that technical co-operation activities within the United Nations system are premised primarily on the need to promote co-operation in this

/area between

area between developed and developing countries, with only secondary emphasis being given to TCDC as part of this global programme of technical co-operation.

It is true that within recent years the United Nations system has placed increased emphasis on programmes of TCDC. For example, since the adoption of the "New Dimensions" resolution by its Governing Council in 1975, UNDP has attached special importance to TCDC activities as part of its global technical co-operation effort. This should not be interpreted to mean however that the developing countries have abandoned their responsibilities to the United Nations system for the promotion of technical co-operation among themselves, since the principles, purposes and objectives of TCDC cannot, by its very nature, be exclusively defined within the United Nations system.

It is this broad conceptual understanding of the nature and objectives of TCDC which informs the present paper.

A. Experience of Technical Co-operation Among Developing Countries

Guyana, in association with Afghanistan, has been appointed co-ordinator of the Trade, Transport and Industry Sector of the Non-aligned Action Programme for Economic Co-operation Among Developing Countries. In this capacity, Guyana, with the assistance of United Nations experts, has sought to develop a comprehensive programme of co-operation among developing countries in the fields of trade, transport and industry.

In the trade sector, work has been proceeding, among other things, on the feasibility of establishing a Trade Information Unit to facilitate the exchange of trade information among developing countries with a view to promoting the expansion of trade among these countries. In the transport sector, studies are currently under way to identify possible areas of co-operation in shipping and air transport. Finally, as part of the activities under both the industry and trade sectors of the Programme, Guyana has initiated (with the financial support of UNDP) an interregional project on pharmaceuticals aimed at promoting increased co-operation among the developing countries in the field of drug procurement and production.

The Project (APEC/TTI) involves a large degree of TCDC not only in terms of the utilization of expertise from the developing countries for work

/on the

on the Project but also involves to a large extent the potential transfer of skills and experience among developing countries in an effort to promote their collective self-reliance.

The activities under the Project (which is located in Georgetown but which is interregional in scope) have been supported mainly through a funds-in-trust arrangement within the United Nations system financed by the Governments of the Netherlands and Sweden. Efforts are however being made to obtain additional financing from other sources.

The financial outlay on TCDC activities undertaken in Guyana over the last few years (including expenditure under the APEC/TTI Project) has probably exceeded G $1m (G $2.55 = US$ 1).

As regards obstacles in the promotion of TCDC activities under the APEC/TTI Project, the recruitment of personnel with appropriate expertise and with the necessary commitment to work in the developing countries posed an initial difficulty. Moreover, the development of an appropriate methodological framework to govern the implementation of the Project (taking account of the different needs and interests of the large number of developing countries deriving from different levels of development and differences in economic structure), posed another problem. But through the perseverance and dedication of personnel involved in the implementation of the Project these initial difficulties have been overcome and the Project is now in a position to carry forward initiatives in several areas falling within the scope of its activities in the fields of trade, transport and industry. However, now that these technical difficulties have been overcome, a major need is to secure additional financing to ensure the continued effective operation of the Project.

Of the activities being undertaken under the Project, co-operation among developing countries in pharmaceuticals may be said to be the most unique since under the Interregional Project on Pharmaceuticals being financed by UNDP, Guyana in its capacity as co-ordinator of the TTI Sector of the Non-Aligned Action Programme, has been appointed the Executing Agency for the Project. This development is of extreme importance for the future evolution of the concept of Government execution in the context of the promotion of TCDC.

/Based on

Based on Guyana's experience in promoting TCDC activities at the interregional level, it would seem that technical co-operation in the field of industrial production could be of extreme value in the future - particularly in context of efforts to achieve the target of industrial output for the developing countries set in the Lima Declaration and Plan of Action on Industrial Co-operation.

The main asset derived from participating in TCDC activities may be said to be an increased appreciation of the potentialities of TCDC as an instrument of development available to the developing countries.

It should be mentioned that in addition to the efforts to promote co-operation among developing countries at the interregional level, Guyana also participates in a wide range of functional co-operation activities undertaken at the regional level within the framework of the CARICOM Agreement. These activities, which embrace shipping and transport, health, education, training and scientific and technical research involve a significant degree of TCDC among member States of the Caribbean Community.

Moreover, at the national level, Guyana has benefited under bilateral TCDC programmes in obtaining expertise in the field of insurance and financial management to facilitate the establishment and management of a number of public sector enterprises.

B. Capacities for Technical Co-operation Among Developing Countries

Guyana possesses some capacity for TCDC in the following subsectors:

Agriculture, Forestry and Fisheries

-0570 Agricultural Institutions, Services and Rural Training

Guyana offers training at the Guyana School of Agriculture for agriculturalists from several countries within the Caribbean Community. Training is also offered at the Kuru Kuru Cooperative College to both national and foreign participants in agricultural management and co-operative development.

Education

1520 Curriculum Development, Teacher Training, Methods and Techniques

Teacher training colleges provide facilities for teacher training at the primary and secondary levels, while the Faculty of Education of the University of Guyana provides postgraduate teacher training.

/Health

Health

2530 Development of Health Manpower

The University of Guyana participates in regional training programmes in a number of areas, notably in the training of pharmacists.

As the location of one of the Commonwealth Regional Youth Centres, Guyana offers facilities for youth development and training in a number of areas.

Moreover, the APEC/TTI Project has developed considerable technical expertise in the area of trade, transport, and industry and these services are therefore capable of being utilized by developing countries.

C. Needs for Technical Co-operation Among Developing Countries

Guyana's national development plan places emphasis on agriculture and forestry development and also energy development (particularly hydropower development). Guyana would therefore welcome technical co-operation with other developing countries in these areas in the form of pooling of resources, joint research activities, etc., in an effort to find solutions to common problems. As mentioned earlier, special emphasis is being placed on hydropower development geared ultimately to the development of the national resource base of the society. It is felt that solutions in this area could be readily applied to other developing countries.

At the interregional level, Guyana, in keeping with its responsibilities as a co-ordinator of the TTI Sector of the Non-Aligned Action Programme for Economic Co-operation Among Developing Countries, has a special interest in promoting TCDC activities in these areas. Of course, solutions found under the Programme are intended to benefit all developing countries.

D. Procedures for Technical Co-operation Among Developing Countries

The TCDC activities in which Guyana participates are governed by agreements at the bilateral, regional and interregional levels. At the bilateral level, Guyana has signed agreements with a number of developing countries providing for the exchange of technical information and services in several areas. Similarly, at the regional level, Guyana participates in a number of technical co-operation arrangements which are governed by the terms of the CARICOM Treaty.

/Participation in

Participation in projects at the interregional level are governed largely by decisions of the developing countries (both the Non-Aligned Group and the Group of 77) which have initiated action designed to promote technical co-operation among themselves in a wide range of activities.

Both the Ministry of Foreign Affairs and the Ministry of Economic Development are responsible for TCDC activities. However, the Ministry of Foreign Affairs, particularly in terms of its responsibility for the TTI Sector of the Non-Aligned Action Programme for Economic Co-operation, performs the co-ordinating rôle and is also the contact point for external agencies involved in TCDC activities.

Given their range and the different levels (bilateral, regional and interregional) at which TCDC activities take place, different arrangements would need to be worked out to suit the particular types of TCDC activities involved.

E. Co-ordination of Technical Co-operation Among Developing Countries

There is an obvious need for the overall co-ordination of TCDC activitie at the interregional level. Bilateral and regional arrangements can, of course, be concluded independently but they should take account, as far as possible, of the overall programme of TCDC worked out at the interregional level.

It is felt that the existing mechanisms established by the developing countries themselves (both at the level of the Non-Aligned Group and the Group of 77) provide an adequate framework within which to pursue TCDC activities. These arrangements of course relate to the substantive co-ordination of TCDC activities which, as stated earlier, remain the primary responsibility of the developing countries themselves.

However, as regards the co-ordination of the measures in support of TCDC activities from the United Nations system and, to some extent, from the developed countries, UNDP can play an important co-ordinating role, subject of course to the existing arrangements within the United Nations system governing technical co-operation activities.

/Supplementary Note

Supplementary Note

The Guyana National Science Research Council (NSRC), which was established in 1974 to stimulate the development of an indigenous based science and technology, has already embarked on a wide range of research in the field of medicine, industry, agriculture and forestly. The research capacity of the Council will be further strengthened with the completion (in mid-1978) of the Institute of Applied Science and Technology which will be the research executing arm of the Council. The Council and Institute will therefore provide a basis for the promotion of TCDC activities in the fields falling within their competence.

HONDURAS

I. Prospects for technical co-operation among developing countries

The Government of the Republic of Honduras, aware of the advantages which the implementation of activities involving technical co-operation among developing countries can bring in the more effective promotion of its economic development, has initiated activities along the lines of technical co-operation among developing countries.

In view of its long-term development strategy and of the serious efforts it is making to implement that strategy and the National Development Plan for 1974-1978, the Government recognizes the significant contribution which multilateral and bilateral technical co-operation can make to the attainment of the objectives referred to above.

Technical co-operation among developing countries can have highly beneficial results because of its characteristics, such as certain similarities between the national problems confronting the countries concerned, through, for example, the application of technologies more appropriate to their development, and so on.

Accordingly, the Government hopes that multilateral institutions and developing countries will provide firm technical and financial support to TCDC programmes. This will entail effective collaboration until such time as the national development objectives of countries are attained, TCDC being regarded as an additional form of technical co-operation supplementing the technical co-operation already extended by multilateral bodies and developing countries.

II. Activities

Most of the activities undertaken within the framework of TCDC have been carried on outside the country and have consisted of apprenticeship and training programmes offered in neighbouring countries. However, we have had some experience of activities undertaken within the country, in the form of short-term missions by experts. The activities undertaken were carried out in co-operation with other developing countries in the region and were financed mainly by multilateral sources, which also completed the

/necessary administrative

necessary administrative formalities, with our own Government providing a counterpart contribution in the form of personnel and other components. The support received for these activities was provided mainly by IDB, consisting of the payment of travel expenses and subsistence allowances, with the various countries concerned continuing to pay the salaries of their own nationals. At the regional level, some TCDC activities have been carried out at irregular intervals within the framework of UNDP regional projects.

The activities carried out with the support of IDB are described below.

IDB

1. No. 8-HO-1. Description of project: advisory services on administration and evaluation of requests for agricultural loans. Granting country and institution: Costa Rica, Banco Nacional. Recipient institution: Banco Nacional de Fomento. Participants: three officials in Costa Rica, two officials in Mexico. Duration for each: three weeks. Amount approved: US$ 5,500.

2. No. 9-HO-2. Description of project: training at an institution responsible for surveys of household incomes and expenditures. Granting country and institution: Panama, Department of Statistics. Recipient institution: CONSUPLANE and Department of Statistics. Participants: three officials. Duration for each: one week. Amount approved: US$ 1,700.

3. No. 10-HO-3. Description of project: advisory services and training in fish products marketing and statistics. Granting country and institution: Peru, Ministry of Fisheries. Recipient institution: Ministry of Natural Resources. Participants: two officials. Duration for each: eight weeks. Amount approved: US$ 6,800.

4. No. 11-HO-4. Description of project: advisory services and training in administration, analysis and theory of educational loans. Granting country and institution: Colombia, ICETEX; Ecuador, IECE. Recipient institution: Educredito. Participants: three officials in Colombia, one executive in Ecuador, two Colombian advisers in Honduras, one Ecuadorian adviser in Honduras. Duration for each: four weeks (two); three weeks (one); three weeks, two weeks, two weeks. Amount approved: US$ 9,700.

5. No. 12-HO-5. Description of project: advisory services on planning of regional and local development. Granting country and institution: Chile, ODEPLAN. Recipient institution: CONSUPLANE. Participants: two officials. Duration for each: two weeks. Amount approved: US$ 3,200.

/6. No.

6. No. 13-HO-6. Description of project: training in planning and execution of low-cost housing programmes, with particular emphasis on building plots and services. Granting country and institution: Colombia, Land Credit Institute. Recipient institution: Housing Institute (INVA). Participants: three officials. Duration for each: two weeks. Amount approved: US$ 3,500.

7. No. 11-HO-1. Description of project: training in financial administration and municipal projects. Granting country and institution: Venezuela, Foundation for Community Development. Recipient institution: Banco Municipal Autónomo. Participants: one official. Duration: four weeks. Amount approved: US$ 2,700.

8. No. 111-HO-2. Description of project: advisory services in planning and administration of external technical co-operation. Granting country and institution: Panama, Ministry of Planning and Economic Policy. Recipient institution: CONSUPLANE. Participants: one adviser from Panama in Honduras, one official in Panama. Duration for each: two weeks, one week. Amount approved: US$ 1,500.

TOTAL: Six institutions; 25 officials; 37 weeks. Amount: US$ 34,600.

UNDP

Activities supported by INEM of Ecuador, in which UNDP financed travel expenses, the Government of Honduras supplied subsistence allowances and the Government of Ecuador paid the salaries of experts providing advisory services in Honduras.

INCAP

Observation tour of our Food and Nutrition Analysis and Planning Unit by officials of the Food and Nutrition Commission of the Secretariat for Planning of Guatemala City. Financing was provided and administrative arrangements made by the Institute of Nutrition of Central America and Panama.

Observations on problems and benefits

The Government believes that the benefits obtained from TCDC activities have been highly satisfactory, since they enabled Honduras to make use of the technological resources and experience of a number of countries, these technological resources having been created as a result of successful transfers of technology from developed countries, the elements of which were

/satisfactorily adapted

satisfactorily adapted to the circumstances prevailing in developing countries.

Furthermore, these horizontal assistance projects have led to a lavish exchange of experience and a knowledge of activities undertaken in other countries, which, given the institutional similarities in a number of cases, are transferrable to Honduras. At the same time, this process has provided other countries with a knowledge of our experience or, as a result of exchanges of views, has produced recommendations adaptable to national conditions.

It should be noted that, since most of the TCDC activities were sponsored by multilateral organizations, no administrative problems arose. Particular recognition should be given to IDB for its action in deferring its regular activities in order to expedite formalities, thereby enabling them to be completed in a relatively short time. It should also be noted that the activities in question were carried out without our even having any prior bilateral agreements with the countries concerned, perhaps owing to the fact that the activities involved were short-term, so that questions relating to taxation, exemptions, recruitment and other similar matters did not arise.

We believe that, if in the future it is intended to engage in longer-term activities and arrangements between countries within the framework of TCDC and without the support of multilateral organizations, serious financing and administrative problems will arise, so that it would be advisable to establish standard rules to be used as a basis by the countries conserned.

It would appear that most of the activities undertaken will not be carried out as part of a broader project; however, the same results could be achieved, without detriment to the impact and the benefits obtained, by carrying out activities already included in a project, and this would require the international executing agencies to collaborate by assuming greater responsibility for the undertaking.

Capabilities and needs

In the National Development Plan for 1974-1978, the Government defined the first stage of the long-term strategy, in order to determine the course of Honduras' development in the coming years.

/The National

The National Development Plan states that, since agriculture will continue to play a predominant role in the national economy and to constitute the main source of production, employment and foreign exchange to sustain and stimulate the process of national development, the following basic medium-term and long-term objectives have been defined and their attainment calls for appropriate technical assistance.

The objectives are as follows:

Expediting and sustaining increased production and income for the sector, with a view to meeting food and nutrition requirements at minimum cost, supplying industry and improving the balance of trade.

Creating a process which will increasingly provide the rural population with a level of income enabling it to satisfy its vital needs;

Promoting the generation of employment in the rural sector;

Conserving natural resources and ensuring that the benefits derived from them are used in ways consistent with the needs of production, so that they may be employed to the maximum extent possible for the purpose of the country's development;

Promoting the integration of the rural population in the development process.

The medium-term Industrial Plan adopted, as a strategy for accelerating the country's industrial development, a balanced pattern of growth both internally, to meet domestic demand, and externally, in order to achieve a sustained rate of increase of exports. Consequently, technical and financial assistance is needed for industrial development.

It is believed that, in preparing the next National Development Plan for 1979-1983, work on which is currently in progress, it will be possible to define technical assistance requirements more precisely. This, together with the TCDC information system, will provide a favourable framework for more effective implementation of and participation in TCDC activities.

With regard to specific capabilities in which our country has achieved significant advances, mention should be made of the services provided by the National Port Authority, which has supplied advisory services to other countries, particularly in the field of port management. Puerto Cortés is operating efficiently, given the shipping and cargo handling facilities

/available; since

available; since 1975, particular emphasis has been placed on the large-scale use of the LASH system. In 1976, the general movement of cargo through Puerto Cortés, which is the principal port, amounted to 1,597,000 tons.

Similar advances have been made in forestry. The forest resources of Honduras represent the foundation for the country's social and economic future: approximately 63 per cent of the national territory is covered by forest (2,440,000 hectares of softwoods and 4,310,000 hectares of hardwoods). The Government has established the National School of Forestry Sciences for the training of middle-level and lower-level technical personnel. The School has the facilities, workshops and buildings needed to provide students with up-to-date instruction. It provides technical training in forestry over a period of three years, the first being the "vocational year" spent at the School's camp, which is in a wooded area belonging to the School.

The estimated cost of studies is $3,500 per annum.

A proposal has been submitted to UNDP for the execution of a regional project in connexion with the School, with a view to making it a shool for all Central America.

In the field of education, the National Out-of-school Education Programme is being implemented. Its objectives include:

(a) Providing out-of-school educational activities which, through the use of flexible systems and accelerated methods of instruction and the adaptation of course content to the interests of the target population (according to the region in which they live and the work they do), will meet the needs created by the country's development objectives;

(b) Providing, in a short period and at low cost, an integrated basic education to many sectors of the Honduran population which have not been, and could not be, reached by the formal education system;

(c) Integrating Honduran women into the out-of-school education process.

This Programme operates through instructors in the field and radio broadcasts.

Procedures

Up to the present, technical co-operation among developing countries has been conducted through government channels.

/The body

The body legally competent for co-ordinating and evaluating technical assistance received by Honduras is the Ministry of Economic Planning, which includes a department concerned exclusively with technical co-operation matters.

The Secretariat of Economic Planning provides domestic co-ordination with government and private institutions receiving technical co-operation from international, multilateral and bilateral organizations, except where assistance links are established between private institutions in Honduras and in other countries.

Such co-ordination takes place largely with the Ministry of Foreign Affair regarding agreements, conventions or exchanges of notes with friendly countries.

In the case of bilateral technical assistance a general convention is signed, setting out in broad terms the technical co-operation to be provided and the status of advisers or teams. Such co-operation is subsequently carried out under specific agreements or projects for each activity, which quantify and describe the technical assistance intended for the attainment of precise objectives.

The general convention referred to in the preceding paragraph is a formal instrument, ratified by Government Decree however, there may instead be an exchange of notes between Ministries of Foreign Affairs or a basic agreement. Under Honduras law any agreement, irrespective of the name given to it, which provides for tax exemptions of any kind must be ratified by Government Decree before it can be put into effect.

Regional and subregional activities are generally covered by programmes or projects carried out with bilateral or multilateral assistance.

TCDC activities sponsored by the United Nations have been carried out with the use of the infrastructure of the United Nations system.

In the case of activities carried out under its auspices, IDB is following the administrative procedures approved for TCDC, in accordance with the exchange of letters with IDB setting out the objectives of the TCDC operations and indicating the national body responsible for co-ordinating them.

International co-ordination

We believe that it would be of great value to have global co-ordination of TCDC activities and that this most important promotional and co-ordinating function could be performed by UNDP.

/One of

One of the purposes of this co-ordination and promotion should be to enable UNDP, as an interregional body, not only to collaborate in the exchange and implementation of TCDC activities within each region but, in the near future, to extend such activities to the interregional level.

In addition to promoting technical co-operation among developing countries, UNDP could also collaborate with such countries by seeking the financial and technical support of the developed countries, in addition to the direct financial assistance which it can itself provide.

We believe that UNDP and other United Nations agencies can play an important role in the development of TCDC. UNDP should take concrete action to support decentralized TCDC by allowing the resident representatives greater flexibility, and indeed by designating an official in each representative's office to work with the national bodies responsible for technical co-operation so that the TCDC system may acquire the strength it needs in order to obtain the maximum benefits expected of it.

JAMAICA

A. Experience of technical co-operation among developing countries

8. Jamaica's experience in TCDC has been essentially confined to the Caribbean Basin. As a member of the Caribbean Community (CARICOM), an association of Commonwealth, English-speaking countries, she participates on a regular basis in TCDC-type programmes involving her fellow member States. Jamaica has also been involved in technical exchange programmes with the neighbouring countries of Cuba, Mexico and Venezuela, with whom she has signed technical co-operation agreements. Co-operation agreements have also been signed with Tanzania and Algeria, but these have not yet been activated.

(a) + (b) Activities have taken place both inside and outside of Jamaica - a precise number of such activities is not available.

(c) In the case of CARICOM countries, they are carried out as part of a subregional programme of mutual assistance. Cuba, Mexico and Venezuela would fall into the category of technical exchanges between neighbouring countries.

(d) Whenever a local facility has been made available to a national of another country, the host country has usually absorbed the cost. Whenever an expert has been loaned, his local salary continues to be paid by the donor country, while the recipient normally meets his cost of accomodation, meals and transportation.

(e) No figures are available for this.

9. These arrangements have not encountered any serious obstacles in implementation.

11. The most valuable aspect of TCDC is its capacity for the reinforcement of attitudes of self-help and mutual assistance, both at the national and subregional levels, with a consequent reduction of the dependency syndrome so prevalent in many developing countries.

B. Capacities for technical co-operation among developing countries

12. Jamaica possesses a TCDC capability in several of the areas listed in annex I "Sectoral Classification", but it is difficult to isolate specific subsectors where TCDC would be most readily available at all times.

/Since Jamaica

Since Jamaica is a small developing country with limited resources, its capacity to participate in TCDC at any time would be dependent on the conditions prevailing within that particular subsector, such as availability of specialist personnel and availability of accomodation within training institutions, etc.

In principle, we would be prepared to co-operate in any area in which there exists a local capability plus a capacity to deliver the assistance at a particular time.

13. No specific area.

C. Need for technical co-operation among developing countries

14. Jamaica is part of the Caribbean Food Plan which is a CARICOM project seeking to achieve subregional self-sufficiency in certain basic and staple foods which can be produced within the Caribbean area.

The CFP aims to achieve economies of scale by applying the principle of specialized production (where most appropriate) for the total CARICOM market.

15. The University of the West Indies is an example of co-operation by the Government of Jamaica in a subregional institution for the purpose of providing tertiary education of a high quality in a variety of disciplines. In view of the limited size of many of the individual island communities this facility can only be maintained at its present level as joint venture.

Another shared institution is the Caribbean Development Bank which, in addition to its role as procurer of development funds for member States, provides a variety of specialized technical and professional consultancy services in connexion with actual projects.

Jamaica participates in several subregional and international commodity organizations covering virtually all of the major export products, both agricultural and mineral.

D. Procedures for technical co-operation among developing countries

16. In each instance there is a basic agreement between the parties concerned including broad guidelines under which specific procedures are worked out in each case.

(b) The Ministry of Foreign Affairs in conjunction with the National Planning Agency of the Ministry of Finance and Planning.

/17. Since

17. Since the conditions prevailing within certain geo-political regions are often fairly similar, it may be possible to draw up a prototype agreement related to the particular circumstances of the countries in the area. This prototype could serve as a guide for TCDC activities within the region.

E. Co-ordination of technical co-operation among developing countries at the international level

18. Yes.

19. The object of TCDC is not elimination of the technical assistance provided by developed to developing countries but a diversification of T/A sources in order to encourage the expansion of developing country expertise; and since the administrative services required would be of a similar nature to those currently provided by the United Nations, there is no reason why these may not be utilized for the support of TCDC programmes. Establishment of new machinery for this purpose could prove duplicatory and wasteful.

20. It is envisaged that the specialized agencies of the United Nations, as well as existing regional associations, will continue to participate in TCDC programmes.

A. Policies and measures for co-operation

21. It is the policy of the Jamaican Government to promote and encourage the growth and development of technical and professional skills among its own nationals in particular, and among developing countries in general. Because of the varying levels of technological development existing among the developing countries, it is frequently possible for a developing country lacking a particular area of expertise to benefit from the experiences of its more scientifically advanced partners in TCDC.

This tendency is reflected in the increasing use of intra-regional professional and technical consultancy services among the developing countries themselves.

22. TCDC can be promoted by the developed countries through arrangements such as:

(1) Third-country financing of technical exchanges between developing countries

(2) Financing of TCDC training programmes within developing country institutions.

/(3) Contracting

(3) Contracting or subcontracting of developing country expertise to carry out TCDC projects.

(4) Apportionment of a percentage of their technical assistance contributions for the financing of TCDC programmes.

23. The nature and content of this co-operation has not yet been identified.

24. No decision has been taken as to specific areas of concentration for TCDC.

25. All of the areas mentioned in question 24 appear to be useful and important.

B. Experience of supporting activities of technical co-operation among developing countries

26. (a) Jamaica has provided technical assistance in the following areas: education and training, public administration, livestock and plant propagation and tourism.

(b) These activities are usually financed by the bilateral partners, but Jamaica has also frequently accommodated activities financed from multilateral sources.

(c) Multilaterally financed activities are principally in telecommunications and public health.

27. The Jamaican Government has regarded these efforts in TCDC as generally successful and mutually beneficial.

28. The increased opportunity for pooling and sharing regional expertise in the development effort, and the opportunity to enhance the scope of local technical and professional expertise.

/MEXICO

MEXICO

Mexico's understanding is that co-operation among developing countries has been viewed by the United Nations, through its Development Programme, as a method of increasing the effectiveness of its work, drawing upon the experience of individual countries and seeking to apply the fruits of that experience with equal benefit in other countries, with a consequent saving in effort and time.

The purpose of the campaign for technical co-operation among developing countries (TCDC) is for these countries to acquire confidence in themselves and in the need for integration, taking all the countries of the world and their inhabitants as parts of a single whole. Thus, the maintenance of peace would derive logically from the basic social character of human beings. In consequence, this is a new approach in the drive for development, and offers an economic and social tool of which we stand in urgent need.

The economic and social development of the developing countries is a common goal and duty shared by the international community. Yet the main responsibility for achieving this objective lies with the developing countries themselves, which are frequently unable to solve their own problems and are sometimes even unaware of them.

The fundamental purpose of technical co-operation has been defined as the fostering of increasing self-sufficiency with regard to the managerial, technical, administrative, research and basic organizational capacities needed to formulate and apply development plans and policies. It is in harmony with the so-called new dimensions of international technical co-operation, which seeks to exploit national and indigenous resources and the intermediate technology already absorbed by some of the developing countries, for the benefit of those in relatively similar circumstances. Thus, a fundamental aspect of TCDC is collective self-sufficiency among the developing countries.

Mexico intends to give to TCDC an interpretation which seems to have been ignored so far. It will put forward specific proposals enabling the Conference that is to be held in Argentina to respond to hopes long

/nourished in

nourished in developing countries, which, like Mexico, aspire to dignify human coexistence in a spirit of equality and democracy, in accordance with the principles which our country has always proclaimed and the guidelines laid down by the President of the Republic, José López Portillo, which seek to obtain a satisfactory minimum standard of living for the majority of the population.

A. National experience of technical co-operation among developing countries

In recent years, Mexico has been increasing its activities in relation to two-way co-operation with other nations, many of which are considered to be developing countries. This interchange has been achieved through the conclusion of agreements which permit the implementation of specific programmes, providing significant support for programmes developed by our Government.

The importance of the activities conducted in this sphere is reflected in the fact that to date, Mexico has concluded 29 agreements with developing countries, whereas in 1970 only six agreements of this kind existed.

Mexico's contribution to TCDC has been mainly in the provision of advanced training for foreign technicians, within the country, mainly in the fields of petrochemicals, metallurgy, irrigation and public health. This choice of specialisms is in response to requests submitted by the partner countries themselves, and corresponds to Mexico's own experience in those fields.

The main problems in implementing specific programmes or agreements tend to be financial, since in the course of executing programmes planned to last for two or more years, the costs originally anticipated change as a result of world inflation. The most appropriate solution to this problem would be to make agreements flexible, so as to prevent problems of this kind from seriously affecting established programmes.

A new aspect of TCDC visualized by the Government of Mexico is the implementation of research programmes, which could be conducted in various important fields on a reciprocal basis.

The country has been increasing its activities in relation to the outside world within the limit of its capacities, establishing programmes to support the efforts of other developing countries.

/The practice

The practice of TCDC reflects Mexico's attitude to the consolidation of international relations, its main purpose being to get rid of the paternalist and restrictive attitude enshrined in the concept of "technical assistance" between States which are on a juridically equal footing, in the context of growing interdependence in international relations. This requires horizontal international technical co-operation, practised on equal terms, which should not impair national sovereignty in any way, but instead help to strengthen it.

TCDC, which still represents a small percentage of national output and investment, is an effective instrument of progress, and helps to achieve closer international links and relationships, thus fostering solidatiry in the common development of the world's peoples.

B. National potential for technical co-operation among developing countries

The Government of Mexico has gained its experience of technical co-operation mainly in the areas listed below:

- Agriculture and stock-raising, forestry and fishing
- General economic and social policy-making and planning, and public administration
- Public health
- Industry
- Manpower training, management and employment
- Natural resources
- Population
- Science and technology
- Transport and communications
- Human settlements.

It should be noted, as previously mentioned, that special emphasis has been given to petrochemicals, iron and steel, public health and irrigation, in which fields the Government of Mexico can give advice and training.

C. Requirements for technical co-operation among developing countries

The policy of the Federal Executive is to stress four priority areas which are considered fundamental to the integrated development of the country: food production; energy; capital goods; employment and productivity.

/It is

It is thus desirable, as far as possible, for Mexico to obtain advice, expertise, training courses, fellowships and equipment from other developing countries with adequate capacity in those fields. In implementing specific co-operation activities, care must be taken to devise programmes of research and specific services that respond to common needs and accord with each country's ability to assist in satisfying them.

D. Procedures for technical co-operation among developing countries

In order to foster TCDC, the Government of Mexico has adopted two forms of co-operation, one being formal and the other "ad hoc".

(a) The formal method uses technical co-operation agreements;

(b) The "ad hoc" method is used when a request for co-operation is made outside the programme; this procedure employs the diplomatic channel.

The Secretariat for Foreign Relations, through the Co-ordinating Executive for International Co-operation and Development, is the office responsible for supervising all activities connected with international technical co-operation.

It should be pointed out that the most effective instrument for implementing specific technical co-operation programmes is considered to be bilateral agreements, which serve to foster a better understanding of the needs of each country and of the potential and willingness of other countries to fulfil those needs.

E. Co-ordination of technical co-operation among developing countries on the international level

There is an obvious need for an international body to co-ordinate TCDC activities. In our view, this should be the responsibility of the United Nations Development Programme, which has taken the initiative of fostering this kind of interchange, as success is most likely to be achieved under its aegis. It also possesses considerable experience and resources, and enjoys the confidence of the countries of the world. This solution would also avoid the creation of a new body, which might lead to complications.

/NICARAGUA

NICARAGUA

A. NICARAGUA'S EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Nicaragua's main experience in technical co-operation among developing countries stems from its participation in the Central American Common Market. The first attempts to establish the Central American Common Market were made during the 1950s but it was not until the 1960s that the institutional organization was established and the true integration process was begun with the signing in 1960 of the General Treaty.

Within the framework of the Central American Common Market, attention may be drawn to the following examples of technical co-operation among our countries:

1. The Central American Institute of Public Administration (ICAP) was established in order to help solve common problems in public administration (staff training, reorganization and strengthening of public administration).
2. The Central American Research Institute for Industry (ICAITI) was established by countries members of the Central American Common Market with a view to rationalizing research and technology in the promotion of industrial development.
3. The Institute of Nutrition of Central America and Panama was established in order to solve problems of nutrition in Central America.
4. Free trade within the area and the freedom of movement of certain factors of production opened the way for:
   (a) Productive private investment with mixed capital to be made in the various countries, principally in the industrial sector, with the transfer of technological know-how and experience from one country to another;
   (b) Private construction and consultancy firms to offer their services to countries throughout the region.

/The United

The United Nations Development Programme (UNDP) also contributed to the promotion of co-operation among the countries of the region. Attention may be drawn to the following projects carried out with the participation of two or more countries and with UNDP financing:

1. Hydroelectric and navigation project on the San Juan River

   Through UNDP financing, using funds from the national IPF, Costa Rica and Nicaragua conducted a study to determine the possibility of using the San Juan River for navigation and the generation of electric power.

2. Central American hydrometeorological project

   This enabled the countries of the region to carry out joint studies on hydroelectric potential, combining meteorological and hydrological information. Natural disasters have also been an important factor in promoting technical co-operation among the countries of the Central American region and with countries outside it:

   (1) In the aftermath of the earthquake at Managua in 1972, co-operation was received from various countries of the world for the immediate tasks of assisting the victims and rehabilitating the economy. Special mention should be made of the assistance received from Mexico in preparing the master plan for reconstructuring Managua.

   (2) With the outbreak of coffee disease in Nicaragua towards the end of 1976, all countries of the region co-operated in efforts to control and/or eradicate this common enemy.

In the education field there has also been some co-operation among the countries of the region. At the higher education level the Supreme Council of the Central American Universities (CSUCA) serves as a focal point for the exchange of experience, co-operation and co-ordination in respect of universities.

At the primary and secondary levels, programmes have been prepared for the production of school texts to be used in all the countries of the region.

Summing up Nicaragua's experience in technical co-operation among developing countries in recent years, it may be pointed out that co-operation has been limited, with certain exceptions, to projects implemented in co-operation with neighbouring countries, principally the members of the Central American Common Market.

/The projects

The projects implemented often provide a solution to problems arising in crisis situations or make it possible to obtain external financing. Co-operation has not been planned in an orderly manner; nor has it received the support of institutional machinery that would satisfactorily promote this type of activity.

Nevertheless, it is felt that the experience acquired in the past two years will be very useful in enabling Nicaragua to participate actively in a more organized programme of technical co-operation among developing countries.

It is hoped that in the coming years co-operation will centre on projects with neighbouring countries, with a gradual broadening to cover other countries of the region and subsequently countries outside the region.

B. CAPACITIES FOR TECHNICAL CO-OPERATION

In view of Nicaragua's relative level of development, there are not many fields in which it has capacity to provide co-operation to other developing countries.

Nevertheless, the country will willingly share the knowledge acquired and will furnish co-operation to other developing countries in those fields in which it is relatively more advanced. Some experience has been acquired in the following sectors:

0520 Agricultural production (cotton, sugar cane and basic grains)

0530 Livestock

0540 Fishing

6040 Assistance in cases of natural disasters

C. NEEDS FOR TECHNICAL CO-OPERATION

In accordance with the economic and social development plan prepared by the Government, the country will need technical co-operation in various sectors in order to supplement internal efforts. In recent years there has been a reduction in co-operation received from several international sources such as UNDP, because a growing percentage of the available funds has been earmarked for the least developed of the developing countries. Although Nicaragua has improved its economic situation in recent years, it

/still requires

still requires a considerable volume of international technical co-operation in certain sectors where the necessary technical and human resources are not yet forthcoming.

We feel sure that a growing proportion of needs for co-operation during the coming years may be met through co-operation with the developing countries.

Certain sectors that will require technical co-operation for their development in the coming years are listed below:

0510 Agricultural and livestock policy and planning
0520 Agricultural and livestock production
0540 Fishing
0550 Forestry
1550 Technological education
2010 Economic policy and planning
3510 Industrial planning
3520 Manufacturing industry
4040 Tourism
5050 Natural resources
6510 Scientific and technological policy and planning

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

In Nicaragua, the Department of National Planning has been designated by the Government as the co-ordinating body that would channel and be responsible for all activities relating to international co-operation provided by international sources, friendly countries and private institutions.

To carry out these tasks the Department of National Planning maintains co-ordination with the Ministry of Foreign Affairs, especially in the case of bilateral technical co-operation.

To date, technical co-operation with developing countries has been administered by the Department of National Planning on a case-by-case basis; the activities have been developed without a general framework. In each case a bilateral or multinational agreement is generally signed for the implementation of the project.

/In the

In the immediate future we consider that the above-mentioned procedure can continue to be followed. However, it would be very useful to have a general framework for the orderly development of these activities, especially with neighbouring countries.

E. CO-ORDINATION OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES AT THE INTERNATIONAL LEVEL

We feel that it would be very useful to have machinery for co-ordinating technical co-operation at the international level. In view of its long experience, we consider that UNDP should take charge of international co-operation in respect of co-ordinating activities.

In the case of Nicaragua, co-ordination at three levels would be useful:

(a) At the level of the Central American countries and Panama;

(b) At the level of Latin American countries;

(c) At the level of the developing countries.

In carrying out these activities, UNDP and the countries concerned could work in co-ordination with the other international, regional and subregional agencies.

PANAMA

A. EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Panama attaches the highest importance to the establishment of machinery to promote technical co-operation among developing countries (TCDC).

This attitude is based on the positive features of this form of international co-operation, namely:

1. It makes possible a gradual development of the technical, technological and scientific capacity of developing countries on a firm basis by fostering progress from low to higher levels of capacity, reducing the risks involved in making advances in sudden bursts.

2. The resulting transfers are more closely in accordance with the absorptive capacity of the recipient country.

3. It contributes to a better and wider use of the skilled and highly skilled workers of the developing countries.

4. This method of co-operation represents a possible way to increase the technical, technological and scientific capacity of the developing countries beyond the aggregate of their initial capacities.

5. The process of transfer generated by TCDC could be quicker and more effective, since it would be facilitated by communication based on the existence of similar cultural factors, experiences and real-life situations in similar countries. TCDC could undoubtedly make a decisive contribution to the establishment of a common basis for scientific and technological development, which would make possible a common attitude and a common approach in facing the problems of Latin American development.

Panama began to develop activities of this kind in 1976. Five operations were carried out with UNDP funds. In 1977 the system of direct hiring of workers from developing countries was initiated within the Agricultural Planning Project. Two UNESCO/UNFPA projects on population dynamics and educational reform were carried out with UNFPA funds. TCDC projects were implemented through bilateral programmes.

/Some activities

Some activities were carried out outside the country: Panamanians served as advisers in other Latin American countries, and Panamanians also received training in other Latin American countries, benefiting from those countries' experience.

Activities were also carried out within subregional and regional programmes, as were bilateral activities, a fertile field for TCDC. An example is the project for an educational systems network for Central America and Panama.

These projects were financed in different ways:

(a) Wholly by the country concerned;

(b) Partly by two countries, with the participation of a multilateral agency;

(c) Jointly by the two participating countries.

The total cost of TCDC activities amounts to approximately 95,000 balboas for the past 15 months.

The TCDC activities described above have produced significant results, especially in bringing about a national capacity for fuller control and decision-making power over international technical co-operation. Such activities should be continued and intensified, particularly with a view to defining TCDC policies and administrative methods, which cannot be left to be decided by a number of administrative and operational subsystems, at the whim of each international agency.

The main obstacles have arisen on the administrative side, both in the international agencies and in the executing national organizations. No effective measures have yet been taken to ensure flexibility in this field. Since the operations are generally short term, the objectives must be very clearly defined. Operations have been carried out with very vague objectives and sometimes the selected consultant has been unable to meet the time-limits fixed in the terms of reference.

- There is a tendency in international agencies to regard every operation as a TCDC operation, with the consequent risk of creating a second-class category of technical co-operation through a failure to understand thoroughly the intrinsic meaning and raison d'être of TCDC.

/Panama asked

Panama asked Colombia to provide advisers to the Corporación Financiera de Fomento (Development Financing Corporation) to help formulate the terms of reference for a feasibility study on ground transport terminals.

The advisory services provided were of a high quality, flexible, well-suited to the terms of reference and timely, since the work is only one aspect of a global study on "Centres of Growth".

This process has been initiated only recently by Panama, and therefore not much experience has as yet been accumulated. The small amount of technical experience gained in these activities has been positive.

- It is extremely valuable to be able to utilize the experience of countries subject to similar limitations in respect of financing, human resources and scientific-technological infrastructure.
- It is important to seek solutions to the problems of development with the advice of someone who has lived through such situations rather than merely studied them in books. The essential concept is not that of the expert/scholar but that of the experienced consultant who has already travelled the road.
- The adaptation and application of knowledge, the necessary dialogue and the search for answers are based on the actual situation in the countries concerned and not solely on technical reports written within specific guidelines.

B. CAPACITY FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Panama's capacity is the highest in the following subsectors:

1520	5060
2010	7010
2020	7020
2540	8050

In the above subsectors, Panama possesses institutions able to train staff and offer advisory services to developing countries. The national institutions can also receive observation and study visits.

/C. AREAS

C. AREAS OF NEED FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

- In the field of agriculture: irrigation, agricultural and stock-raising research, integrated rural development;
- In the field of culture: development and research, preservation of the cultural heritage, documentation, publicity and dissemination services;
- In the field of health: development of health-services personnel, promotion of environmental health services, health statistics;
- In the field of industry: crafts, industrial training;
- Trade in basic commodities, tourism;
- Vocational guidance services; the employment, training and development of staff for enterprise management; training;
- Ground transport, postal services, transport by navigable waterways;
- Building materials, support for the building industry.

This list of basic needs corresponds to the division into subsectors in the sectoral classification.

Experience and research in irrigation, in trade in basic commodities, in the administration of vocational training centres, in postal services, in ground transport and in low-cost building materials are matters of considerable interest and high priority for Panama; the resulting information or solutions will be applicable to other countries.

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

(a) There are existing procedures for projects with IDB.

For bilateral projects, activities are being planned in such a way as to set up biennial programmes. This task is now in its initial stage, so that as yet there are no specific procedures.

(b) The co-ordinating role is filled by the Ministry of Planning and Economic Policy, through the Department of International Technical Co-operation.

/The concept

The concept of a single straigtforward procedure is impracticable in this case, since various aspects of the subject have to be studied:

- The position and capacity of the national co-ordinating bodies of the developing countries for carrying out TCDC activities;
- The need to adapt the structures and procedures of international organizations in order to support and strengthen TCDC activities.

E. CO-ORDINATION OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES AT THE INTERNATIONAL LEVEL

The global co-ordination of TCDC activities is just as important as the co-ordination of international technical co-operation of any kind which fulfils the purpose of strengthening and supporting national development. By its very nature, TCDC requires a greater effort of co-ordination, in order to ensure that this new method of technical co-operation will contribute to the achievement of collective self-sufficiency in the developing countries.

In addition, developing countries have inadequate information systems, thus making co-ordination even more urgent, since the utilization of the technical, technological and scientific capacity of developing countries will be possible only to the extent that there is recognition of, and confidence in, the opportunities for its application.

This will be achieved only through good co-ordination among the national co-ordinating organizations, and through the support of the international organizations' infrastructure, placed at the service of the developing countries.

The Government of Panama proposes that co-ordination machinery for TCDC should be that chosen by the developing countries for the co-ordination of international technical co-operation, since TCDC is complementary to traditional technical co-operation and should therefore be handled with the established co-ordination machinery.

However, the type of machinery to be used should be considered at various levels:

/(a) At

(a) At the level of Governments, whose machinery for internal consultation, decision-making and administrative procedures should be made more adaptable and flexible. This poses the need for a national co-ordinating organization with the technical and administrative responsibility for co-ordinating all TCDC activities.

(b) The specialized agencies of the United Nations system and UNDP should adapt their procedures and should approach TCDC as a dynamic form of technical co-operation.

Experts should not stay in the same country longer than three years. This is the maximum length of time that an expert can offer genuine experience. When this period is completed, the expert should go to the headquarters of the specialized agency for a year and exchange experiences with other experts from a wide range of geographical areas, thus collating their experience. The experts would then return to the field, and a training system for genuine experts would be established. This would have the following advantages:

(a) The quality of international technical co-operation would be improved.

(b) Technical co-operation would become universal, drawing on the experience of other areas and the systematic exchange of experience. Use would be made of libraries and documentation centres.

(c) The officials responsible for technical units at the organization headquarters would no longer be mere bureaucrats; they would update their practical experience at regular intervals.

(d) The countries concerned would receive technical experts with genuine field experience, and the capacity of the developing countries would be better planned.

UNDP is the international organization with the best experience for acting as a co-ordinator of TCDC. Co-ordination work should be performed basically by Governments, but the offices of the resident representatives should function as support bodies in strengthening governmental co-ordination, programming and planning activities. UNDP is essentially a technical co-operation organization, and its machinery therefore should and can be more flexibly adapted to fit the methods of TCDC.

/PARAGUAY

PARAGUAY

1. During the past five year, Paraguay has received non-reimbursable technical co-operation amounting to approximately US$ 47 million, which is in itself evidence of the important part this resource plays in supporting the country's development efforts.
2. The largest portion of this aid, however, was from multilateral sources or industrialized countries.
3. Paraguay's experience with Latin American countries has been limited to Argentina, Brazil, Chile, Venezuela and, to a lesser degree, Colombia and Mexico.
4. Some of the projects worth mentioning are the hydroelectric dams on the Paraguay and Pilcomayo Rivers, the rice mission (IRGA-Brazil), collaboration in wheat research (Brazil), assistance from Brazil and Argentina in identifying water regions in the Chaco, and the assistance of Chilean professors in the forestry sector and of Venezuelan experts in local administration.
5. Paraguay in turn has co-operated with Argentina by sending a telecommunications expert and a forestry expert for the north-eastern provinces of Argentina.
6. Brazil and Argentina have provided the country with physical facilities for training and have reserved space for students who wish to attend their universities; they have also granted fellowships for professional staff and experts. Fellowships are also available in Chile, for example, in forestry and dairy farming. In Venezuela, specialized institutes such as the Inter-American Centre for Land and Water Resource Development (CIDIAT), have granted fellowships, as has the Simón Bolívar Foundation.
7. The projects have been implemented with multilateral funds and with bilateral funds from neighbouring countries. Multilateral funds have made it possible to cover the external costs of several projects,

/such as

such as the Paraguay and Pilcomayo river projects (UNDP and OAS-UNDP), the project for strengthening the forestry sector (UNDP, OAS and bilateral aid from Switzerland) and others.

8. In the opinion of the Paraguayan Government, co-operation with other developing countries can be an invaluable means of furthering the national development process and can at times replace, and be as effective as or more effective than, assistance provided by industrialized countries. It is essential, however, for such co-operation to be in line with the true priorities and interests of the country.

9. The financing of such activities represents a major obstacle, since the State is often unable to provide the necessary resources.

10. It is therefore essential, in order to get projects under way, for external sources (developed countries or international agencies) to participate in the financing of such horizontal co-operation.

11. Some new developments which the national Government considers encouraging are the interest shown by international agencies in horizontal co-operation, the effort to systematize the process by studying new formulas of co-operation and the channelling of new resources that will make it possible to finance a greater volume of TCDC.

/12. Some

12. Some of the advantages of TCDC are:
- It provides an opportunity to exchange knowledge and experiences more akin to our country's characteristics, technology, attitudes, language, etc.
- Costs are lower in most cases since the co-operating countries are closer, experts' salaries are lower, etc.
- It is possible to make better use of resources, since the experience or technology of one country in a given sector can be complemented with that of other countries.
- Closer links are established between institutions and persons and regional integration is enhanced; thus, more permanent ties are established in future exchanges of experience.

13. Some of the sectors in which Paraguay has greater experience are:
- Agricultural and livestock policies and planning, with emphasis on settlement programmes.
- Livestock production and sanitation.
- Forestry.
- Agricultural and livestock financing.
- Arts and crafts.
- Tourism.
- Job orientation services and employment.
- Telecommunications.

14. Because of the shortage of qualified personnel, Paraguay could receive experts from other countries in order to demonstrate their experience, and it could send out short-term missions.

15. Nevertheless, it would find it difficult to provide external financing for the implementation of such projects.

16. As pointed out in the National Economic and Social Development Plan for 1977-1981 and as reflected in the National Programme of Technical Co-operation submitted to UNDP and other sources, Paraguay gives priority to technical co-operation and external financing in the following areas:

(a) Rural development, including certain aspects relating to the consolidation of settlements, crop, livestock and forestry production and productivity, and agricultural and agro-industrial research and development.

(b) Training of human resources, particularly in areas pertaining to technologies essential to the country's development programmes and in vocational education at various levels.

(c) Support for national structures responsible for channelling resources required for development financing.

17. Within the framework of its foreign relations, Paraguay maintains contacts with other countries, both bilaterally and multilaterally.

18. It has entered into basic agreements on scientific and/or cultural co-operation with several countries, particularly within the region. These agreements provide the legal framework for horizontal co-operation. Programmes or projects are than established jointly and are usually provided for in the basic agreements.

19. The Government has designated the Division of External Technical Assistance of the Technical Secretariat for Planning of the Office of the President of the Republic to act as the national liaison agency to co-ordinate programmes and projects coming under TCDC.

20. It is the view of the Government that the most effective and simplest procedure is to centralize relations in the Technical Secretariat for Planning, which has by law been assigned the task of co-ordinating external technical co-operation from all sources.

/21. International

21. International organizations such as UNDP, OAS and IDB can assist national efforts by gathering and disseminating information concerning the needs of countries and their technical co-operation capabilities.

22. It would be very helpful if machinery, procedures and financial sources to facilitate TCDC were developed which could be used by the many international technical meetings in which the country participates at various levels.

PERU

II. GUIDELINES FOR NATIONAL REPORTS FROM DEVELOPING COUNTRIES

A. Experience of technical co-operation among developing countries

8. The Government of the Republic of Peru, in accordance with its national development plans and mindful of the efforts which other Governments are making in the field of social and economic development, has been engaged in technical co-operation with the countries of the third world, especially those of Latin America, with a view to mobilizing existing capacities, promoting closer solidarity with the developing countries, reducing the latter's dependence on the industrialized centres and thus helping to strengthen the new international economic order.

These activities have been developing mainly on a bilateral basis and at the subregional level. Among the most important of them are:

Argentina

At the third meeting of the Special Peruvian Argentine Co-ordinating Committee held in May 1977, a technical co-operation programme to be carried out by the two countries as from 1978 was discussed.

Argentina will co-operate with Peru in implementing projects to promote dairy, pork and fruit production, forestry research and assistance in stimulating tin-plate production.

Peru will co-operate with Argentina in the training of staff to work in large-scale mining at various stages of development and in the evaluation of projects, especially for widely occuring minerals.

Bolivia

It was agreed by the Joint Peruvian-Bolivian Committee convened at La Paz in November 1977 to carry out a broad programme of technical co-operation, particularly in the development of our altiplano regions. To that end, specific projects are being formulated for the study, production and marketing of fishery products, the joint development of Andean farming and the development of South American camelidae breeding.

/The following

The following has also been done:

- Two Bolivian technicians from COFADENA have been trained in all phases of tobacco cultivation in Tarapoto, Department of San Martín.
- The Peruvian Ministry of Fisheries has provided Bolivia with fertilized eggs or trout fry and has sent a Peruvian specialist to provide training in techniques for inseminating and breeding that species.
- The Peruvian Ministry of Fisheries, through its regional office in Puno has provided advice to the Regional Development Corporation of La Paz (CORDEPAZ) in fish biology applied to fish farms, fishery management and industrial engineering.
- The National Training Service for Industry and Tourism (SENATI) is co-operating with the National Manpower Training Service (FOMO) of Bolivia in the formulation of projects, special vocational training and the training of instructors by sending Peruvian technicians to Bolivia and training Bolivian technicians in Peru
- Two officials of the Bolivian Ministry of Agriculture have attended a course in "The management, conservation and development of irrigation districts" organized by the National Agrarian Reform Training and Research Centre (CENCIRA).

Cuba

A technical co-operation programme was approved by the Cuban-Peruvian Intergovernmental Committee for Economic, Scientific and Technical Co-operation convened in May 1976, and it is now being implemented. The programme includes activities in the field of poultry farming, in the genetic improvement of root-corps and tubers, in potato and sugar-cane research, in tropical cattle-breeding, in the exchange of experience in small dam construction, irrigation and drainage,etc.

Ecuador

The Peruvian-Ecuadorian Economic Committee is making an analytical study of the frontier integration zone which will make it possible to determine the needs to be met through development of the region. When the study has been completed, an investment and technical co-operation programme will be formulated.

/There has

There has been joint Peruvian-Ecuadorian participation in the development of pre-investment activities under the Puyango-Tumbes project.

The following has also been done:

- Twelve full fellowships have been granted by PETROPERU for graduates of the Central University of Ecuador and the Higher Polytechnic School of Ecuador for a period of eight months each. The fellowships are for a programme of theoretical and practical training in exploration and production operations at the central headquarters of PETROPERU in Lima and in the production areas.
- Two technicians from the Department of Chemical Engineering of the Higher Polytechnic School of Ecuador have been trained at the Agro-Industrial Research Institute of Peru.
- Mining technicians from Ecuador have been trained at the Recuay School of Mines.

Guatemala

- The General Office of Irrigation of the Peruvian Ministry of Agriculture has co-operated with the Guatemalan Ministry of Agriculture by providing on-the-job training to two irrigation and drainage specialists.
- The National Petroleum Company of Peru (PETROPERU) has made an offer to the General Office of Mining and Hydrocarbons of Guatemala to provide three Guatemalan students with practical training at the PETROPERU installations in north-western Peru. This project is to get under way in the near future.

Honduras

- The Peruvian Ministry of Fisheries has co-operated with the General Office of Renewable Natural Resources of Honduras in the development of Honduran fishing activities through an exchange of officials and the granting of fellowships.

/- The

- The Peruvian Ministry of Transport and Communications has granted two fellowships to Honduran students for study at the Admiral Miguel Grau National Merchant Marine School.

Mexico

- The Ministry of Fisheries has co-operated with the Government of Mexico in training seven students from the School of Fishing Technology of the University of Nayarit in anchovy fishing and processing for a period of three months on the Peruvian coast.
- The Peruvian Ministry of Labour has provided the necessary facilities for two technicians from the Mexican Secretariat of Labour to carry out a study in Lima of the criteria used in determining minimum wages, the various types of wage adjustments and the agencies which monitor their implementation.

Panama

- The Peruvian Ministry of Health has provided the necessary facilities for a doctor and two technicians from Panama to undertake specialized training for one year at the National Rehabilitation Institute of Peru.
- Two fellowships have been granted to Panamanian students to study at the Admiral Miguel Grau National Merchant Marine School.

Paraguay

- Six technicians from the Paraguayan Telecommunications Administration have been trained by the National Telecommunications Company of Peru (ENTEL PERU) at the facilities of the Lurín Ground Station and at the Broadcasting Technical Control Station.

Sri Lanka

In response to a request from the Secretariat of Finance of the Government of Sri Lanka, the Government of Peru, through the Central Reserve Bank, sent a specialist to advise the secretariat in matters of external financial management.

These co-operative activities were financed by the various means indicated in paragraph 8 (d).

/TCDC at

TCDC at the subregional level has been carried out through the Board of the Cartagena Agreement (JUNAC).

The following activities should be stressed:

(a) Technical and scientific co-operation programme for the agricultural sector

This programme consists of five projects with a total of 16 activities, including training and direct transfer of technology in the fields of coffee rust prevention, agricultural insurance, marketing and warehousing of agricultural products, technical advice on the production and/or marketing of oleaginous plants, potatoes, sesame seed, sugar cane, cotton, rice, cereals, ground-nuts and cattle. The programme is in full swing and will permit the exchange of 112 specialists from the five countries of the subregion on the basis that each country sending technicians pays their national salary, while the receiving country assumes the subsistence and internal transport costs, the international travel costs being financed by a CIDA-Canada contribution of US$ 50,000.

(b) Special Support Programme for Bolivia (PAB)

This programme comprises a set of simultaneous and complementary projects the ultimate objective of which is to provide a basic manufacturing nucleus for a level of development sufficient to ensure Bolivia's continued evolution towards a greater degree of industrialization.

The first stage includes the following projects:

1. Identification of opportunities afforded by sectoral allocations and the programme of trade liberalization.
2. Promotion of the development of existing industry.
3. An integrated system for the promotion, financing and management of industrial projects.
4. An integrated system for the promotion of exports.
5. Training of project execution personnel.

/9. The

9. The co-operation activities carried out have permitted a greater degree of interaction between countries and have made possible the preparation of more far-reaching programmes and projects. The limited resources available to the countries concerned for financing TCDC activities has been the main obstacle to the implementation of such activities, and this problem has not yet been overcome.

10. Particularly noteworthy are the joint activities being undertaken with Ecuador and Bolivia in frontier integration zones.

11. Strengthening of the technical capacity of agencies to participate actively in the execution of TCDC projects.
Participation in this type of activity has made it possible to gain increased knowledge of the potential of the region and to create close links between the countries concerned, thus permitting the implementation of projects which help to solve the main problems that now exist.

B. Capacities for technical co-operation among developing countries

12. The subsectors in which the country is able to participate in TCDC activities are identified in annex I (A/CONF.79/PC/11) under the following symbols: 0510, 0550, 0560, 0570, 2030, 2510, 2550, 2570, 3510, 3520, 3560, 4520, 5030, 5040, 5060, 6520, 7540, 7550, 8020, 8030, 8040 and 8060.
Participation will depend on the availability of financing.

13. See reply N° 12.

C. Needs for technical co-operation among developing countries

14. We have not selected needs which can be satisfied only through TCDC. They will be geared to the potential of the region.

15. The main effort must be focused on joint participation by the countries of the region in solving common problems, particularly the study of technologies suited to their production and consumption pattern.

D. Procedures for technical co-operation among developing countries

16. As regards bilateral co-operation, basic agreements pointing to potential areas of co-operation have been signed with most of the countries of the region. The procedures for and financing of such co-operation are specified on an ad hoc basis for each programme or project.

/The agency

The agency in charge of co-ordinating the internal aspects of technical co-operation among developing countries is the National Planning Institute. For the external aspects, it is the Ministry of Foreign Affairs.

17. When co-operation between two countries is involved, the most effective procedure is the one indicated in reply N° 16.
For co-operation between more than two countries, it was felt advisable to conduct a study of rules, methods and procedures. The study is in preparation with the co-operation of UNDP and should be ready by 15 February 1978. The Governments of Colombia, Cuba and Peru provided co-operation in the study by preparing the document entitled "Formulation and negotiation guidelines for TCDC interregional projects".

E. Co-ordination of technical co-operation among developing countries at the international level

18. Yes.

19. The establishment of an intergovernmental body for TCDC. This position is in conformity with the recommendation made to the Governments of the region at the Intergovernmental Meeting held in Panama from 28 November to 2 December 1977.

20. See reply N° 19.

III. GUIDELINES FOR NATIONAL REPORTS

A. Policies and measures for co-operation

21. The national plans provide for:
- Promoting and implementing technical co-operation among developing countries.
- Completing the series of basic co-operation agreements with all the countries of the region.

The steps taken to promote and intensify TCDC include:
- Hosting the Intergovernmental Meeting on TCDC in Latin America held at Lima in May 1976.

/- Acting

- Acting jointly with Argentina as co-ordinating country in implementing the recommendations made at that Meeting, especially those relating to execution of the regional project for the promotion and launching of TCDC.

22. Through the Plan of Action to be submitted to the World Conference at Buenos Aires.

23. The date has not been set.

24. No.

25. See reply N° 15.

B. Experience of supporting activities of technical co-operation among developing countries

26. See reply N° 8.

27 and 28. Generally speaking, Peru's participation in co-operation activities with other countries of the region has produced positive results; these include:

- An increased national capacity to provide co-operation.
- Better understanding of the region's potential.
- Intensification of relations among the countries of the region in matters relating to development, which has made it possible to strengthen the bonds of solidarity that facilitate dealing with common problems.

Among the problems encountered, mention may be made of financial limitations, which have prevented TCDC activities from being developed more intensively.

/TRINIDAD AND

TRINIDAD AND TOBAGO

Over the last few years, Trinidad and Tobago has participated in a number of activities which involved technical co-operation with other developing countries. These activities were organized under the following major schemes:

(1) Commonwealth Caribbean Technical Assistance Programme;
(2) The Commonwealth Fund for Technical Co-operation;
(3) United Nations Development Programme and the United Nations Office of Technical Co-operation;
(4) Organization of American States;
(5) The Inter-American Development Bank's Intra-Regional Technical Co-operation Scheme;
(6) Bilateral Technical Co-operation.

1. COMMONWEALTH CARIBBEAN TECHNICAL ASSISTANCE PROGRAMME

The Government of Trinidad and Tobago has been giving aid in the form of technical assistance to the other members of the CARICOM region.

In October 1974, an Agreement was reached on the Commonwealth Caribbean Technical Assistance Programme (CCTAP). The Memorandum of Understanding sets out arrangements under which the Government of Trinidad and Tobago would provide technical assistance services to the lesser developed countries of the Caribbean region.

Since the inception of this programme, Trinidad and Tobago has provided fifty-three (53) attachments to nationals from the lesser developed countries in industry, banking, various sectors of the public service, including technical and managerial areas.

The Government of Trinidad and Tobago has also made available the services of over 40 professionals to assist the lesser developed countries. These have included teachers, coaches, health personnel, various types of technicians, financial experts and experts in protective services.

The Government of Trinidad and Tobago has also provided direct funding for industrial development in Montserrat.

/Under the

Under the Commonwealth Caribbean Technical Assistance Programme Agreement, all participating countries are required to bear some costs. However, Trinidad and Tobago would normally finance the greater portion of the costs of experts which it makes available to the lesser developed countries.

In many instances, at the request of the lesser developed countries, the Trinidad and Tobago Government may meet allowances in excess of the arrangements in the Memorandum of Understanding.

2. COMMONWEALTH FUND FOR TECHNICAL CO-OPERATION (OF THE COMMONWEALTH SECRETARIAT)

The Commonwealth Fund for Technical Co-operation (CFTC) of the Commonwealth secretariat has also provided valuable assistance. This has taken the form of financing of training programmes, exchange visits, seminars, conferences and temporary attachments.

In February 1972, an agreement was reached on the terms and conditions for this form of technical assistance. This is set out in the Memorandum of Understanding between CFTC and the Government of Trinidad and Tobago, which embodies the conditions under which the secretariat will provide the Government of Trinidad and Tobago with technical assistance, financed from the Fund, as well as the responsibilities of the Government with respect to such assistance.

(1) Technical assistance made available by Trinidad and Tobago

Places are made available at the John S. Donaldson Technical Institute in Trinidad and Tobago for students from the region in the following courses:

General Draftmanship

Architectural Drafting

Home Economics

Electrical Engineering Technicians Course.

Places in the following courses have been made available at the Eastern Caribbean Institute of Agriculture and Forestry (ECIAF) in Trinidad:

Diploma in Agriculture

Diploma in Forestry.

/Four-month attachments

Four-month attachments have been arranged for two (2) factory inspectors from Ghana in the respective fields, at the Trinidad and Tobago Ministry of Labour, Social Security and Co-operatives:

Industrial Relations

Labour Administration.

A two-week study visit was arranged for an administrative officer of the Personnel Department of Kenya, to enable him to observe the administration of personnel, in general, in Trinidad and Tobago.

(2) Training facilities provided for Trinidad and Tobago by other countries

Through regional co-operation in the Commonwealth Caribbean, the joint support of the University of the West Indies has provided training facilities at graduate, post-graduate and non-graduate levels. The latter covers social workers, communications, nursing and youth work.

Expert assistance was also provided in various fields of development.

With assistance of the Commonwealth Development Corporation, one (1) principal financial institution was established - the Trinidad and Tobago Mortgage Finance Company, to finance medium and low-cost housing.

Technical advice in connexion with the establishment of the Development Finance Company (DFC) was obtained from the World Bank.

3. UNITED NATIONS DEVELOPMENT PROGRAMME AND THE UNITED NATIONS OFFICE OF TECHNICAL CO-OPERATION

Liaison by UNDP with the Government of Trinidad and Tobago for the grant of technical assistance

The Government of Trinidad and Tobago liaises with the United Nations Developed Programme (UNDP), on request, in carrying out some activities involving technical co-operation among developing countries.

Some of the activities have been provision of training facilities, consultancy services, loan of expertise. An indication of some characteristics of the programme may be observed from the following:

(a) Twenty-six (26) such activities took place in Trinidad and Tobago.

(b) Four (4) of them were out of the country.

(c) Some of the activities were in co-operation with neighbouring countries while the others were further afield.

/(d) The

(d) The financing of the activities was done by the United Nations and the agency which was responsible for granting the particular award or making any request for the co-operation, in some activity.

(e) Total expenditure was US$ 5 million (approximately) over the last four years.

The following details are supplied, with respect to the activities undertaken:

1. Training

Commonwealth Caribbean

19 - Agriculture, Hydrology, Banking, and Public Administration, etc.

Asia

3 - Agriculture, Animal Husbandry and Records Management

Africa

4 - Agriculture and Finance.

2. Expertise/Consultancy

A United Nations Expert, on assignment in Trinidad and Tobago was loaned to the Government of the Republic of Panama to assist in their development planning.

A Water and Sewarage Authority Training Instructor was loaned to the Government of Jamaica, to assist in establishing training unit-methods, curriculum, etc., at Jamaica's Water Authority.

Two (2) nationals were loaned to the Governments of the less developed countries of the Windward and Leeward Islands to do a Preparatory Assistance Survey, aimed at assisting these Governments in the field of public administration.

4. ORGANIZATION OF AMERICAN STATES - TECHNICAL CO-OPERATION

Technical Co-operation among developing countries which are members of the Organization of American States

The Organization of American States (OAS) provides direct services of co-operation to its member States upon their submission of National Technical Co-operation Programmes. The National Programmes are submitted according to

/areas of

areas of concentration in which the Organization is best able to provide such direct services of co-operation for development to the member States.

The Mar del Plata Special Project which are being executed in Trinidad and Tobago with the Organization of American States technical assistance are:

(1) Ecology and Humid Tropical Forests
(participating countries - Brazil, Colombia, Venezuela, Trinidad and Tobago).

(2) Sugar cane by-products
(participating countries - Barbados, Guatemala, Haiti, Jamaica, Mexico, Dominican Republic, Trinidad and Tobago).

(3) Solar Energy
(participating countries - Argentina, Brazil, Jamaica, Mexico, Trinidad and Tobago).

(4) Information and Technical Assistance to Industry
(participating countries - Bolivia, Colombia, Costa Rica, Chile, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Peru, Dominican Republic, Venezuela, Trinidad and Tobago).

These projects involve multinational co-operation in planning, execution and financing.

5. THE INTER-AMERICAN DEVELOPMENT BANK'S INTRA-REGIONAL TECHNICAL CO-OPERATION SCHEME

In June 1977, the Government of Trinidad and Tobago signed an Agreement with the Inter-American Development Bank confirming its participation in Intra-Regional Technical Co-operation Projects. Projects are now in the process of being formulated.

The Inter-American Development Bank also assists Trinidad and Tobago on an Organization-Country basis in its developmental effort. This it does by way of loans included in which are provisions for experts and training opportunities where necessary. Training in the form of attachments and fellowships as well as the provision of experts outside of the context of the grant of loans are also provided by this Agency.

Under the auspices of the Bank, an expert has been sought to assist in rationalization and deepening of the motor vehicle assembly industry.

6. BILATERAL TECHNICAL CO-OPERATION

Bilateral technical co-operation takes place between Trinidad and Tobago and India.

The Indian Cultural Scholarship Scheme has financed scholarships granted to 12 Trinidad and Tobago nationals during the past five years, in medicine, agriculture, social sciences and the arts.

India is also one of the developing countries in which Trinidad and Tobago nationals pursue studies which are financed by the Trinidad and Tobago Government.

TRINIDAD/TOBAGO - MEXICO

In 1975, agreements were signed between Mexico and Trinidad and Tobago on economic co-operation; and on scientific technological, educational and cultural co-operation.

Trinidad and Tobago recognizes that technical co-operation among developing countries is a useful activity, enabling the joint sharing of and solution to similar problems.

Capacities for technical co-operation among developing countries

In terms of government institutional resources the following facilities exist for training and consultancy services in Trinidad and Tobago:

Sector	Subsector	Level of participation
Agriculture, forestry and fisheries	Forestry	Diploma course in forestry offered at the Eastern Caribbean Institute of Agriculture and Forestry. The intake of foreign students per year is approximately ten (10).
General economic and social policy planning and public administration	General economic and social statistics	Courses offered in basic and advanced level statistics. In-training statistics courses are also organized. There are four (4) co-sponsors for these courses: (i) OAS (ii) Statistical Service of Trinidad and Tobago (iii) United States Bureau of Census (iv) Inter-American Statistical Institute

Sector	Subsector	Level of participation
Industry	Service industry	Diploma courses at middle management level and diploma and certificate courses at craft level.
Education	Teacher training	Diploma in teacher training awarded by Board of Teacher Training, Ministry of Education and Culture.
Transport and communication	Transport by air	Courses offered by the Regional School of Aviation, CATI, contributions made by fourteen (14) Caribbean territories; in addition the school is subsidized by the International Civil Aviation Organization.
Science and technology	Physical science	Courses offered by the University of the West Indies
Labour management and employment	Management training and development	Advisory - consultancy work on all business problems, including small business.

This list shows capacities that exist in various forms of institutional training - more specifically agriculture, management training and development, teacher education.

Capacity for research exists in agriculture and industrial development in food processing.

There is social and economic planning capacity in project planning, feasibility studies related to industrial development, development of statistical systems.

Needs for technical co-operation among developing countries

The following are identified as areas which Trinidad and Tobago considers useful for co-operation among developing countries:

Joint ventures

Joint ventures with developing countries. Within this concept the development of multinationals among developing countries must be explored.

/Communication

Communication

Development of communication networks among developing countries. This will include telephones and telegraph systems, shipping and aircraft, the idea being to enhance trade potential, as well as to promote greater social and cultural intercourse among developing peoples.

Multinational ownership of shipping lines, airlines and modalities for communication systems are considered useful in this regard.

Science and technology

Co-operation with respect to:

(i) institutional arrangements for transfer of technology;

(ii) institutional arrangements for development and adaptation of technology;

(iii) research and development activities to pursue transfer of technological findings to directly productive activities.

In the field of science and technology, the following activities should receive attention at sectoral levels:

1. Agriculture

Technology best suited to primary agricultural development and to development of agro-industries, given the complementarity needed in planning modernization of the sector to promote higher level wages and reduction of food imports, while ensuring that the technology policy does not accelerate the problem of labour absorption into capital-requiring modern sector industries.

Activities will include:

(a) Potential for utilization of sugar and its by-products in animal feed development, industrial production and pharmaceuticals which are by-products of sugar;

(b) Research into fish resources around our shores and the development of fresh water fish farms;

(c) Development of suitable hybrid seeds, fertilizers, insecticides and pesticides.

2. Construction

Technology to promote the use of domestic raw materials including wood; development of methodologies for building, including prefabricated methodologies.

/3. Environment

3. Environment

Research, development and implementation of projects for optimal exploitation of wastes - both solid and liquid; control of industrial, commercial and domestic wastes; projects whould include disposal and recycling to promote economic use of wastes.

4. Water

Management of coastal erosion, marine management and control, proper management of water resources, including prevention of flooding, attention to drainage and hillside erosion which adversely affect agricultural development.

5. Manufacturing

Development of the electronics subsector. Establishment of the manufacture of small components for the motor vehicle industry using metal or plastic.

New uses to which plastic and plastic products may be put.

6. Housing

Investigation of techniques and methodologies which will reduce construction costs, particularly for low-income housing requirements. This will include use of materials, design of buildings.

7. Health

Development of low-cost nutrition for low income groups, improvements to the nutritional quality of food at low cost. Attention to promotional aspects - encouraging farmers to grow the required crops, encouraging the population to acquire new food habits.

Dental work-training and deployment of suitable manpower.

Use of modern technology in hospitals and other public health institutions to promote health.

Designing of efficient health administration systems.

Transport

Organization of internal transport systems to meet demand, needs and road capacity, e.g., rationalization of the motor vehicle industry.

Training

Development of training systems which will use manpower more fully, given scarcity of certain skills - the range will include course content, testing and evaluation, teaching aids.

/Culture

Culture

Cultural exchange promotion, restoration of the physical heritage documentation of cultural development and interrelationships, inclusive of music and ethnicity.

These activities should be conducted in addition to technical co-operation with developed countries. As experience is gained and benefits become clearer, there may be gradual replacement of technical co-operation with developed countries by technical co-operation among developing countries.

Economic survival suggests the need for caution in a world where the developed countries have established supremacy in most fields and can initiate procedures to keep developing countries in a state of dependence, if the latter's policies do not suit their socio-economic growth pattern.

Procedures for technical co-operation among developing countries

Specific activities have been outlined in section A.

As a general rule, memoranda of understanding are worked out between Trinidad and Tobago and other countries with which bilateral technical co-operation is desired. Similarly, memoranda are agreed upon between this country and agencies responsible in some way, for TCDC, e.g., the OAS or the Commonwealth Fund for Technical Co-operation.

The rationale which guides the programmes is set our (basically, specific problems of mutual concern) as well as the terms and conditions under which co-operative activities will be pursued, the manner in which co-ordinated effort is envisaged between national institutions, countries and international agencies.

The technical assistance to be provided is delineated - whether it be consultants, travel grants, fellowships, equipment and supplies, courses and seminars. As a result of the Mar del Plata resolution (OAS) each country within the OAS can prepare a project proposal, submit this to the OAS, which will then undertake the responsibility for seeking out other interested countries. Persons assigned as Project Directors from these countries then meet, exchange ideas, define the project clearly, decide on what aspects of the project each country would make specific inputs, and continue to exhange knowledge, information and results.

/Where no

Where no agreement exists, the procedures are worked out on a case-by-case basis.

The focal point for all technical co-operation is the Technical Assistance and Training Division of the Ministry of Finance (Planning and Development) which has the co-ordinating responsibility for these activities.

In view of the complexities involved in technical co-operation, it is felt that whether co-operation is bilateral or multilateral, there should be a central agency, a central point of contact within each country for bilateral and multilateral arrangements. Co-ordination of information and policies would be promoted in this way.

There is need for the overall co-ordination of activities of technical co-operation among developing countries.

UNDP appears to be the most suitable organization to act as co-ordinator for technical co-operation among developing countries.

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND:
ASSOCIATED STATE OF ST. LUCIA

It is being recognized that technical co-operation is a medium through which developing countries can assist each other in overcoming hindrances to progress that are inherent in their economies. Such co-operation accelerates the total developmental process by creating a pool of developmental instruments, upon which developing countries may draw according to their need.

With a total area of 238 sq. miles and an estimated population of 101,000 of which 48% are estimated to be under the age of 15 and nearly 3/5 (59%) under age 20, the economy of St. Lucia has been traditionally agriculture based and export oriented, with bananas being the leading export crop followed by copra and coconuts. An estimated 40% of the young labour force (41,000) is engaged in agriculture.

Various estimates of GDP indicate a total of $123,300,000 E.C. in 1974 and $1,121 E.C. per capita.

In the course of the development of its limited resources, St. Lucia has been assisted to a great extent by technical co-operation with other developing countries.

Such co-operation is often indirectly promoted through International Agencies such as the United Nations, CIDA, UKODM. These agencies support technical co-operation among developing countries with aid funds, expertise and loan.

Co-operative activities so promoted have involved the substantial inputs of know-how and expertise, consultancy services, training facilities, equipment and supplies, shared by St. Lucia and other developing countries. For example with the assistance of the United Nations St. Lucia has a Port Development project currently being undertaken, through which training opportunities in port management to individuals from other developing countries are available. The role of the Caribbean Fund for Technical Co-operation is significant in making available funds for training and providing expertise.

However, for the purpose of this paper experience in technical co-operation promoted:

/(a) through

(a) through regional agencies, and

(b) under special bilateral arrangements with other developing countries will be described:

A. Regional Agencies

A number of Regional Agencies have been established to take care of, on a regional basis, matters that are of common interest to member countries, in terms of research, training and promotion of the welfare of the region as a whole. The Eastern Caribbean countries of which St. Lucia is one, are members of the ECCM and ECCA. The former provides trading links with the LDCs while the latter is the responsible authority for St. Lucia's money supply since St. Lucia does not have her own Central Bank. The State is also a member of the major organization promoting regional integration, CARICOM, along with the LDCs Jamaica, Barbados, Guyana and Trinidad.

Another institution which plays a major role in the development of its member countries is the CDB. Besides the sharing of the finances for projects, expertise is also available for project evaluation, assessment and identification. The Caribbean Investment Corporation is another organization that facilitates development technical co-operation. All these institutions, ECCM, CDB, CIC, are used by international agencies such as United Nations for promoting such co-operation in fields of common interest, industrial, investment promotion and tourism promotion, joint export promotion, statistics environmental health, food and nutrition.

In areas of research and training the role of the UWI is of paramount importance. This is the main regional training centre for higher academic studies in the fields of Medicine, Agriculture, the Social Services, Law, the Arts. The trainees return to their respective countries to serve a period of bond. It has been observed that personnel trained with the West Indies (UWI, Universities of Puerto Rico and more recently University of Guyana) are more likely to return to serve in St. Lucia than those who have gone farther afield.

The development of our aviation and meteorological services has been greatly facilitated by the availability of training opportunities at CATI, Barbados while the JSA has made possible the training of many agricultural extension field officers over the past three years.

/In the

In the area of agricultural research and development, St. Lucia's needs are met through CARDI (and UWI of course), while the WINBAN is actively concerned with research on diseases in the banana crop, increase in yields per acre, quality control, marketing research. Thus with support from the United Kingdom Government WINBAN sustains regional co-operation in the above aspects of the banana production of the Windward Islands, St. Lucia, Dominica, St. Vincent and Grenada in order to assist them in maintaining their production quota. Allied to these services WINBAN over the past three to four years monitors a Banana Rehabilitation project in these islands, brought about after severe periods of drought through which the industry suffered considerably.

B. Bilateral Arrangements

St. Lucia co-operates technically on an extra-regional basis with other developing countries, where special techniques have been developed and arrangements made directly between the countries concerned or with the aid of an international agency. For example farming techniques have been studied and observed in Israel with the help of the FAO while Venezuela by arrangements has made available supplies, and expertise for developmental activities.

Other arrangements have been made with regard to the provision of expertise in fields of government whereby teams have been drawn from Guyana, Jamaica and Trinidad to form Public Service Commission of inquiry (The Stoby Commission) of structure and organization of the service, the most recent to be implemented shortly, the Dolly Commission. Under special arrangement the Trinidad Government granted the secondment of an official to assist in the restructuring of the Ministry of External Affairs, while public servants also seconded to Trinidad gain experience working in more advanced departments (e.g., building inspectors, and to other countries for technical training).

The financial burden of technical co-operation has been borne:

(a) by the regional partners of the co-operative venture as is the case with the UWI, CARICOM and so on;

(b) with support funds from international agencies as training tenable at CATI (Barbados) but sponsored by CIDA for example.

/From the

From the above discussion it can be seen that quantifying the benefits received from St. Lucia experience in technical co-operation is not possible. However, the fulfilment of a great deal of the training needs, research and development requirements and the assistance received in infrastructural developments at comparatively low cost to St. Lucia serve as an incentive to further co-operation. It is in this cost reduction factor regard that the main advantage of participating in technical co-operation.

St. Lucia's capacity for such co-operation lies in the Educational Sector. Already training places have been granted to teachers and students from other developing islands.

i. The St. Lucia Teachers Training College - for education at the primary level.

ii. St. Lucia Technical College - Post Secondary training (in commercial subjects) granting an award not equivalent to a first university degree.

iii. St. Lucia Teachers Technical College - Technical education at the secondary or post secondary levels in hotel training, building construction, plumbing, etc.

Some problems that beset economic growth are:

i. the small size of the domestic market, both in terms of absolute numbers as well as in terms of per capita purchasing powers;

ii. relatively few and underdeveloped intersectoral linkages and interindustry transactions;

iii. a high ratio of imports to Gross Domestic Product;

iv. relatively large pool of surplus and unskilled labour.

An overriding objective of the development strategy is the minimization of the risk of monoculture through co-ordinated development drives in agriculture, promotion of industry and tourism, community advancement and the expansion of the economic infrastructure on the whole.

Specific objectives in the development strategy have been adopted to guide needs assessment in each sector over the next few years.

/Agricultural Sector

Agricultural Sector

i. Self sufficiency, in selected food products and development of the animal and fish industries.

ii. Optimum utilization of Forestry Resources.

iii. Maximization of Foreign Exchange earnings from existing export crops and the development of new ones.

iv. Efficiency in the use of land, water and other natural resources through the promotion of improved systems of production.

v. Conservation of land, water and indigenous plant and animal resources.

vi. Establishment of an agro-industrial base to establish linkages with other sectors.

vii. Mobilization of human resources.

viii. Improvement of rural institutions and agencies for improved communication.

ix. Progressive improvement of rural infrastructure.

x. Forestry expansion and comprehensive resource management programme.

Industrial Sector

i. Development of light industry in rural areas.

ii. Mobilization of local entrepreneurial talent in all fields but with increasing attention being paid to the development of cottage industries.

iii. Establishment of export-oriented, labour-intensive enterprises; facilitating foreign participation in joint ventures where nationals lack relevant expertise, capital or market connexions and with the expectancy of benefits of a transfer of technology.

iv. Development of an increasingly skilled pool of labour in pace with prospected industrial development.

v. Development of regionally promoted industrial projects through active support for adopted policies of regional collaboration and economic integration.

vi. Development of allied industries which have a direct bearing on the trade balance such as clay bricks for the construction sector.

/Tourism Sector

Tourism Sector

i. International recognition and acceptance of St. Lucia as a significant Tourist Destination through effective marketing and improved airline services.

ii. Sustained tourist demand for local goods and services through the establishment of links with agricultural and manufacturing sectors and the development of ancillary support services.

iii. Identification, development and protection of environmental attractions.

Community Development and Social Services Sector

Concentration is on the overall improvement in the social infrastructure as:

i. Availability of serviced sites in selected settlements to support their planned expansion.

ii. House building at a rate adequate to meet the needs of an expanding population.

iii. Continuous improvement of housing conditions for lower income families.

iv. Establishment in all schools of education and practical training in agriculture and co-operative activity as integral parts of their culture.

v. Expansion of Technical and Vocational Education.

vi. Effective maternal child care.

vii. Effective control of the spread of communicable diseases through immunization.

viii. Establishment of a National Health Scheme.

In order to achieve all of these, there is the need for exchange of know-how, import of technology, training in the use of equipment, supplies and so on.

Experience gained through technical co-operation in developmental activities related to the above global and sectoral needs and objectives would be applicable to other developing countries immediately.

/The Office

The Office of the Premier, External Affairs, is the focal point for communications.

The United Nations has demonstrated its successful role in supporting technical co-operation by such ongoing activities as the Port Management Project which has been beneficial to both St. Lucia and the other regional countries whose officers are being trained here under this project.

These are the sort of co-operative activities that St. Lucia would be interested in promoting.

Abbreviations

ECCM	-	Eastern Caribbean Common Market
ECCA	-	Eastern Caribbean Currency Authority
CARICOM	-	Caribbean Common Market
CDB	-	Caribbean Development Bank
CIC	-	Caribbean Investment Corporation
UWI	-	University of the West Indies
CARDI	-	Caribbean Agricultural Research and Development Institute
CATI	-	Caribbean Aviation Training Institute
WINBAN	-	Windward Islands Banana Growers Association
UN	-	United Nations
JSA	-	Jamaica School of Agriculture
FAO	-	Food and Agriculture Organization

URUGUAY

A. THE EXPERIENCE OF TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

Uruguay's experience in the area of technical co-operation among developing countries (TCDC) has been limited and has basically assumed two forms:

(a) Bilateral agreements with countries in the region;

(b) Interagency agreements.

In the case of the first of these, Uruguay recently signed agreements on scientific and technical co-operation with the following countries: Paraguay, Brazil, Chile, Costa Rica, Bolivia, Argentina and Ecuador. These agreements contain broad basic provisions for exchanges in matters regarded by both signatory countries as having priority. To date, all the bilateral agreements mentioned are in the process of being implemented, and for that reason we do not yet have concrete experience in this regard.

With regard to interagency agreements, it should be noted that this type of co-operation has existed on a formal basis for some time between the Uruguayan Atomic Energy Commission and its counterpart in Argentina. The co-operation in question has been fairly broad, and it is hoped that it will continue to develop along the same lines.

Government bodies have recently made contact, through the Secretariat for Planning, Co-ordination and Dissemination (SEPLACODI), with similar organs in neighbouring countries. Mention should be made in this connexion of the co-operation plan now being drawn up by the Faculty of Agronomy of the University of the Republic of Uruguay and the Faculty of Agronomy of the University of Santa María in the state of Rio Grande do Sul, Brazil.

Similarly, talks have been initiated with the Argentine Bottling Institute regarding a possible exchange with the Technological Laboratory of Uruguay. Preparations have also been made for a programme of direct co-operation between the Argentine and Uruguayan meteorological services. Finally, the possibility of co-operation between the national postal services of the two countries is being studied.

/Uruguay's experience

Uruguay's experience indicates that agreements of the traditional kind which combine cultural exchanges with scientific and technological exchanges do not provide an adequate framework for TCDC.

Uruguay has recently begun to sign agreements which deal with these questions in a specific manner; examples of this are the agreements concluded with Brazil and Chile. This new orientation is of such recent date that no conclusions can be drawn, for the agreements in question have not yet reached the stage of implementation. In the case of the agreement with Brazil, however, active negotiations are under way.

As we have indicated, in addition to national agreements there are also various types of interagency agreements, in which contacts initiated in specialized bodies or at conferences or other meetings seem to have been an important factor. Current experience indicates that agreements of this kind tend to produce the most effective results.

B. CAPACITY FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

The subsectors in which Uruguay is likely to be able to participate in TCDC are:

- Integrated rural development;
- Animal health;
- General industrial services and institutions;
- Agricultural inputs;
- Review and evaluation of population statistics;
- International trade;
- Economic and social policy and planning.

The degree of participation in technical co-operation activities in these subsectors will depend on the agreements ultimately concluded between the countries concerned.

/C. NEED

C. NEED FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

The Government is, on the whole, receptive to the co-operation offered by countries which are in a position to make a sizeable technical and scientific contribution.

D. PROCEDURES FOR TECHNICAL CO-OPERATION AMONG DEVELOPING COUNTRIES

As has already been stated, instead of using standard procedures we have adapted our approach to the circumstances of the countries or agencies concerned. SEPLACODI is the body designated by the Uruguayan Government to act as co-ordinating agency with regard to international co-operation.

Uruguay believes that it is important to propose a simple, practical procedure so that this type of bilateral co-operation does not encounter difficulties or obstacles when the time comes for it to become operative. Uruguay therefore proposes that, for purposes of implementation, increased use should be made of the existing Information Referral System (INRES), which would not only publish the directory of services but also act as a focal point for receiving offers and requests from the various national liaison offices. The documentation accompanying offers and requests from the countries concerned should specify, in all necessary detail, the financial contribution and support services they would be prepared to pledge in each particular case.

E. CO-ORDINATION OF TECHNOLOGY BETWEEN DEVELOPING COUNTRIES AT THE INTERNATIONAL LEVEL

The presence of UNDP in all countries of the region - through the country programmes and the resident representatives' offices - can be a positive factor for this new type of co-operation, particularly with regard to the possibility of acting as a focal point or clearing-house which would help to match needs and capacities.

/Uruguay is

Uruguay is in an excellent position to handle TCDC and to channel it through the UNDP country programme, in which project personnel have increasingly included a high proportion of Latin American professionals.

In conclusion, Uruguay appreciated UNDP action which is geared to studying the forms and practices of bilateral agreements with a view to helping to perfect them; it also appreciates active UNDP participation in identifying areas of interest in bilateral co-operation. UNDP can also collaborate in defining projects designed to mobilize this co-operation, perhaps contributing supplementary financial resources.

VENEZUELA

A. Experience of technical co-operation among developing countries

Under the provisions of Decree N° 66 of 29 May 1959, the Central Bureau for Co-ordination and Planning of the Office of the President of the Republic (CORDIPLAN) is responsible for co-ordinating activities involving technical assistance provided by the national Government, through the Government agencies and autonomous institutions, and received by Venezuela from international organizations and foreign Governments and private institutions.

The fact that responsibility for co-ordinating technical co-operation at the national level should have been assigned to this Bureau is of particular importance, since such co-operation is closely related to economic co-operation, and both constitute very important components of co-operation for development. Furthermore, the two-fold function of co-ordinating co-operation, both received and provided, makes it possible to take greater advantage of the co-operation provided by Venezuela, by subsequently making it available to other countries.

Venezuela believes that every country, regardless of its level of development, is able to share its know-how and experience. It is for this reason that, through the National Department for Technical Co-operation of CORDIPLAN, stress is laid on the fact that co-operation received from other countries and from international agencies should have a multiplier effect. In practical terms, this means offering fellowships and advisory services to other developing countries in those areas where we feel we are qualified to do so.

In extending such co-operation, the national Government does everything it can to back up the efforts being made by developing countries to achieve overall development and to support attempts to achieve economic and social equality.

The bilateral technical co-operation provided by Venezuela is concentrated on a limited number of countries with a view to achieving a degree of effectiveness with limited financial and administrative resources. For this reason, most of the activities have been carried out in Venezuela, since they take the form of training programmes using the country's existing infrastructure.

/However, since

However, since 1974, approximately 30% of co-operation has been provided in the form of consultancy missions undertaken by Venezuelan experts in the particular country requesting assistance. The technical co-operation among developing countries in which Venezuela is involved is principally of a reciprocal and bilateral nature. When our country provides the co-operation, it also provides the necessary financing.

In the past four years we have granted approximately 550 fellowships, and 186 experts have provided consultancy services to other developing countries, in various spheres.

In the activities described above, no obstacles have arisen to the efficient functioning of the programmes. On the contrary, co-operation has been warmly welcomed, nationally and internationally. This has enabled countries with common problems to become better acquainted with the various plans, approaches and techniques used, and contacts between the technicians executing the projects have been mutually beneficial.

B. Capacities for technical co-operation among developing countries

In general terms, the technical co-operation provided by Venezuela can take the following forms:

(a) Joint or co-ordinated implementation of programmes for training, research, the provision of equipment and development.

(b) Establishment of, or assistance to, educational or further training institutions, and research, production and technological development centres;

(c) Promotion of national and international meetings and exchange of documents and information.

All this applies to those spheres in which Venezuela is adequately qualified.

It would be pointless at the present time to indicate the probable subsectors in which Venezuela has the capacity to provide technical co-operation, since the National Department for Technical Co-operation is at the moment drawing up a list which will indicate the availability of financing and of human resources to extend the work we have already begun, and to identify the areas in which we have sufficient experience to do so.

/In order

In order to ensure that the training opportunities in our country for which fellowships are available through our technical co-operation programmes are fully utilized and publicized, we are preparing a brochure for distribution in the countries of the region.

C. Needs for technical co-operation among developing countries

With regard to the description of the needs of Venezuela which the Government is willing to meet in co-operation with other developing countries, its priorities, and interest in applying solutions, when found, to other countries, it should be pointed out that the National Department for Technical Co-operation has begun an analysis of technical co-operation requirements for the years 1978-1979. This analysis will take account of the following considerations:

- Technical co-operation should respond to the needs for consultant services and training which cannot be met nationally; there should be an appropriate national counterpart to ensure efficient use of international consultant services; it should respond to global, sectoral and regional objectives as defined in the priority policies of the National Plan; it should avoid using external technical co-operation resources as a substitute for locally available capacity or for any tasks which can possibly be undertaken with national resources.

D. Procedures for technical co-operation among developing countries

The information received from Venezuelan embassies abroad, from international agencies and from study tours by professionals and technicians working in specialized spheres has been important in developing technical co-operation links between Venezuela and other countries. These relations are formalized through the signing of basic technical co-operation agreements which, in some cases, lead to supplementary agreements in specific areas, or to requests for, or offers of, technical co-operation with Venezuela through the National Department for Technical Co-operation of the Central Bureau for Co-ordination and Planning of the Office of the President of the Republic, which, as has already been indicated, is the liaison agency for both co-operation received and co-operation provided to others.

/E. Co-ordination

E. Co-ordination of technical co-operation among developing countries at the international level

Technical co-operation among developing countries should be co-ordinated mainly through meetings of liaison agencies which, in turn, should have the backing of an international agency, whose sole responsibility would be to keep countries informed of what others in the region need and can offer. In the case of the Latin American countries, that agency should be SELA.