

No. 25644

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**UNITED NATIONS  
(ECONOMIC COMMISSION FOR LATIN AMERICA  
AND THE CARIBBEAN)  
and  
ITALY**

**Agreement concerning technical co-operation (with annexes). Signed at Santiago, Chile, on 5 February 1988**

*Authentic text: English.*

*Registered ex officio on 5 February 1988.*

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**ORGANISATION DES NATIONS UNIES  
(COMMISSION ÉCONOMIQUE POUR  
L'AMÉRIQUE LATINE ET LES CARAÏBES)  
et  
ITALIE**

**Accord de coopération technique (avec annexes). Signé à  
Santiago (Chili) le 5 février 1988**

*Texte authentique : anglais.*

*Enregistré d'office le 5 février 1988.*

## AGREEMENT<sup>1</sup> BETWEEN THE GOVERNMENT OF ITALY AND THE UNITED NATIONS

Whereas the Government of Italy (hereinafter referred to as “the Government”) and the Economic Commission for Latin America and the Caribbean, on behalf of the United Nations (hereinafter referred to as “ECLAC”), have agreed to co-operate in the implementation of a technical co-operation project on “Natural disaster prevention in Latin America and the Caribbean (first phase)” (Annex A);

Whereas the Government has informed of its willingness to contribute funds to meet the costs of the project on the basis of the project budget (Annex A);

Whereas it has been agreed between ECLAC and the Government that ECLAC shall be responsible under the terms of this Agreement for the management of the funds contributed by the Government to meet the costs of the project;

Now, therefore, ECLAC and the Government hereby agree as follows:

*Article I.* 1. The Government shall, in the manner referred to in paragraph 2 below, place at the disposal of ECLAC the sum of 146 900 United States dollars and ECLAC shall use such funds to meet the cost as shown in Annex A.

2. The Government shall, in accordance with the schedule of payments set out in Annex B of this Agreement, deposit the aforesaid funds, in convertible currencies of unrestricted use, to ECLAC’s Project Trust Funds Account No. 015-001784 in the Chemical Bank, United Nations Branch, New York, N.Y. 10017.

3. ECLAC shall establish a trust fund under the Financial Regulations and Rules of the United Nations for the receipt and administration of the aforesaid funds.

4. The trust fund and the project financed therefrom shall be administered by ECLAC in accordance with the applicable United Nations regulations, rules and directives. Accordingly, personnel shall be engaged and administered, and contracts entered into, in accordance with the provisions of such regulations, rules and directives.

5. In accordance with United Nations financial regulations, ECLAC shall invest in short-term deposits the trust fund contribution indicated in Article I of this Agreement until such time as actual cash is required. The income generated from these deposits shall be credited by ECLAC to a general ledger account. The interests accrued in this trust fund shall be used by ECLAC for the purpose to be agreed upon between ECLAC and the Government.

6. All financial accounts and statements shall be expressed in United States dollars.

*Article II.* 1. The trust fund shall be charged with expenditures incurred by ECLAC in the performance of activities under this Agreement.

2. The trust fund will also be charged with thirteen (13) per cent of all expenditures from the trust funds, which percentage shall be a charge from programme support services provided by ECLAC in the implementation of the activities financed under the trust fund.

<sup>1</sup> Came into force on 5 February 1988 by signature, in accordance with article X.

3. The trust fund will also be charged with an amount equivalent to one (1) per cent of the remuneration or net salary of persons engaged by ECLAC and whose engagement is financed by the trust fund, to provide a reserve for coverage of any claim for service-incurred death, injury or illness, under the applicable United Nations regulations and rules or contracts, which reserve cannot be refunded to the Government.

*Article III.* 1. ECLAC shall commence and continue to conduct operations under this Agreement on the receipt of contributions in accordance with the schedule of payments set out in Annex B.

2. ECLAC will not make any commitments above the amounts specified for expenditure in Annex A.

3. If unforeseen expenditures arise, ECLAC will submit a supplementary budget to the Government showing the further financing that will be necessary. If no such further financing is available, the assistance provided to the project under this Agreement may be reduced or, if necessary, terminated by ECLAC. In no event will ECLAC assume any liability in excess of the funds provided in the trust fund.

*Article IV.* Evaluation of the activities financed from this trust fund may be undertaken under the terms to be agreed upon between the Government and ECLAC.

*Article V.* This trust fund shall be subject exclusively to the internal and external auditing procedures laid down in the Financial Regulations, Rules and Directives of the United Nations.

*Article VI.* ECLAC shall provide the Government with the following statements and reports prepared in accordance with the United Nations accounting and reporting procedures:

- (a) An annual progress report and financial statement showing income and expenditures as well as a projection of expenditures through the end of the project, with respect of the funds provided by the Government;
- (b) A final report and financial statement within six months after the date of expiration or termination of this Agreement.

*Article VII.* ECLAC shall notify the Government when, in the opinion of ECLAC, the purposes for which the trust fund was established have been realized. The date of such notification shall be deemed to be the date of expiration of this Agreement, subject to the continuance in force of article IX for the purposes there stated.

*Article VIII.* This Agreement may be terminated by either party on 30 days' written notice to the other party, subject to the continuance in force of article IX for the purposes there stated.

*Article IX.* On termination or expiration of this Agreement under article VII or VIII, the funds will continue to be held by ECLAC until all expenditures, incurred by ECLAC have been satisfied from such funds. Thereafter, any surplus remaining in the trust fund shall be disposed of as indicated by the Government.

*Article X.* This Agreement shall enter into force upon signature.

*Article XI.* In witness whereof, the undersigned, being duly authorized thereto, have signed the present Agreement in three originals in the English language at Santiago, Chile, this fifth day of February 1988.

For the Government  
of Italy:

[*Signed*]

ARMANDO SANGUINI  
Chargé d'Affaires

For the United Nations  
Economic Commission  
for Latin America  
and the Caribbean:

[*Signed*]

GERT ROSENTHAL  
Executive Secretary

## A N N E X A

### PROJECT PROPOSAL SUBMITTED BY THE ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN TO THE GOVERNMENT OF ITALY

Project Title:	Natural Disaster Prevention in Latin America and the Caribbean (first phase)
Geographical Scope:	Regional
Project Scene:	Santiago, Chile
Duration:	12 months
Starting Date (proposed):	February 1988
Total Estimated Budget:	US\$ 310,900
— Government of Italy:	US\$ 146,900
— ECLAC (in kind):	US\$ 164,000
Executing Agency:	Economic Commission for Latin America and the Caribbean (ECLAC)
Co-operating Agency:	World Meteorological Organization (WMO)

#### NATURAL DISASTER PREVENTION IN LATIN AMERICA AND THE CARIBBEAN (FIRST PHASE)

##### 1. *Background and justification*

Natural phenomena of meteorological and geological origin frequently, and with varying intensity, cause disasters in the countries of Latin America and the Caribbean.

The United Nations Economic Commission for Latin America and the Caribbean (ECLAC) has made detailed analyses on the economic and social consequences of the main major disasters which have occurred in the region during the past fifteen years. These analyses include the case of earthquakes in Managua, Nicaragua (1972), Guatemala (1976) and Mexico (1985) and the eruption and ensuing mudflow of the Nevado del Ruiz volcano in Colombia (1985), as well as hurricanes Fifi in Honduras (1974), David and Frederick in the Caribbean (1979) and the floods and drought caused by the El Niño phenomenon in Bolivia, Ecuador and Peru in 1982-1983.\*

The following conclusions can be drawn after analysing the available information of the type and value of social and economic losses imposed by these major disasters in the region.\*\*

The following general effects are common to all types of natural disasters:

- A significant number of victims which effectively reduce the already limited, trained human resources capacity of the affected countries;
- An important reduction in the availability of housing, and health and education facilities, thus increasing predisaster deficits;
- A temporary reduction in the income of low-earning social strata and a corresponding increase in already-high subemployment and unemployment rates;
- Temporary interruptions of water supply and sanitation, electricity, communications, and transport services; and
- Temporary shortages of food supplies and raw materials for agricultural and industrial production.

Depending on the origin of the natural phenomena which caused the natural disaster:

- Natural disasters of meteorological origin—such as floods, hurricanes and drought—usually cover a more extensive geographical area than those of geological origin;
- Due to population density, the number of victims caused by natural disasters of geological origin—such as earthquakes—is likely to be higher than in cases of events caused by meteorological phenomena;
- Capital losses—in physical and social infrastructure—resulting from earthquakes are usually much higher than those caused by floods; and
- Production and indirect losses, on the other hand, are likely to be much higher in cases of floods and droughts.

Depending on the size and diversification of the affected country's economy, immediate secondary losses caused by natural disasters include:

- A reduction in economic growth, and in the improvement of social conditions in general;
- An increase in public sector deficit in view of unexpected relief expenditures and of reductions in tax revenues;
- A deterioration in the balance [of] payment situation due to reductions of exports and increases in imports of relief and immediate rehabilitation materials; and
- An increase in cost of living indexes (inflation) caused by shortages of essential goods and speculation.

In the cases analyzed, the short-term effects of natural disasters have been overcome through relief and immediate rehabilitation efforts undertaken by the governments of the affected countries with the assistance of the international community. Such efforts have heavily taxed the countries' limited capacity to attend the sudden and unforeseen expenditures imposed by the disaster.

Secondary effects, however, have long-term implications and their solutions have often required great sacrifices by the affected governments. In fact, final rehabilitation and reconstruction has only been possible through the combination of the following measures:

- Reorientation of existing fiscal resources and internal savings;
- Reorientation of existing loans; and
- Securing of new foreign financing.

These measures have resulted in the deferment or the cancellation of much-needed development projects which had been included in already-approved long-term development plans. Improvement of social and economic conditions has thus been postponed or outrightly impeded.

To complicate matters even further, the above described effects are not limited to major disasters. In fact, less-severe natural disasters affect the region on a similar but more frequent fashion.

It can be stated that, on the average, several thousands of lives and about 1,200 million US\$ dollars per year are lost in the region due to the action of natural disasters. Therefore, the direct and indirect social and economic consequences of disasters in the region are so staggering, and the solution to secondary effects is so costly as to affect medium and long-term economic development. Thus, efforts to reduce the region's vulnerability should be undertaken at the earliest.

In that respect, while the natural phenomena which originate disasters can not be avoided, it is possible to undertake measures to reduce their consequences to more-manageable levels and thus to contribute to long-term development. Such measures, while costly themselves, would represent only a very small portion of the present level of losses previously described.

Those measures refer to disaster prevention planning and preparedness activities.

Disaster prevention measures are designed to prevent natural phenomena from causing or resulting in disasters, or at least to limit their consequences.

A first group of prevention measures is related to the forecasting and warning of natural phenomena, and is based on a thorough scientific study of the natural phenomena—their intensity, and time and geographical distribution—which may originate disasters. They include the setting up of networks to monitor the development and evolution of meteorological events, and the implementation of early-warning systems in the vicinity of human settlements.

The second set of prevention measures refers to the adoption of technical and legislative regulations, such as zoning laws based on vulnerability analysis and the regulation of building codes, to ensure that buildings are able to withstand the anticipated effects of natural phenomena. The education and training of the population to make people aware of disaster risks and of prevention requirements is also included in these measures.

There are two main areas for action in connection with disaster-related planning. Firstly, physical planning should include disaster vulnerability analyses of all large-scale development works—including human settlements—to decide their optimum location and anti-disaster characteristics. Second, long-term development planning should include potential disaster effects as a new variable—giving due consideration to needs for disaster relief programme and contingency measures to be adopted in cases of disaster—as well as rehabilitation and reconstruction requirements following a major disaster.

Finally, disaster preparedness involves the adoption of measures to organize and facilitate rescue and relief operations in cases of disaster. They include the formulation of emergency plans, the setting up of effective relief organizations, the training of personnel for these activities, the stockpiling of supplies and the setting up of funds for relief.

## 2. *The Project*

The above described pre-disaster activities are very wide in scope. A technical co-operation project comprising the most cost-effective activities is described herein.

The project would assist the countries of Latin America and the Caribbean in improving and expanding their prevention mechanisms and facilities concerning natural disasters of meteorological origin, as well as in adopting a standard and appropriate methodology for the assessment of damages following natural disasters of all types.

The project would enable the provision of highly-specialized expertise and would promote the horizontal co-operation among the countries of the region.

A staged approach is proposed for the undertaking of the project. A one-year first stage would enable the determination of existing needs and capabilities in the region, and to reach agreements among countries on how best to co-operate on the subject matter. A second

stage—of still undetermined duration—would be undertaken to actually improve conditions through human resources training and the design of hydro-meteorological forecasting systems in selected river basins of the region.

a) *Objectives*

The long-term objective of the project is the reduction of the economic and social impact of natural disasters in the region through the design and implementation of preventive measures and systems.

The short-term objectives of the project are:

- To improve and expand hydro-meteorological forecasting systems and facilities in the region, and
- To develop a uniform methodology for the assessment of damages following natural disasters.

b) *Expected results*

The following results are to be achieved during the first phase of the project:

- i) A thorough analysis of existing arrangements and capabilities concerning hydro-meteorological forecasting in the region;
- ii) Proposals for and agreements on:
  - Improvement of human resources training in hydro-meteorological forecasting;
  - Selection of river basins where design of hydro-meteorological forecasting systems are to be prepared; and
  - Increased technical co-operation among the countries of the region on above-mentioned subjects;
- iii) A manual describing a uniform and comprehensive damage assessment methodology.

In the second project phase, the agreed-upon proposals for improving hydro-meteorological forecasting in the region would be implemented.

c) *Schedule of activities*

The following activities are to be implemented during the 12-month duration of the first project phase:

	<i>Quarter</i>			
	1	2	3	4
i) Field survey of existing arrangements and capabilities in hydro-meteorological forecasting in the region, including: availability of trained human resources and training facilities; existing and required hydro-meteorological forecasting systems; potential for horizontal co-operation .....	X	X	X	
ii) Formulation of proposals for the improvement of human resources training and for the selection of river basins to be included in second project phase .....			X	X
iii) Regional seminar to discuss, and agree on, scope of second project phase and horizontal co-operation modalities .....			X	
iv) Preparation on bilingual—Spanish and English—manual on damage assessment methodology .....	X	X	X	X

At the end of the first project phase, a proposal for the second phase is to be prepared on the basis of the results obtained and agreements reached. It is estimated that this proposal would describe the most appropriate and cost-effective ways to train human resources, and to design hydro-meteorological forecasting systems in the region. It should assign special relevance to horizontal co-operation among the countries of the region, to supporting existing mechanisms and to utilizing available training facilities outside the region as well.

d) *Inputs required*

An external contribution of US\$146,900 would be needed to finance highly-specialized consultancies (22 working-months) for the field survey and the preparation of the manual; mission travel within the region; the holding of a seminar; and the publication of the manual and other documentation (see Table 1).

The Executing Agency and the Associate Executing Agency for the project will assign a total of 24 working-months of their staff to provide substantive guidance and backstopping. In addition, they will provide space, secretarial, communications and meeting facilities required by the project. This in-kind contribution is estimated to amount to US\$164,000.

The countries of the region will provide all the available basic data including technical reports on hydro-meteorological forecasting. In addition, they will make available the appropriate counterpart technical personnel, as well as the office space and logistic support which may be required.

e) *Institutional framework*

The project will be executed by the Economic Commission for Latin America and the Caribbean (ECLAC). The World Meteorological Organization (WMO) will be associate executing agency for the project.

The governments of the Latin America and Caribbean region, through numerous mandates, have entrusted ECLAC with responsibilities related to the assessment of damages following natural disasters, the evaluation and monitoring of disaster effects on economic evolution, rehabilitation and reconstruction planning, and the promotion of disaster prevention. Since 1970, ECLAC has accumulated valuable experience and has developed a special working methodology on these matters, which would be fully utilized in the execution of the project.

WMO has a well-known experience in the subject of hydro-meteorological forecasting, having co-operated with selected countries of the region in setting up special systems.

ECLAC and WMO have a very close working relationship in the region in the past twenty years, on matters relating to water resources development and planning, as well as natural disaster prevention. Each organization will contribute its special field of expertise and competence to ensure the success of the project.

TABLE I. PROJECT BUDGET COVERING EXTRABUDGETARY CONTRIBUTION  
BY THE GOVERNMENT OF ITALY

<i>Item</i>	<i>Work-months</i>	<i>US\$ Dollars</i>
<i>Project personnel</i> .....	<u>22</u>	<u>92,000</u>
1. Hydrology expert .....	6	20,000
2. Meteorology expert .....	6	20,000
3. Consultants on damage assessment methodology .....	10	39,000
4. Mission travel .....		13,000
Regional seminar .....		<u>25,000</u>
Printing and translation costs of manual .....		<u>13,000</u>
	Sub-total	<u>130,000</u>
Programme support costs .....		16,900
	TOTAL	<u>146,900</u>



## REFERENCES

\*\* See the following ECLAC documents: *Assessment of damages and repercussions of the Managua earthquake in the Nicaraguan economy*, 1973; *Report on the damages and consequences of Hurricane Fifi on the economy of Honduras*, 1974; *Damages caused by the Guatemala earthquake and their consequences on economic and social development*, 1976; *Dominican Republic: The consequences of hurricanes David and Frederick on the economy and living conditions*, 1979; *Report on the effects of hurricane David on the Island of Dominica*, 1979; *The natural disasters of 1982-1983 in Bolivia, Ecuador and Peru* (E/CEPAL/G.1274), 1983; *Damage caused by the Mexican earthquake and its repercussions upon the country's economy* (LC/G.1367). Also see, United Nations, *The Nevado del Ruiz Volcano Natural Disaster* (S/SM.1.1), 1985

\*\* See Jovel, R., *Economic and Social Consequences of Recent Major Natural Disasters in Latin America and the Caribbean: A need for Prevention and Planning*. International Seminar on Regional Development Planning for Disaster Prevention, Japan, Sept. 1986.

## ANNEX B

## SCHEDULE OF PAYMENTS

The Government of Italy shall deposit the contribution referred to in paragraph one of Article I, of the administrative agreement in one lump sum immediately after the signature of this agreement by both parties.

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