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II. ASSESSMENT OF SELECTED DISASTERS USING THE ECLAC METHODOLOGY

In the case of some large-scale disasters, that result in a large destruction of assets in comparison to a relatively-small size of the national economy, reconstruction efforts may induce important changes in the medium- and long-term national priorities and may even modify the country's route to development. When reconstruction is closely linked to the possibility of obtaining financial resources, its undertaking will be limited by the internal productive capacity and the overall economic system's operational capability. In the case of the San Salvador earthquake reconstruction program (See El Salvador '85) an important limitation was the reduced availability of specialized construction workers given the large migration movement that had been occurring before the disaster due to the internal war.

On the other extreme, in the case of the Guatemala earthquake (See Gautemala '76), practically the whole country's infrastructure construction capacity was devoted to the reconstruction program, channelling all the sector's resources for more than two years to the provision of housing for the affected population. This led to the deferment of an important number of construction projects, including those that had been planned to reduce the historical housing deficit the country already had previous to the disaster.

In other cases of disasters, even though total impact may not be extraordinary, changes in priorities resulting from the reconstruction program induced social tensions and conflict between the needs to attend those affected by the disaster and the needs of those that already lacked the minimum living conditions . (See Mexico '85).

1. Analysis of selected major disasters

The following is a summary of the macroeconomic effects of three selected major disasters in the Latin America and Caribbean region, 7/ as estimated using the ECLAC methodology and data obtained immediately after the disasters occurred. Some information is also summarized for other events that have affected the regions since the 1970s.

7/ No details of the type and material extent of losses are given here as they can be found in other reports; only macroeconomic effects are to be described and discussed.

The 1985 Mexico City earthquake. 8/ Total losses originated by this earthquake were estimated by ECLAC at US$ 4,335 million, of which US$ 3,790 million refer to direct damage and destruction to physical infrastructure and inventories and US$ 545 million to losses in production and income.

No reduction in the growth of GDP was expected to result due to the indirect losses posed by the disaster. However, the external sector position was expected to suffer considerably generating an estimated trade imbalance of US$ 8,580 million. This expected deterioration derived from a reduction in exports --including especially the tourism services sector--; an increase in imports of goods and services for the rehabilitation and reconstruction program and projects; in spite of an inflow of re-insurance payments. The deficit in the balance of payments was thus expected to increase by more than 5% in the three years immediately after the disaster.

In addition, the position of public sector finances was expected to deteriorate by an estimated US$ 1,900 million as a result of the disaster. It involved US$ 2,025 million of increased expenditures connected to the emergency phase, including the demolition of partially damaged structures and the removal of ruble, and the investment for rehabilitation and reconstruction of damaged and destroyed assets. It also involved, on the plus side, a net increase of US$ 125 million in tax revenues to be collected as a result of increased construction activity. The public sector deficit was thus expected to increase by an average 10% in the three years following the disaster, with respect to the previous year.

In spite of the deficit, it was felt that the required reconstruction effort could be borne without major difficulty, particularly if the expenditure involved were spread over a period of several years. Even though the loss of US$ 4 billion in absolute terms was considerable --and of course the losses of life were irreplaceable-- the value of the losses represented an equivalent of only 2.7% of the forecasted GDP for Mexico in 1985, 13.5% of the expected gross capital formation for the year, or 11% of total Mexican Federal Government expenditure.

Difficulties were nevertheless foreseen for the reconstruction efforts since the effects of the disaster could not be considered as an isolated phenomenon. The earthquake had occurred at a time when the Mexican economy was struggling against a particularly difficult set of circumstances: public expenditure austerity was being applied, banks were short of liquidity, and external financing restrictions were looming.

8/ See ECLAC, Damage caused by the Mexican earthquake and its repercussions upon the country's economy, (LC/G.1367), October 1985. (MEXICO '85)

The analysis of macroeconomic effects of the disaster was instrumental in revealing to the authorities that the cost of reconstruction --which could not be postponed-- required a revision of some of the most sensitive areas of economic policy, such as public expenditure, credit policies, the price structure and the balance of payments. Thanks to this, discussions could be started then to define how to face the new financial requirements while trying to maintain a stabilization program and continue servicing the public external debt in the light of the increased import requirements for reconstruction.

The 1986 San Salvador earthquake. 9/ Total damage inflicted by this disaster were estimated by ECLAC at US$ 940 million; direct losses of capital and inventories amounted to US$ 710 million and indirect losses to US$ 230 million.

While those losses are only one fourth of those calculated for the Mexican case, they were estimated to have a much larger economic impact in this small country since the damages were equivalent to nearly 24% of GDP and to about 40% of the national foreign debt at the time. Furthermore, the secondary effects on the macroeconomic aggregates were expected to be felt for several years after the disaster.

The expected growth rate of GDP was expected to fall by 2% in the year of the disaster, due to decreased production in the sectors of commerce and industry.

Public sector finances were foreseen to be severely affected by an estimated amount of US$ 935 million in the five years following the disaster, including an increase of US$ 975 million in public outlays to face the requirements of the emergency, rehabilitation and reconstruction phases, and despite a net increase of US$ 40 million in tax revenues. This meant a net increase of 24% in the public sector deficit.

For that 5-year period the external sector position was expected to suffer a US$ 350 million deterioration as a result of increased imports for rehabilitation and reconstruction (US$ 450 million), despite disaster-related reinsurance payments and relief assistance. The net anticipated result was nearly doubling the current account balance of payments deficit.

Shortages in construction materials combined with the increased demand for rehabilitation and reconstruction were anticipated to affect consumer prices, resulting in annual inflation rates above the previous years' values.

9/ See ECLAC, The 1986 San Salvador earthquake: damage, repercussions and assistance required, (LC/G.1443; LC/MEX/L.39/Rev.1), December 1986. (SALVADOR '86)

The analysis revealed that not only the San Salvador earthquake had a very negative effect on the main macroeconomic aggregates of the country, but also that the country lacked the capacity to face the challenges of reconstruction concurrently with facing the pre-disaster social problems such as housing shortages and high unemployment rates. In view of that, the country's government decided to elicit international cooperation --both financial and technical-- to ensure the successful outcome of the rehabilitation and reconstruction program to follow.

The 1987 earthquake in Ecuador. 10/ Total damages imposed by this earthquake were estimated by ECLAC at US$ 1,000 million. Direct losses represented US$ 185 million; indirect losses were calculated at US$ 815 million.

The estimated amount of total losses was significant: it was the equivalent of about one-tenth of GDP at that time. However, indirect damages were more important since anticipated production losses amounted to the equivalent of 7% of GDP and 33% of expected exports for 1987.

It was estimated that GDP in 1987 would decrease by 2.7% --instead of growing by 2.8% as estimated prior to the disaster-- as a result of a fall of 37% in value added due almost exclusively in the oil-production sector. Minor reductions in the agricultural and domestic trade sectors were also foreseen.

It was estimated that the economy's external sector would suffer an important negative impact. The balance of payments was to be affected by an estimated drop of US$ 554 million in the export of crude oil and by-products, and by the need to import US$ 135 million worth of goods required both to meet internal fuel demand and to initiate the reconstruction of damaged infrastructure. A further US$ 20 million were estimated to be required to transport foreign crude oil acquired or borrowed from friendly nations in order to comply with sales contracted in the international market.

Furthermore, it was foreseen that the position of public sector finances would worsen. It was expected that public expenditures to meet rehabilitation and reconstruction requirements would have to increase, and that current income from the export of oil products and tax revenues from decreased economic activities would decline. While before the quake the fiscal deficit was expected to decrease, when compared to 1986, it was foreseen that it would certainly increase by nearly 40 per cent due to the disaster.

10/ See ECLAC, The natural disaster of March 1987 in Ecuador and its impact on social and economic development, (LC/G.1465), May 1987. (ECUADOR '87)

The analysis conducted revealed the vulnerability of the oil-producing and export activities of Ecuador's economy, at a time when the government was making important but still not totally successful efforts to stabilize it. The analysis also revealed that the country's capacity to undertake by itself the required investment for reconstruction was seriously compromised due to the anticipated effects on both the public sector finances and the external sector position. It could be foreseen, however, that due to the nature and relatively limited amount of the damage done to infrastructure, reconstruction and restoration of the country's production and export capacities could be achieved with relative ease, provided that international cooperation could be obtained on a timely basis.

2. The effects of other disasters that have occurred in the Latin America and Caribbean region.

Tables 3 and 4 summarize information on the characteristics and effects of selected major disasters that have occurred since 1970 in the Latin America and Caribbean region.

TABLE 3
LATIN AMERICA: DISASTERS THAT OCCURRED SINCE 1972 a/

DATE	PLACE	EVENT
1972	Managua, Nicaragua	earthquake
1974	Honduras	hurricane (Fifi)
1975	Grenada	tropical storm
1975	Antigua and Barbuda	earthquake
1976	Guatemala	earthquake
1979	Dominica	hurricane (David)
1979	Dominican Republic	hurricanes (David and Frederick)
1979	Nicaragua	Civil war consequences
1982	Nicaragua	floods
1982	El Salvador	several natural disasters
1982	Guatemala	meteorological phenomena
1982	Nicaragua	meteorological phenomena
1983	Bolivia, Ecuador and Peru	meteorological phenomena (change of path of sea currents)
1985	Mexico	earthquake in Mexico City
1986	El Salvador	earthquake in San Salvador
1987	Ecuador	natural disaster (earthquake and landslides)
81988	Nicaragua	hurricane (Joan)
1989	Mexico	gas explosion (San Juanico)
1990	Mexico	hurricane (Gilbert)
1992	Mexico	gas explosion (Guadalajara)
1992	Nicaragua	volcano activity (Cerro Negro)
1992	Nicaragua	tsunami (Pacific coast)
1992	El Salvador	Civil war consequences
1993	Florida	hurricane (Andrew)
1994	Los Angeles	earthquake

a/ Reference to specific disasters are presented in the text naming the country and the year. For additional information, refer to the specific studies on each case, included as an annex to this paper.

TABLE 4
LATIN AMERICA AND THE CARIBBEAN: SUMMARY OF EFFECTS OF SELECTED DISASTERS

EVENT	ECONOMIC PERFORMANCE	FISCAL EFFECTS	BALANCE OF PAYMENTS EFFECTS	INFRASTRUCTURE AND CAPITAL LOSSES
MANAGUA 72	A fall of 15% in GDP and reduction of 46% in industrial and productive activity in Managua.	Reduction of tax revenue of 39%.	Six-fold increase in current account deficit: reduction of almost 20% of exports and 20% increase of import due to extraordinary needs.	Capital losses and lost production amounted to a seven-fold increase in investment requirements in fixed capital, both private and public.
HONDURAS 74	6% reduction of GDP linked to a 23% fall in agriculture.	Fiscal deficit grew by 79% due to a decrease in current tax revenues of 15% and an increase in expenditures of 66%.	Three-fold increase in the current account deficit. Imports grew 61% and exports suffered a fall of 66%.	Loss of national assets and production reduction represented almost twice the average annual investment.
ANTIGUA AND BARBUDA 74	GDP loss was estimated at 12%, namely in oil refining, which fell 30%, tourism, basic services and housing.	Fiscal deficit trebled.	Balance of payments deficit increased four times.	Damages to infrastructure represented around four times the average national investment.
GRENADA 76	GDP loss of over 20%. Recuperation of agriculture estimated to take ten year to reach full production in plantations.	Fiscal deficit increased over 60%.	External imbalance grew four times.	Capital losses and damage to infrastructure amounted to five times the average annual investment.
DOMINICAN REPUBLIC 79	GDP fell 8%.	Fiscal deficit increased 8 times.	External deficit increased 27%.	Capital assets lost twice the average of yearly investment.
EL SALVADOR 82	GDP fell 2%.	Fiscal deficit increased 30%.	External deficit grew 25%.	Losses of capital and infrastructure equivalent to one year average investment.
ECUADOR 82-83 (estimates only for 1983)	GDP was reduced in almost 3%.	Fiscal deficit increased 20%.	Balance of payments deficit increased 22%.	Capital and infrastructure losses equivalent to three years of domestic investment.
BOLIVIA 82-83 (estimates only for 1983)	GDP fell by 10%, agricultural sector was reduced by 55%.	Fiscal deficit increased in more than 276%.	External sector imbalance grew 30%.	Total losses were estimated in 836.5 million dollars.
PERU 82-83 (estimates only for 1983)	GDP fell 6%.	Fiscal deficit grew 33%.	Current account deficit in balance of payments increased 30%.	Total losses were estimated in 2.0 billion dollars.
MEXICO 85	GDP was reduced in 2.7%.	Fiscal deficit increased 7.3%.	Balance of payment effect was negligible.	Total losses were estimated at 4,1 billion dollars.
NICARAGUA 88	GDP was additionally reduced in 2%, 17% in the agricultural sector.	20% increase in fiscal deficit.	10% increase in balance of payments deficit.	Total damages estimated at 839 million dollars.
NICARAGUA 92 (CERRO NEGRO VOLCANIC ACTIVITY)	GDP fell by less than 1%.	Less than 10% increase in fiscal deficit.	2% increase in balance of payments deficit.	Total damages estimated in 19 million dollars.
NICARAGUA 92 (TSUNAMI)	Effect on GDP of almost 1%.	Fiscal deficit increased an additional 5%.	Additional increase in balance of payments deficit of 24%.	Total losses estimated at 25 million dollars.

Source: ECLAC, on the basis of studies conducted in the field in each case. See annex list of ECLAC damage appraisals since 1972.

III. THE LONG-TERM IMPACT OF DISASTERS

Disasters significantly and negatively affect long term development prospects of most of the Latin America and Caribbean countries. Countries having relatively smaller economies suffer those effects for a longer time period. The speed with which the international community reacts to assist these countries when affected by natural disasters has also a bearing in the duration of the recovery period.

1. Impact on development prospects

A first consequence of a disaster is the immediate downgrading of national average living conditions; this effect is naturally more concentrated on the population living in the area directly affected by the disaster. In addition to losses due to damages to infrastructure and to the provision of public services, an important destruction of personal and family assets occurs. Such is the case of housing, household and personal effects, whose replacement may require several years. In the interim, private and public resource allocations may have a positive -albeit temporary- growth of GDP. The increased investment, insofar as it is destined to reconstruction, is merely a partial replacement of lost capital. It is often the case that replacement leads to a reduced well being, as compared to the one prevailing prior to the disaster.

In the case of the Managua earthquake (See Managua '72), twenty years after, effects of the disaster may still be seen in the precarious urban conformation of the destroyed capital city. Due to the nature of that earthquake, its effects were felt by the total population of Managua, the capital. Some low- and middle-income groups were more severely affected due to the quake resistance inadequacy of their housing units.

In other cases, the manner in which reconstruction programs were designed and undertaken further aggravated the already unequal distribution of wealth, and did not permit the restoration of well being for the population most directly affected. (See Guatemala '76)

Still in other cases disasters have had effects that modify parts of the very pattern of development when affecting key sectors of the economy. Consider the case of Peru which in both the 1972-1973 and the 1982-1983 occurrences of the El Niño Phenomenon suffered important setbacks in its fishing and related industries, when some of the fish varieties virtually disappeared from the Pacific coastal areas. The direct impact on the fishermen and the negative consequences on the export sector were very high. (See Bolivia, Ecuador and Peru, '82).

2. Impact on economic performance

Long-term macroeconomic effects are expressed in terms of a number of significant variables that are summarized by a trend towards a reduction of per-capita income. The Latin America and Caribbean experience confirms the hypothesis developed by researcher Ken Sudo, who has drawn an interesting correlation between GDP per capita and the number of disasters per year. 11/

The absolute dimension of a disaster and the context in which it occurs (size and characteristics of the economy affected) also have a bearing on its long term impact as indicated before. The 1985 Mexico earthquake did not produce noticeable long-term negative effects on the macroeconomic variables--in part due to timely corrections of economic policy--, even though eight years after its occurrence, a small number of the affected population still lacks the replacement of permanent housing. On the other hand, the long term effects of the disasters in Nicaragua '72, Guatemala '76 and El Salvador '86 are still dragging on.

In addition to the macroeconomic impacts mentioned above, some specific effects can be seen and measured over the years in the long term. These specific areas include:

- **Destruction of economic infrastructure.** Even though damage and destruction of infrastructure occurs immediately after a disaster and have a short-term impact, full replacement of these losses requires a relatively long period of time in most cases. During such period, the economy --and the most affected sectors especially-- functions under a distorted fashion. Reconstruction of lost infrastructure thus tends to have a slowing effect on the rate of growth and development. Some concrete examples of long term impact caused by destruction of infrastructure would include: highways and agriculture, in the case of hurricane Fifi (Honduras '74); electricity services (San Salvador '85); and marine resources (Peru '82 and Nicaragua '92 among others).

- **External sector imbalances**. While these imbalances occur in the short term, they cause an increase in the economies' indebtedness and an additional burden on its service profile which affects the future capacity to assign resources to investment and social expenditure in the long term. Again in this case, the Latin America and Caribbean experience confirms the Sudo analysis. 12/ See Guatemala '76, El Salvador '85, Peru, Bolivia and Ecuador '82).

11/ See his article in Disasters, no.17, January-February 1994.

12/ Sudo, ibid.

- **Extraordinary fiscal imbalances.** Short-term fiscal imbalances occur as a result of the need to make special budgetary allocations to meet unexpected emergency and immediate rehabilitation requirements following a disaster. These imbalances may persist in the medium term due to the fall in fiscal revenues caused by direct and indirect economic effects of the disaster. Over time and gradually, these imbalances affect the government's capacity to sustain or improve its specific activities and to provide quality public services. This has been evident particularly in social services such as education and health. Furthermore, a worsening of an existing fiscal imbalance may have repercussions on existing financial adjustment arrangements with international lending institutions that involve conditionalities, as will be mentioned later.

- **Inflationary processes.** The immediate effect on prices caused by the market disorders due to a disaster are compounded by the monetary effects associated with the reconstruction expenses undertaken with donated resources or through external financing. In addition, fiscal deficits tend to have an inflationary effect in some cases where fiscal and monetary policies and controls do not address these matters. Added to this short- and medium-term inflation, insofar as infrastructure damages cause an increase in production costs, further price increases occur that affect the functioning of the economy as a whole. Thus, reconstruction --when of significant size in relation to the economy's-- may have an effect on the overall functioning of the economy, overheating it. In some instances this may be incompatible with stabilization and structural adjustment efforts being carried out by the countries. These inflationary processes have an impact on weakening the country's capacity to grow and invest, and further deteriorating income distribution profiles and the incidence of increased poverty.

3. Effects on institutional arrangements

The occurrence of major disasters may cause changes in the institutional arrangements in the affected country. To facilitate reacting after the event emergency committees are normally established to identify the most pressing emergency needs and to channel aid. At a later stage, institutions may be set up --usually in the form of special reconstruction committees-- as parallel structures to existing public administration ministries or bodies in the field. These new institutions are intended to expedite action, uninhibited by certain administrative and bureaucratic rigidities in the "normal" public apparatus, in matters such as purchasing and allocation of resources. Such institutions --created to attend a specific reconstruction program-- tend to perpetuate themselves (The case of Guatemala comes to mind in this respect) causing duplication of functions and tapping scarce resources. It must be stressed that such institutions, however, have developed an effective capacity for project identification and execution and have improved the governments' ability to channel and fruitfully use international cooperation. This is particularly true in countries with weak organizational structures.

These institutions also contribute, from the standpoint of the donors, to provide assurances of an adequate, unbiased use of their cooperation resources.

While in many cases this may not have led to the establishment of a national or regional institution for the prevention of disasters, the creation of these institutional arrangements to tackle reconstruction after disasters has had a positive effect in some countries when they later on faced new disasters.

The frequent occurrence of disasters in Latin America and the Caribbean and the repetition of errors and mistakes in reacting to them have lead in some cases to the need for those temporary institutional arrangements --set up on the wake of one disaster-- to transform themselves into permanent structures to conduct risk analysis and to define plans on how to react to potential disasters. They have also begun to tackle the function of disseminating experiences and educating the population as to measures to be taken, on a preventive basis, to reduce risks and, upon the occurrence of disasters, be in a situation to react in an orderly and coordinated way when reconstruction begins. This implies a sustained education effort that would include educational and training programs, modification of zoning and construction codes, etc.

4. Implications for the international donor community

In the Latin America and Caribbean region, it is very frequent that immediately following a major disaster and at the request of the affected country, a comprehensive damage assessment is undertaken by ECLAC. It comprises an evaluation of the direct and indirect costs involved, the identification of the most affected sectors that will require priority attention in the rehabilitation and reconstruction, and an analysis of the macro-economic effects of the disaster. The assessment is prepared in a relatively short period of time -- usually within 4 to 6 weeks of the disaster-- and the report provides the means to determine the ability of the affected country to face by itself the requirements of rehabilitation and reconstruction. The document is also a tool for the international donor community to orient its technical and financial cooperation, in terms of its substantive contents and the conditions concerning interest rates and repayment periods. 13/

13/ Very recently, the ECLAC member states have issued a mandate to the Secretariat to undertake this type of damage assessment work on a systematic basis. See the resolution adopted by the Commission during its XXV period of sessions (Cartagena, 20 to 27 April 1994) which is attached to this document.

While resources to attend the most pressing needs of the emergency phase are usually available through internal budgetary reallocations and the generous and timely assistance of the international community (both international organizations and donor governments), the rehabilitation and reconstruction programs following major disasters require sizable fresh resources under soft terms.

The urgency with which these new resources are needed requires that the international donor community make special efforts of cooperation. Important steps have been adopted in recent years, as a result of the major disasters that have occurred in the Latin America and the Caribbean region and elsewhere in the world. They include the possibility to re-orient existing development loans and the flexibilization of the requirements for project formulation and the reduction of the time for loan request processing. However, further work may be necessary on the part of the international donor community in order to assist developing countries in facing reconstruction requirements following major disasters and in finally tackling prevention and mitigation activities.

In this respect, the international donor community should bear in mind that rehabilitation and reconstruction cooperation should be additional to the normal development cooperation already approved or earmarked for the affected developing country. Only in this fashion can developing countries attend to the solution of long-standing social problems that are aggravated by the occurrence of major disasters. The flexibility to re-orient existing loans certainly allows to promptly address the solution of the new and unexpected problems generated by a disaster, but may have the undesired effect of postponing or even canceling the execution of other much needed development programs and projects. International lending organizations and even donor governments through their bilateral cooperation programs may wish to consider the establishing of special programs designed exclusively to provide fresh, additional resources to finance unexpected rehabilitation and reconstruction plans after major disasters.

On the other hand, the international community may wish to relax its normal institutional counterpart requirements for development assistance, by accepting --in the case of disasters-- that the rehabilitation and reconstruction loans or grants be channeled through national institutions --including NGOs-- specifically set up for this task, instead of the usual ministry or other public sector organization that would act as counterpart for executing normal development loans and projects. This flexibility would ensure a faster response and still provide adequate assurances in the use of fresh resources for reconstruction. A pre-requisite to this may be that these resources be kept apart from the public administration's regular budget to ensure direct accountability.

In cases where the disaster is of significant magnitude but its impact is minor in terms of the size of the affected national economy, the affected government may wish to make full use of available domestic credit and financial resources rather before requesting external cooperation. The international donor community, however, should be prepared to reinforce these domestic efforts.

Another important situation that the international donor community should give careful consideration to is that of a country that seeks cooperation for rehabilitation and reconstruction following a disaster, whose financial position has been limited when undergoing an adjustment and stabilization program. Such a country may have previously accepted conditionalities in terms of monetary, fiscal, external financing policies that may become an impediment to the necessary liquidity expansion derived from the needs and resources mobilized to face the post-disaster stages of emergency, rehabilitation and reconstruction. In these cases the international lending institutions should be prepared to accept the affected government's request for flexibility in the fulfillment of those goals and conditionalities. Not to do so may result in the non assignation of sufficient fiscal resources to attend the most pressing needs of the population during the emergency phase and, worse still, in the possible emergence of social unrest when reconstruction needs are not met.

Summarizing, it may be stated that --given the experience in Latin America and the Caribbean region and in the face of the frequency and intensity of disasters that affect it-- it seems necessary for the international donor community to provide further flexible mechanisms to facilitate the flow of cooperation to finance emergency and reconstruction requirements. Lack of these mechanisms will result in greater medium- and long-term social and economic costs for the countries affected by disasters. Their unmet needs and infrastructure in disrepair will affect the functioning of the economy, slow economic growth, compromise the achievement of goals set forth in stabilization programs, and hinder the overall development of the country.

IV. SUMMARY

1. Utilizing an ad hoc damage assessment methodology, developed by ECLAC in the Latin America and Caribbean region, it is possible to identify the effects that disasters of any type can have on developing economies.

2. Disasters may have large direct and indirect losses and only have marginal effects on the macro-economic position and prospects of a country, depending on the size and characteristics of its economy. On the other hand, disasters causing relatively small --but concentrated-- direct and indirect damages may result in considerable macro-economic and related social problems in smaller undiversified economies.

3. The economic effects of disasters include inter alia:

- a **negative impact on development prospects**, that includes not only an immediate downgrading of living conditions --especially of the population most directly affected-- accompanied by the temporary deferment or cancellation of development plans to attend long-standing social needs, but which may also result in modifications to the very production patterns of developing economies when key productive sectors are affected;

- a **deterioration of economic performance** which can be measured in terms of:

i) short-term **reductions in the growth of GDP and per capita income**, when productive activities are affected;

ii) short-term **external sector imbalances** due to reductions in the exportation of goods and services and to increases in imports of reconstruction materials and equipment, and long-term external imbalances caused by the need to increase foreign indebtedness and its correspondent servicing profile to face rehabilitation and reconstruction;

iii) short-term **fiscal budget imbalances** due to the reallocation of fiscal resources to meet the urgent and unexpected emergency requirements, possible medium-term fiscal imbalances due to diminished fiscal revenues from affected economic activity, and even a conflicting situation in the fulfillment of adjustment loan conditionality commitments the country may have entered into;

iv) immediate and medium-term **inflationary pressures** stemming both from market disorders that occur right after the disaster and from the monetary effects associated with reconstruction expenditures undertaken with external financing and donations.

4. The above consequences of disasters on developing economies also have implications for the international development community, which is called to assist affected countries. These implications include inter alia:

i) continuation of **international assistance** to developing countries when domestic fiscal resources are insufficient to meet the urgent requirements of the post-disaster stage of **emergency**;

ii) assigning **priority to disaster prevention and mitigation** cooperation plans and projects from developing countries, that will result in diminished rehabilitation and reconstruction needs when future disasters occur;

iii) further flexibilization of the already accepted scheme of **re-orienting existing sectorial loans** and of flexibilizing loan application requirements to attend unexpected needs from disasters;

iv) making available **additional fresh resources** --perhaps through the creation of a special fund-- to meet rehabilitation and reconstruction needs arising from disasters, to avoid the deferment or cancellation of other much-needed development projects when the facility of loan re-orientation is used; this special fund would involve soft terms in regard to interest rates and repayment periods, to avoid compromising too much the developing countries' limited repayment capacity.

v) acceptance of temporary non-compliance by developing countries of **adjustment and stabilization loan conditionalities** related to fiscal austerity, when outlays required by rehabilitation and reconstruction modify their fiscal budget situation.

vi) **reinforcement** of rehabilitation and reconstruction financing when affected governments --following disasters having limited macro-economic effects-- elect to resort **to domestic credit and financial resources**; and

vii) flexibilization of **institutional counterpart requirements** in the case of rehabilitation and reconstruction financing, by accepting that resources may be channeled through national institutions --including NGOs-- specially established for the purpose, as opposed to the normally accepted government ministries or decentralized institutions.

ANNEX 1

DIORI - ES.II
II COMMITTEE
Conference document II/10/Rev.1
27 April 1994

E C L A C
Economic Commission for Latin America and the Caribbean
Twenty-fifth Session
Cartagena de Indias, Colomb a, 20 to 27 April 1994

RESOLUTION ON ECONOMICS AND NATURAL DISASTERS

The Economic Commission for Latin America and the Caribbean

Considering that the Latin American and Caribbean region is frequently affected by natural disasters of diverse origin and intensity, adversely affecting the economic development of the countries and the living conditions of the population,

Taking into account that preliminary estimates made by ECLAC show that annual losses caused by natural disasters in the countries of Latin America and the Caribbean exceeded 1,5 billion dollars,

Considering also that it is possible to reduce these losses to less significant amounts through the identification and implementa ion of preventive measures and mit gation actions that require important investment resources which, nevertheless, are at a only a fraction of the level of losses estimated at present.

Further taking into account that although ECLAC has developed methodologies to estimate the economic effects of disasters, the region does not account with the necessary quantitative arguments to enable competent authorities the prompt adoption of investment policies geared to the prevention and mitigation of disasters.

1. Decide to request that the ECLAC Secretariat:

a) Undertakes the systematic research and pertinent quantitative analysis to determine, as soon as possible, the total economic effects of disasters in the countries of the region as well as their reduction to smaller levels through the undertaking of actions to prevent and mitigate them;

b) Presents the governments of the region concrete proposals for the introduction of the issue of disaster prevention and mitigation in national development plans, as part of the efforts being carried out during the International Decade for the Reduction of Natural Disasters; and

2. Recommends that the Secretariat seeks and obtains additional extra-budgetary resources in order to carry out these tasks.

ANNEX 2

DOCUMENTS ON ESTIMATION OF SOCIO-ECONOMIC
EFFECTS OF DISASTERS

1. Informe sobre los Daños y Repercusiones del Terremoto de la Ciudad de Managua en la Economía Nicaragüense (CEPAL/MEX/73/ Nic.1; E/CN.12/AC.64/2/Rev.1), 1973.

2. Informe sobre los Daños y Repercusiones del Huracán Fifi en la Economía Hondureña (E/CEPAL/AC.67/2/Rev.1), 1974.

3. Evaluación de los Daños Causados por el Temporal en Granada y Repercusiones para los Programas de Desarrollo Económico (E/CEPAL/CDCC/9), 1975.

4. Informe sobre los Daños Causados en Antigua y Barbuda por el Sismo del 8 de octubre de 1974 y sus Repercusiones (E/CEPAL/1001-(ESP); ECLAC/POS 74/15-English), 1975.

5. Daños Causados por el Terremoto de Guatemala y sus Repercusiones sobre el Desarrollo Económico y Social del País (CEPAL/MEX/76/Guat.1), 1976.

6. Nicaragua: Repercusiones económicas de los acontecimientos políticos recientes (Nota de la Secretaría) (E/CEPAL/G.1091/Rev.1), diciembre, 1979.

7. Asistencia internacional para la rehabilitación, la reconstrucción y el desarrollo de Nicaragua (E/CEPAL/G.1092/Rev.1) septiembre, 1979.

8. Report on the Effect of Hurricane "David" on the Island of Dominica (E/CEPAL/G.1099), 1979.

9. República Dominicana: Repercusiones de los Huracanes David y Federico sobre la Economía y las Condiciones Sociales (E/CEPAL/G.1098/Rev.1), 1979.

10. Nicaragua: Las Inundaciones de Mayo de 1982 y sus Repercusiones sobre el Desarrollo Económico y Social del País (E/CEPAL/G.1206), 1982.

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23. La economía salvadoreña en el proceso de consolidación de la paz (LC/MEX/R.414/Rev.1), 29 de junio de 1993.

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ANNEX 3
MAP SHOWING LOCATION OF SELECTED DISASTERS ANALYZED