

Resolution 1983/45 of the Economic and Social Council, Assistance  
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to Bolivia, Ecuador and Peru  
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Resolution 1983/45. Assistance to Bolivia, Ecuador and Peru

The Economic and Social Council,

Deeply concerned about the large-scale devastation wrought by the heavy rain and floods which have recently affected extensive areas of Bolivia, Ecuador and Peru and by the drought being suffered by Bolivia and Peru,

Bearing in mind that those two climatological phenomena have destroyed urban and rural areas and caused serious damage in the agricultural, stock-raising and agro-industrial sectors,

Further bearing in mind that those sectors are important bases of the economies of Bolivia, Ecuador and Peru,

Considering that the urgent problems created require programmes of assistance, rehabilitation and reconstruction,

Affirming the urgent need for prompt and concerted international action to assist the peoples and Governments of Bolivia, Ecuador and Peru to cope with the emergency confronting those countries and to engage in rehabilitation and reconstruction,

Observing with satisfaction the assistance provided by Governments, the United Nations system and governmental and non-governmental organizations during the initial emergency period,

Noting with appreciation the work done by the Office of the United Nations Disaster Relief Co-ordinator,

1. Expresses its gratitude to States and organizations that have provided assistance to Bolivia, Ecuador and Peru;

2. Appeals urgently to all States, governmental and non-governmental organizations and specialized agencies to co-operate in financing a reconstruction and rehabilitation programme for the affected areas of Bolivia, Ecuador and Peru and to participate actively in its implementation;

3. Requests the Secretary-General:

(a) To take the necessary measures to assist the Governments of Bolivia, Ecuador and Peru to prepare a broad programme for the reconstruction and rehabilitation of the areas and sectors affected;

(b) To take appropriate steps to mobilize resources for special international assistance to Bolivia, Ecuador and Peru;

(c) To apprise the General Assembly at its thirty-eighth session and the Economic and Social Council at its second regular session of 1984 of progress made in the implementation of the present resolution.

Documents Prepared by the Governments of Bolivia, Ecuador and Peru,  
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(assessing disaster damage and relief requirements) during the  
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mission of the Personal Representative of the Secretary-General  
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PRELIMINARY DIAGNOSIS OF THE DAMAGE CAUSED BY NATURAL PHENOMENA IN  
BOLIVIA AND IDENTIFICATION OF IMMEDIATE NEEDS FOR INTERNATIONAL  
ASSISTANCE

## CONTENTS

	<u>Page</u>
INTRODUCTION .....	3
I. BACKGROUND .....	3
1. Origin and characteristics of the disaster .....	3
2. Identification of the main sectors affected .....	4
II. PRIORITY NEEDS DURING THE EMERGENCY PHASE .....	6
1. Food .....	6
2. Seed .....	8
3. Water supply .....	8
4. Transport .....	8
III. SPECIFIC ASSISTANCE REQUIRED .....	9
1. Objectives and characteristics of the aid .....	9
2. Aid already provided .....	9
3. Specific aid requested .....	10
4. Channelling of aid .....	11

## INTRODUCTION

This document provides a brief description of the origins and characteristics of the emergency situation which Bolivia is facing as a result of a severe drought followed by the floods which occurred recently.

Bolivia is a small land-locked country which ranks among the least developed on the American continent and which has an annual per capita income of less than \$400.

The disaster is of such a magnitude, in terms of the number of people affected, their very low income and the extent of the area affected by the weather events, that the country's resources are totally inadequate to meet the most urgent needs of the stricken population. Hence the necessity of making an appeal for international solidarity through the Secretary-General of the United Nations.

This brief report identifies needs and requirements relating solely to the emergency phase which must be met immediately. The needs and requirements of the subsequent phases of rehabilitation and reconstruction will be dealt with separately, once a detailed analysis of the situation created by the disasters has been completed.

## I. BACKGROUND

### 1. Origin and description of the disaster

As part of what is considered to be an unusual year of weather worldwide, two separate natural phenomena occurred in Bolivia which caused a situation of national disaster or calamity. First, in late 1982 and early 1983, there was a long period of drought rivalled in severity only by the drought that had occurred between 1878 and 1879. Second, shortly thereafter, heavy rains fell - the result of the phenomenon "El Niño" - which was followed by major flooding.

The extreme drought, which was accompanied by frosts and hailstorms, affected the extreme southwest of the country, primarily the departments of Potosí, Cochabamba and Oruro, while the floods occurred in the department of Santa Cruz. The combination of the two events, but the drought to a greater extent, has created a situation of national emergency which requires an urgent response.

It is estimated that approximately one third of the national territory - around 4,000 square kilometres - has been affected by the weather events in varying degrees of intensity. Some 1.6 million people in the rural areas have been affected, which is a sizeable part of the country's total population.

But the damage cannot be measured solely in terms of such general figures, however striking they may be in themselves. It must be borne in mind that not only does the stricken population have the lowest income in the country - indeed one of the lowest per capita incomes in the entire region - but also that it has lost the means of subsistence.

In addition to the crops grown by the people directly affected for their own subsistence, a high percentage of the crops intended to meet the food needs of the population in other parts of the country and in some cases, for export, has been lost. This points to the imminence of famine, the first signs of which are beginning to be seen in the migration of substantial numbers of people from the rural areas to a number of urban centres.

In addition to this situation, which has been caused by the drought alone, access to other areas has been made difficult by rising rivers which have destroyed bridges and damaged roads.

It is thus imperative to respond on an emergency basis - leaving other problems to the subsequent rehabilitation and reconstruction phases - to the urgent needs of supplying food and water and restoring access to the affected areas. It should be stressed that what is at stake is not only food security but also the survival of different varieties of plants and animal species for which Bolivia is the main natural habitat.

This disaster situation has occurred in Bolivia at a time when the country - one of the least developed in the region - is facing an economic, social and political crisis that is unparalleled in its recent history. Economically, the country does not have the resources, in the form of national currency or foreign exchange, to cope with a disaster of this magnitude; it therefore urgently needs assistance from the international community.

## 2. Identification of the main sectors affected

The main areas or sectors affected which require urgent attention to avert or mitigate the impending famine are described below.

First, the agricultural sector has been severely affected by the loss of all or part of some crops which form part of the basic diet, by delays in planting other crops and by the loss of weight and death of livestock - cattle, sheep and camelidae, for the most part - owing to the lack of water and animal feed.

Specifically, some 900,000 metric tons of grain, potatoes and vegetables - see table 1 - have been lost, the value of which is estimated at approximately \$300 million. Thus, during the second half of 1983, not only will such products which form part of the people's basic diet not be available, with serious consequences for the total population, but there will also be a shortage of seed for the planting of new crops since the seed will have been used up as food by the peasants.

As far as the stock-raising sector is concerned, several million animals are losing weight and wool, and many are being slaughtered to feed the peasants.

In short, in addition to the direct food losses, there is a danger that some varieties of crops will be completely lost and that some animal species, for which Bolivia is the chief natural habitat, will be decimated or become extinct.

Table 1

## BOLIVIA: ESTIMATED CROP LOSSES AS A RESULT OF THE DROUGHT

(Thousands of tons)

Product	Output		Losses
	Forecast	Actual	
Tomatoes	81.9	29.0	2.9
Maize	450.0	332.2	117.8
Barley (green)	172.3	132.4	39.9
Papaliza	19.7	6.3	13.4
Quinoa	15.8	14.7	1.1
Sweet corn	66.0	28.5	37.5
Oats for grain	7.5	6.8	0.7
Barley for grain	61.3	28.0	33.3
Fodder oats	59.0	53.0	6.0
Wheat	66.0	42.3	23.7
Oca	45.2	30.5	14.8
Potatoes	900.0	302.6	597.4
Totals	1 894.5	1 006.3	888.3

Secondly, as a result of the situation described above and the drinking of water which is not precisely suited for that use, the living conditions of the people in the affected areas are deteriorating precipitously. The nutritional status of the population - already deficient before the disaster - is worsening in an alarming manner and, combined with the progressively increasing morbidity rate, is already taking a heavy toll on the affected population, especially children. Such damages cannot be quantified in monetary terms but represent a serious blow to the well-being of the affected population.

Lastly, with regard to the transport sector, the rising rivers and floods have caused considerable damage which must be immediately repaired so that food and medicines can be delivered to the stricken areas. Two bridges and tens of kilometres of roads have been destroyed or damaged, and total reconstruction costs are estimated at tens of millions of dollars.

Obviously, there are other sectors which have been affected, either directly or indirectly, by the two weather events but which can be dealt with in the subsequent rehabilitation and reconstruction phases, although losses in those sectors are also in the tens of millions of dollars.

## II. PRIORITY NEEDS DURING THE EMERGENCY PHASE

There follows a brief description of the needs connected exclusively with the emergency - as opposed to the needs relating to rehabilitation and reconstruction - which have to be dealt with on a priority basis. They are classified under four main headings: food, seed, water supply and transport.

### 1. Food

Without a doubt, the principal need is for food aid to enable the affected population to subsist over the next few months, until the new crops have been sown and gathered.

The goal is to provide a minimum of proteins and calories to the 1.6 million persons who have been affected with varying degrees of severity. This means supplying 88,300 tons of wheat flour, maize meal or rice flour, 17,200 tons of beans (porotos), 7,400 tons of powdered milk and 5,800 tons of edible oil (see table 2).

The demand for food is expected to be distributed uniformly throughout the emergency period and the current cost of the food, excluding transport, is estimated at approximately \$43 million. As explained below, owing to the uniformity of the demand, the provision of aid has to be specially tailored because of the speed with which food must be procured and distributed in the initial months. In addition, it is hoped that donors will cover the cost of transport as far as the point of entry into Bolivian territory.

Table 2

BOLIVIA: FOOD REQUIREMENTS FOR 180 DAYS OF THE RURAL POPULATION  
AFFECTED BY THE DROUGHT (1.6 MILLION)

Population groups	Product	Daily individual ration (grams)	Total volume required (tons)	Estimated cost \$US
Most severely affected, requiring assistance for 100% of needs (975,000 persons)	Powdered milk	30	5 300	3 180 000
	Wheat flour, maize meal or rice flour	360	63 200	17 696 000
	Edible oil	24	4 200	3 780 000
	Beans ( <u>porotos</u> )	70	12 300	6 150 000
Moderately severely affected, requiring assistance for 70% of needs (375,000 persons)	Powdered milk	21	1 400	840 000
	Wheat flour, maize meal or rice flour	252	17 000	4 760 000
	Edible oil	17	1 100	990 000
	Beans ( <u>porotos</u> )	49	3 300	1 650 000
Less severely affected, requiring assistance for 50% of needs (250,000 persons)	Powdered milk	15	700	420 000
	Wheat flour, maize meal or rice flour	180	8 100	2 268 000
	Edible oil	12	600	540 000
	Beans ( <u>porotos</u> )	35	1 600	800 000
		Total	118 800	43 074 000*

\* Excludes land transport costs.

## 2. Seed

The acquisition of seed varieties suited to the climate and diet of the affected population is also urgent and is a prerequisite for the resumption of normal production in early 1984.

The specific requirements are for 6,000 tons of Spunta, Kennebeth and Cardinal Holland potato seed and 3,000 tons of Jaral and Saguyo wheat seed. Their cost is estimated at approximately \$2.7 million.

The seed varieties are available in only a few countries, some of them neighbours of Bolivia, and hence their procurement or donation may present some difficulties.

## 3. Water supply

Because of the drought, many of the traditional sources of water supply for human and animal consumption have been depleted, contaminated or eliminated. Accordingly, new and more reliable water sources are required to meet the needs of the human and animal populations, and also to provide auxiliary irrigation in the immediate future.

During the six-month emergency phase, it would be feasible, first, to add pumps and motors to some 60 deep wells which were drilled under an exploration programme carried out in co-operation with the United Nations, secondly, to drill and equip approximately 10,000 shallow wells less than 8 metres in depth and, thirdly, to carry out a micro-irrigation programme in some of the potato-producing areas. The total cost of this emergency programme would be approximately \$3.3 million; of that amount, \$2.3 million would be spent on imported equipment and materials and the remainder on manpower and other local components.

In a subsequent phase, an additional 110 deep wells and 130,000 shallow wells would be drilled and equipped; irrigation systems for 66,000 hectares would be constructed using diverted surface flows, and products to make the water potable would continue to be supplied. The cost of the subsequent phase is estimated at around \$41 million.

## 4. Transport

Owing to the flooding of some rivers, various bridges have been destroyed and stretches of road which are essential for the distribution of aid among the disaster victims have been damaged or eliminated. In addition, parts are required to maintain in working order the fleet of trucks used to transport the products.

Emergency rehabilitation of the segments of bridges destroyed and of the roads buried or destroyed by avalanches will require an external investment of \$2 million. The consignment of parts, especially tyres, for the transport fleet will cost approximately \$5 million.

In addition, aid is required to finance, at least in part, the ground transport (rail) from the port of entry to the principal collecting and distribution centres of the foodstuffs which it is hoped to obtain. The cost is estimated at \$1.2 million every month throughout the emergency period.

Accordingly, the total value of the aid required under this heading is estimated at \$14.2 million.

### III. SPECIFIC ASSISTANCE REQUIRED

#### 1. Objectives and characteristics of the aid

The international aid requested has various objectives. First, it would provide minimum food security and ensure that the water supplied to the 1.6 million persons affected by the drought is of acceptable quality. Secondly, it would encourage those affected to remain in their places of origin, thereby stemming the migration to urban centres which lack the facilities to sustain them. Thirdly, it would provide the wherewithal to restore production in the affected areas; and, finally, it would ensure that the facilities and access roads required to deliver aid promptly to the affected areas can be used.

The aid, it should be stressed, would be used exclusively for emergency relief and would be required for a maximum period of six months from the start of the emergency phase; it would pave the way for the subsequent rehabilitation and reconstruction tasks that will be carried out in the medium term. Needs are pressing, and the international community is urged to provide assistance to ensure that they can be met with all due speed.

#### 2. Aid already provided

Some assistance, especially food aid, has already been dispatched but represents only a fraction of the total requirements and, moreover, will not reach Bolivia for three or four months. As it will arrive too late to satisfy the more immediate food needs, the threat of famine is looming in the rural areas.

Accordingly, it is necessary to obtain aid in the form of cash for the procurement of food during the first three months and await donations in kind to meet subsequent demand.

Actual offers to provide food products are as follows:

<u>Source and product</u>	<u>Volume in tons</u>
World Food Programme: wheat or rice flour	8,750
Edible oil	875
Government of France: wheat flour	6,000
Government of United States: wheat, rice	8,400*

### 3. Specific aid requested

One has only to compare the requirements indicated earlier with the existing aid commitments to see that there is an enormous shortfall. In addition, the products offered are expected to take between two and four months to arrive.

For these reasons, there is an urgent need for aid of two types: cash contributions and aid in kind. The cash contributions would be used to procure and transport from neighbouring countries the foodstuffs required to meet net needs during the first three months of the emergency. The aid in kind would be used in the second half of the emergency period.

The aid specifically requested, which has a total estimated value of \$62 million, is as follows:

- (a) Cash contributions
  - (i) Procurement of food for the first three months \$US 29.2 million\*\*
  - (ii) Financing of the internal transport of the above food \$US 3.6 million
- (b) Aid in kind
  - (i) Food:
 

Wheat flour, maize meal or rice flour	32,550 tons
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\* The Government of the United States has promised to provide 54,000 additional tons of a mixture of food products (or is considering doing so); however, 44,000 tons of that aid is intended, not for emergency relief in the rural areas, but for marketing in the urban areas. Also, the following additional contributions in kind have been received for distribution and marketing in urban areas: Spain, 5,000 tons of wheat flour; Argentina, 10,000 tons of wheat flour; the European Communities, 7,000 additional tons.

\*\* The figure given includes transport from the point of entry into Bolivia.

	Powdered milk	3,700 tons
	Edible oil	2,900 tons
	Beans ( <u>porotos</u> )	8,600 tons
(ii)	Seed:	
	Potato	6,000 tons
	Wheat	3,000 tons
(iii)	Equipment:	
	Vertical turbine pumps, 15 metres per second and 40-metre column, with 10 or 15 hp petrol motor	60 units
	Manual pumps, 1 metre per second and 5-metre column	10,000 units
	Simple drilling rigs or pile-drivers for small-diameter wells up to 8 metres in depth	200 units
(iv)	Equipment:	
	PVC tubing for wells, 2-3 inches in diameter	5,000 metres
	Galvanized iron tubing for wells, 4 inches in diameter	80,000 metres
	Water purification tablets (halazone)	40,000 bottles
	Tyres for trucks (9 x 20)	5,000 units

#### 4. Channelling of aid

In order to facilitate the efficient distribution of the aid received and ensure that the necessary accounts are kept, aid will be delivered to the body which the Government of Bolivia has designated for the purpose: the National Civil Defence Committee.

As to any cash contributions which the international community may make, these will be transmitted bilaterally to the National Civil Defence Committee or, in the case of multilateral action, through the organizations of the United Nations system.

**PRELIMINARY DIAGNOSIS OF THE DAMAGE CAUSED BY NATURAL PHENOMENA IN  
ECUADOR AND IDENTIFICATION OF IMMEDIATE NEEDS FOR INTERNATIONAL  
ASSISTANCE**

## CONTENTS

	<u>Page</u>
INTRODUCTION .....	3
I. BACKGROUND .....	3
1. Origin and characteristics of the disaster .....	3
2. Identification of the principal sectors affected .....	4
II. ASSISTANCE NEEDED IMMEDIATELY .....	5
1. Transport .....	5
2. Production inputs .....	6
3. Food .....	8
4. Health .....	10
III. SPECIFIC ASSISTANCE REQUIREMENTS .....	10
1. Objectives of the assistance .....	10
2. Assistance requested .....	10

## INTRODUCTION

Like other neighbouring South American countries, Ecuador has recently suffered the most severe floods in its history, caused by a world-wide meteorological disturbance.

Early in 1983 the damage to physical and social infrastructure and production losses were estimated on an interim basis to amount to about \$200 million; however, more recent estimates indicate that the effects will probably be even more serious, since the rainfall and flooding have continued more or less without interruption.

This disaster situation - which in normal circumstances would have been relatively easy to overcome - has been superimposed on an economic depression which is in itself a source of great distress, characterized by problems relating to the balance of payments and the country's fiscal situation. Consequently, in order to cope with this combination of situations, Ecuador has had recourse to international aid, which has flowed to the country in generous amounts and has made it possible to meet the most urgent needs and to plan the rehabilitation and reconstruction work.

Nevertheless, projections made on the basis of recent quantitative information indicate that there are still some needs which must be met immediately, creating a gap which can only be filled by renewed support from the international community. These emergency requirements are described briefly in this document.

## I. BACKGROUND

### 1. Origin and characteristics of the disaster

From the end of 1982 until mid-July 1983, when this document was prepared, Ecuador was affected by a natural phenomenon of an intensity unparalleled in recent history. The general climatic disturbance in the Pacific known as "El Niño" has produced on the coast of Ecuador the heaviest rainfall and most severe floods on record. Moreover, there is every indication that the situation is far from returning to normal, since more heavy rainfall is expected during the next rainy season and the damage resulting from the previous season will thus be aggravated.

Because of the "El Niño" phenomenon, the rain began very early in 1982, causing the total or partial loss of some crops and delaying the sowing of others. Heavy rainfall and high seas continued throughout December and January - with extremely harmful effects on production, infrastructure and the living conditions of the population - but diminished somewhat at the end of February, creating an opportunity for the resumption of sowing and the temporary repair of the road and railway infrastructure. However, the rainfall became even heavier in March, April and May, aggravating the existing damage and damaging or destroying the repairs made and the new crops that had been sown.

The current situation is therefore very serious. The total area affected by floods in Ecuador covers approximately 80,000 square kilometres, encompassing all or most of the provinces of Guayas, Los Ríos, El Oro, Manabí, Esmeraldas, Azuay, Cañar and Loja. It is estimated that a total of about 3 million people have been affected directly or indirectly, and that about 200,000 people are in need of emergency assistance.

In view of the magnitude of the disaster and despite the serious economic problems the country was facing before the rains came, the Government of Ecuador has made enormous efforts to meet the basic needs of the people affected, to repair the infrastructure as far as possible and to recommence production. It has likewise received generous contributions for this purpose from the international community, both on a bilateral basis and through the United Nations and other multilateral agencies. Nevertheless, there are still requirements that must be met in both the short and medium term.

On the economic level, the country does not possess the internal resources and foreign exchange reserves needed to meet such requirements, and consequently it is essential to obtain additional assistance from the international community as a matter of urgency.

## 2. Identification of the principal sectors affected

The principal sectors affected, in which emergency aid is required to alleviate the serious problems facing the country, are described very briefly below.

First, the transport sector has been totally dislocated by the literal destruction of several thousand kilometres of main roads, secondary roads, production roads and railway track, and of many bridges. Their rehabilitation or reconstruction cannot be delayed, because currently the interruption of road and rail traffic is making it impossible not only to transport production to consumption centres, but also to transport assistance and inputs to the affected areas. Consequently, the reactivation of the economy in the coastal area requires immediate action in this sector.

Secondly, in the agricultural sector production has declined sharply and the infrastructure has been damaged or destroyed. Three grain harvests have been damaged by the heavy rainfall and severe floods; the late 1982 harvest was reduced in some regions and destroyed in others before it could be gathered; the early 1983 harvest was delayed and subsequently damaged by excessive humidity and run-off, and the mid-1983 harvest is expected to be delayed because it was not possible to prepare the land or obtain inputs in the proper form. Production of export crops - cocoa, bananas, coffee and cotton - has likewise diminished, and their transport to shipping ports has been impeded and rendered more expensive by the damage to road and rail infrastructures. Furthermore, many irrigation and drainage systems have been eroded or blocked.

In the fisheries subsector too production has declined substantially and infrastructure has been severely damaged. Fishing at sea has been reduced by an increase in the temperature of the water and a drop in its salinity and by a reduction in the number of vessels composing the fishing fleet; in addition, large quantities of shrimp have been lost because the dikes surrounding the pools in which they were kept were breached.

Lastly, the living conditions of the affected population have changed substantially. The destruction of crops has caused shortages of some foods and the loss of tens of thousands of man-months of work and remuneration. Health conditions have deteriorated significantly; there has been an upsurge in gastrointestinal, respiratory and dermatological diseases and cases of malaria and onchocercosis are on the increase. Several thousand dwellings were wholly or partially destroyed by rising rivers, and the household goods of the inhabitants were lost. Owing to the lack of certain basic articles of consumption, and a number of other circumstances, prices have risen considerably.

In an interim report prepared in mid-February 1983, the Economic Commission for Latin America estimated the total cost of the damage at \$165 million. <sup>1/</sup> However, the rainfall has continued and that amount has therefore increased significantly, causing a corresponding deterioration in the country's economic situation.

## II. ASSISTANCE NEEDED IMMEDIATELY

On the assumption that meteorological conditions will return to normal in the coming months, and disregarding the rehabilitation and reconstruction work that will be undertaken in the short and medium terms, the needs that must be met immediately have been identified and are described below under four main headings. The total assistance required would amount to \$11.4 million.

### 1. Transport

In order to re-establish minimum communications it will be essential to restore transportation across rivers which have destroyed or damaged bridges. Ecuador has requested donations of metal Bailey bridges, which had not been received at the time when this document was prepared. However, there is a great need for such bridges and for metal units and wooden units that can be made in the country using technologies developed recently in Kenya and employed successfully in Honduras.

Another matter which requires immediate attention is the need to enlarge the stock of machinery and heavy equipment for the urgent rehabilitation of roads, since the requirements created by the rain and floods greatly exceed the capacity of the equipment currently available.

### 2. Production inputs

Since numerous crops in various parts of the affected region have had to be resown several times the stocks of various agricultural inputs, including seeds, fertilizers and some pesticides, have been significantly depleted (see table No. 1).

Such inputs must be made available in sufficient volume and appropriate form to ensure the next harvest, although it should be noted that some products are expected to remain in short supply in 1984 even after the next harvest, since the latter's yield will inevitably be smaller than usual.

TABLE NO. 1

EMERGENCY INPUT REQUIREMENTS FOR THE SECOND HALF OF 1983  
CROPS AFFECTED BY EXCESSIVE RAINFALL  
ESTIMATE BY MINISTRY OF AGRICULTURE JULY 1983

Crop	No. of producers benefiting	Area to be covered	Basic input requirements			Remarks
			Fertilizers	Seeds	Pesticides	
Rice	8 500 to 10 000	19 500 Has	3 600 tons (185 Kg./Ha)	606 tons (57.7 Kg/Ha) 1/	-	-Guayas and Los Ríos provinces -Number of people benefiting between 44 and 52 thousand persons
			-	-	74.00 tons (3.4 Kg/Ha)	
Maize	3 800 to 4 300	24 500 Has	4,900 tons (200 Kg/Ha)	-	29.40 tons (1.2 Kg/Ha)	-Manabí, Guayas and Los Ríos provinces -Number of people benefiting between 20 and 22 thousand persons
			-	-	-	
Legumes	2 800 to 3 000	4 450 Has	400 tons (90 Kg/Ha)	175 tons (46 Kg/Ha) 2/	-	-Manabí, Cañar and Azuay provinces -Number of people benefiting between 14 600 and 15 600 persons
			-	-	4.45 tons (1.0 Kg/Ha)	
Red Onions	800 to 1 000	1 200 Has	240 tons (200 Kg/Ha)	1 800 tons (1 500 Kg/Ha) 3/	1.80 tons (1.5 Kg/Ha)	-Manabí and Guayas provinces -Number of people benefiting between 4 200 and 5 200 persons
			-	-	-	
Potatoes	1 200 to 1 500	6 000 Has	2,500 tons (415 Kg/Ha)	3 400 tons (1 000 Kg/Ha)	-	-Cañar and Azuay provinces
			-	-	24.00 tons (4.0 Kg/Ha)	
TOTAL	17 100 to 19 800	-	11 640 tons Approximately \$US 2.2 million	Estimated value \$US 2.58 million	133.65 tons Approximately \$US 4.1 million	Population 89 100 to 102 600

TOTAL TOTAL: \$US 5.88 million

1/ The seeds can be obtained in Ecuador.

2/ Will have to be imported.

3/ "Seeds" means bulbs for direct planting: none are available in Ecuador and they will have to be imported.

### 3. Food

Some food has been produced in the current year, generous contributions have been received from the international community and some food has been imported but nevertheless there is no doubt that a certain quantity of food will still be required during the coming months pending the harvesting of the new crops. The aid would be needed to feed 200,000 people for a 90-day period, the requirements being 2,200 tons of rice, 520 tons of powdered milk and 1,080 tons of beans (see table No. 2).

Some aid in the form of cash may likewise be required for the local purchase of basic foodstuffs other than those included in the request for external food aid, should such aid in kind not arrive at the expected time.

In order to ensure that the affected population attains a minimum level of nutrition, the food aid would be distributed basically through food-for-work programmes.

TABLE NO. 2

FOOD REQUIRED FOR AN AFFECTED POPULATION OF 200,000 PERSONS IN  
THE PROVINCES OF GUAYAS, EL ORO, LOS RIOS, MANABI, ESMERALDAS,  
LOJA, CAÑAR, Y AZUAY FOR A 90-DAY PERIOD

ARTICLE	DAILY RATION PER PERSON (Grammes)	TOTAL (Tons)	DONATIONS RECEIVED AND/OR PLEDGED (Tons)	ADDITIONAL EMERGENCY REQUIREMENTS (Tons)	ESTIMATED COST* \$US
Rice	300	5 400	3 200	2 200	616 000
Oil	40	720	1 230	-	-
Powdered milk	40	720	200	520	312 000
Sugar	30	540	1 000	-	-
Beans	60	1 080	-	1 080	540 000
TOTAL				3 800	1 468 000

\* Excluding transport. It is hoped that the international aid requested will cover the cost of transport to the ports of entry.

#### 4. Health

Health maintenance is the fourth sector requiring immediate attention. Medicines and insecticides will be required to keep the malaria situation under control in the flooded areas, and a minimum number of microscopes will be needed for the same purpose. Assistance will also be required for the monitoring and control of rabies, since Ecuador does not possess the infrastructure necessary for local production of the quantity of anti-rabies vaccine required as a matter of urgency.

### III. SPECIFIC ASSISTANCE REQUIREMENTS

#### 1. Objectives of the assistance

A list of urgent assistance requirements is given below for consideration by the international community.

The objectives of this assistance are: to provide the people affected with food security and minimum health conditions; to enable those people to remain in their place of origin by providing them with employment opportunities; to establish minimum conditions for the transportation of production and aid to and from the affected areas; and, lastly, to provide the necessary inputs for the next agricultural season.

It should be noted, however, that this request is based on the assumption that climatic conditions will return to normal in the coming months, although there is no scientific evidence that this will happen. Moreover, it should be borne in mind that even if this aid is obtained at the appropriate time, some production short-falls might persist even into 1984, since the next harvest will probably not produce normal yields.

#### 2. Assistance requested

Taking into account the aid already received and aid currently in the pipeline, the following additional assistance will be required as a matter of urgency:

(i) Transport (estimated value \$US 3.7 million)

- Metal Bailey bridges (\$US 2 million)
- Transfer of technology for construction of Bailey-type wooden bridges, using local materials 6 man-months
- Equipment and spare parts for earth-moving equipment, bulldozers, back-diggers, motor graders, dump trucks (\$US 1.7 million)

(ii) Inputs for agricultural production

Seeds: (estimated value: \$US 2.58 million)	Tons
- Rice	606
- Potatoes	3,400
- Legumes	175
- Red onions	1,800
Fertilizers: (estimated value: \$US 2.2 million)	11,640 tons
Pesticides: (estimated value: \$US 1.1 million)	133.65 tons

(iii) <u>Food</u> (estimated value: \$US 1.46 million)	Tons
- Rice	2,200
- Powdered milk	520
- Beans	<u>1,080</u>
Total	3,800

(iv) Medicines and insecticides

(1) Medicines

Anti-malaria drugs:

(estimated cost: \$US 10,000)

Chloroquine 150 mg	500,000 tabs.
Primaquine 15 mg	300,000 tabs.
Primaquine 5 mg	300,000 tabs.
Fansidar (Sulfadoxine-Pyrimethamine)	15,000 tabs.

Anti-rabies vaccines:

(estimated cost: \$US 29,000)

Human	1,500 treatments
Animal	100,000 doses

(2) Insecticides

Malathion (6 DDT) (estimated cost: \$US 300,000) 150 tons

(3) Medical equipment

25 binocular microscopes for vector control (malária)  
(estimated cost: \$US 25,000)

Notes

1/ See Ecuador: Evaluation of the effects of the 1982/83 floods on economic and social development; Economic Commission on Latin America, Santiago, 1983.