

CONTENTS

	<u>Page</u>
Foreword	1
I. The Dominican economy before the disaster	5
II. Characteristics and extent of the disaster	12
1. Hurricanes David and Frederick	12
2. Effects on the population	18
3. Over-all assessment of losses to the economy	20
4. Infrastructure losses	23
(a) Social infrastructure and the creation of additional demands	23
(b) Physical and services infrastructure	29
5. The agricultural sector	37
6. Industry, commerce and tourism	47
(a) Industries	47
(b) Commerce	49
(c) Tourism	50
7. First actions taken by the Government of the Dominican Republic and participation of the international community	52
III. Possible repercussions on the economy in 1970 and 1980	56
1. General considerations	56
2. The external sector	59
3. Productive activities and employment	68
4. Energy supply	72
5. Investment requirements and public finances	75
IV. External co-operation requirements	79
1. Assistance during the emergency stage	80
2. Co-operation for reconstruction and development	86
(a) Financing	86
(b) Technical assistance	88

# INDEX OF TABLES

<u>Table</u>	<u>Page</u>
1 Summary of material damages	21
2 Total cost of repairing damaged classrooms	25
3 Costs of repairing damaged primary school classrooms	26
4 Expenditures for rehabilitating the health sector	28
5 Damages to the electrical subsector	32
6 Damages to aqueduct systems	35
7 Damages to physical and services infrastructure	36
8 Assessment of physical and financial damages to agriculture by regions and zones	38
9 Assessment of physical and financial damages to agriculture, by principal products	40
10 Cultivated areas, volumes and value of principal agricultural products	42
11 Value of losses in the livestock subsector	44
12 Losses in the livestock subsector	45
13 Exports of goods and services	61
14 Imports of goods and services	62
15 Balance of payments	64
16 External public debt broken down according to amortization periods and sources	67
17 Gross national product	69
18 Demand for electric power and generation	73
19 Central Government income and expenditures	77
20 Emergency, reconstruction and rehabilitation projects that may require international co-operation	81
21 Estimated food deficit for consumption during the period from September to December 1979	85

## FOREWORD

Natural disasters which frequently occur in Latin America notably affect the economic and social development of the countries of the area; their damages are difficult to avoid or mitigate. The earthquake which destroyed the city of Managua in 1972, Hurricane Fifi which devastated Honduras in 1974, and an earthquake in Guatemala in 1976 are but a recent few examples of these disasters.

In addition to causing numerous deaths, these events destroyed a considerable portion of the respective countries' assets, level of production, infrastructure and services. Very few Latin American countries are prepared to deal with emergency situations of such magnitude, and, consequently, the timely co-operation from the international community has facilitated the recovery of the affected parties in such cases.

Recently, the Caribbean subregion was struck successively by hurricanes David and Frederick, which dealt death and destruction to the Dominican Republic, Dominica, Puerto Rico, and, to a lesser extent, to Cuba, Haiti and other nearby islands. This is a study of the situation in the Dominican Republic.<sup>1/</sup>

This disaster presents special characteristics. First, because more than 2,000 lives were lost and tens of thousands of victims required attention of one kind or another; and, second, because the phenomenon affected not only a large proportion of the island's area, but also because it caused serious damages to the social, physical and services infrastructure; to the productive system and to inventories.

Furthermore, the disaster occurred at a time when the Dominican economy experienced a certain recovery from the period of desaccelerating growth rates of the early 1970's, although problems involving the balance of payments, foreign indebtedness and certain imbalances in public finances continued to prevail, thus contributing to the continuation of the high unemployment rates which have been present for some time in the country. Further, since 1974 the Dominican economy began to accentuate its vulnerability to the changes taking place in international markets, especially

---

<sup>1/</sup> A separate report has been prepared dealing with Dominica. See: CEPAL, Report on the Effects of Hurricane David on the Island of Dominica (E/CEPAL/G.1099), October of 1979.

/with regard

with regard to its traditional export products, the rising prices of imported oil, and its increasing recourse to short-term foreign loans. In addition, public investment and public works began to decline in early 1979, although the agricultural, industrial and tourist sectors signalled a relative recovery.

At the time of the disaster the Government was preparing a three-year investment plan (1980-1982) which aimed at reactivating the national economy, establishing the bases for attaining sustained economic growth and improving the distribution of income.

Immediately after the hurricanes, the Government took emergency measures to assist the population, assess the damages and formulate a reconstruction programme. In addition, it will soon reformulate the three-year investment plan in order to take the new situation into account. Assistance from the international community arrived rapidly. The first supplies required to attend the victims of the hurricanes were promptly received, and co-operation was offered by Governments and international organizations for the identification of financing and technical assistance needs for reconstruction.

This report, which contains four chapters, is aimed at providing guide-lines in addition to those contained in a report prepared by the Government immediately after the disaster.<sup>2/</sup> The first chapter, which provides general background material, describes the evolution of the Dominican economy in recent years. The second contains an assesment of losses in terms of human lives, infrastructure, inventories and production; these estimates should be considered merely a rough indication of the actual cost of replacing such losses. In the third chapter, the possible repercussions of the disaster on the economy in 1979 and 1980 are presented.<sup>3/</sup> Lastly, chapter four

2/ Secretariado Técnico de la Presidencia, Oficina Nacional de Planificación, Acciones de emergencia para la recuperación nacional, Santo Domingo, September 1979.

3/ It must be borned in mind that the information available to assess the magnitude of the damages as well as the referring to the projections of their effects in the economy was only partial. These estimates might vary once the results of more careful investigations carried out by the Government will be available.

contains some guide-lines for financial and technical assistance co-operation that could be provided by the international community to facilitate the early and effective recovery of the Dominican Republic's economy.

In order to prepare this report, the CEPAL Secretariat sent a team of experts to the Dominican Republic from its offices in Mexico City and Port-of-Spain. During one week these officials collected and analyzed official information and made field trips as a means of appraising the damage. The team received the full co-operation of Dominican Government officials, without which it would not have been possible to prepare the report; support from the United Nations Development Programme (UNDP) as well as the collaboration of certain bodies within the United Nations system and other international organizations was also made available.

## I. THE DOMINICAN ECONOMY BEFORE THE DISASTER

The Dominican Republic has a land area of 48,400 square kilometres and a population of 5.4 million. Structurally speaking, its economy is very similar to that of other Latin American countries, wherein agriculture generates a large fraction of the gross national product, and employment, and the tertiary sector has an increasing relative importance as a generator of employment and income (commerce, finance, and diverse services) since it accounts for nearly 50 per cent of the gross national product and provides employment to almost half of the economically-active population. The public sector has also played a relatively important role in establishing and broadening the economic and social infrastructure. The country's moderate degree of industrialization should also be noted (18 per cent), particularly since sugar refining alone accounts for one third of this figure. Traditional industries make up the rest of this sector (food, beverages, clothing and chemicals); installed capacity is concentrated in the country's two main cities, Santo Domingo and Santiago; and with the exception of agro-industrial activities - such as sugar mills and hulling and cold-storage plants - production requires considerably large imported inputs.

The productive structure determines that primary goods and sugar account for a large proportion of the country's exports. In 1978, sugar, coffee, cocoa, tobacco, ferronickel, gold, silver and bauxite accounted for more than 90 per cent of total exports. In view of the high proportion of such goods in exports and the small share of industrial products, the country's income is highly dependent on the cyclical fluctuations of external demand for primary goods, although certain degree of diversification of these products in the Dominican Republic exports has made it possible to attenuate the effect of this phenomenon.

During the last 10 years the evolution of the Dominican economy has shown two dissimilar trends: one of rapid economic expansion, and

/the other

the other, of moderate growth.<sup>1/</sup> The first trend encompassed the period 1969-1973, in which the gross national product grew at an average rate close to 11 per cent; it was brought about by a strong increase in world demand for primary products - both agricultural and mineral - and by the implementation of important investment projects in the public sector and in the national and foreign private sectors, specifically aimed at developing mining (bauxite and ferronickel), commerce, tourism, industry (oil-refining) and infrastructure in general. A large volume of foreign investment, together with increased utilization of public and private loans from abroad mobilized a high level of external savings, whereas the incentives which resulted from the credit, fiscal, exchange<sup>2/</sup> and customs policies favoured the accumulation of capital. Finally, the budgetary policy aimed at reducing operating expenses in favour of real investment.

Although this period of intense growth encouraged a significant increase in the urban middle class that made it possible to open the domestic market to certain industries producing consumer goods, it seems, as in so many Latin American countries, to have led to increasing concentration of income in hands of a small social group, particularly due to the economy's inability to provide remunerative employment to an ever-increasing economically-active population.

In 1974 the growth rate began to slow down, reaching in 1978 its lowest level (3.4 per cent) in recent years, bringing about a stagnation of the per capita income. This phenomenon was the result of both domestic and exogenous factors. Among the first the decrease in agricultural production must be attributed partially to the reduction of investment in this sector, initiated in the previous period,<sup>3/</sup> and to the effect of the 1973, 1975 and 1977 droughts, which mainly affected the crops

1/ See ONAPLAN, Plan trienal de inversiones públicas 1980-1982, preliminary version, April 1979; and República Dominicana: Notas para el Estudio Económico de América Latina, 1978 (CEPAL/MEX/1004), February 1979.

2/ The Presidential decree No. 1482 of 1967, tried to limit the foreign exchange flight, to attract capital deposited abroad and induce the inflow of capital from the Dominicans residing abroad. Though the Dominican peso has the same parity as the United States dollar, a parallel foreign exchange market has been created, which fluctuates around 20% above the official parity.

3/ ONAPLAN, Estudio Económico 1973-1977, Plandes No. 30.

for domestic consumption and has repercussions on local prices. In the period 1974-1978, the obstacles resulting from structural factors become more evident, such as the small size of the domestic market, partially due to the excessive concentration of income, high vulnerability of the foreign sector and the appearance of inflationary pressures. The progressive exhaustion of large-scale public investment projects for the construction of roads, buildings and dams was compounded by the Government's financial difficulties, and as a result investments centered around such State-owned corporations that had previously initiated large-scale projects continued to invest. Private activity also failed to contribute to expanding installed capacity owing to the structural factors mentioned above, the saturation of the supply of housing for the upper middle class and the financial limitations brought about by the restrictive credit measures imposed by the Government.

Exports also encountered various difficulties: a decline in the price of sugar which started in 1975, and a decrease in the bauxite and ferronickel exports. An increase in the price of coffee, however, partially offset decreases in the prices of other products. Whereas in 1975 and 1978 the current value of exports increased at an annual average rate of only 4.7 per cent,<sup>4/</sup> imports increased by 7.5 per cent, which lead to a growing deficit in current accounts to be financed by medium and long-term loans. Thus, at the end of 1978 the foreign debt surpassed 1,300 million dollars, of which 44 per cent corresponded to the private sector, in contrast to 5 per cent in 1969. In 1978 total external debt servicing accounted for 18 per cent of the exports of goods and services, one of the highest figures among Latin American countries of similar economic dimensions and characteristics.

As a result of its high dependence on foreign trade (45 per cent of the total), the Government's current income decreased by almost 7 per cent in 1978, showing a net loss of 42 million dollars. Taxes

---

<sup>4/</sup> It must be borne in mind that since 1975 international prices of sugar, main country's export product decreased abruptly.



on exports fell from 90 to 40 million dollars as a result of a decline in the price of coffee, cacao, tobacco, sugar and ferronickel. However, the value of import taxes -38 per cent of the current income - increased by 3 percent.

The vicious circle in which the Dominican economy moves as the result of its dependence on foreign trade taxes is quite obvious. Although the increase in foreign purchases has a negative effect on the balance of payments, it is also true that since it is the most important source of governmental revenue its growth is essential to the expansion of governmental activities. The tax system continues to rely on indirect taxes, which account for 77 per cent of all taxes collected; however, since 1975 the tax burden has continued to decrease (estimated as 11 per cent of the gross national product for 1978) it confirms the inelasticity of the present tax system.

The control exercised in recent years over public spending by means of a restrictive policy on operating expenses, has made it possible to finance the Government's capital expenditures from the savings in current account and by using the fiscal reserves deriving from savings obtained over previous budgets. During the last biennium this policy was, nevertheless, to some extent altered. In fact, operating expenses increased in 20 per cent in 1973. This increase which continued in 1979 derives from a deliberated policy of readjusting wages and salaries aimed at reducing the distortions created by the freezing of their levels through many years. Capital expenditures decreased by 4 per cent, influenced by the absolute reduction in real investment, especially in the construction field. Consequently, in 1973 public finances showed a fiscal deficit which exceeded 100 million dollars, and reversed the previous trend towards a balanced budget.

Although from the standpoint of its average per capita income the Dominican Republic (approximately 460 dollars per year at 1970 prices) places itself in 1973 in the medium-to-low development category among Latin American countries, income distribution inequalities have

/been

been accentuated in recent years, owing to inflation, inter alia, which resulted in a 32 per cent loss of the purchasing power of salaries between 1969 and 1976.<sup>5/</sup>

In consequence, nutrition is deficient for a large part of the population, and serious deficits may be observed in the consumption of proteins. It is estimated that approximately 75 per cent of the population does not meet its nutritional requirements and that 50 per cent barely covers 62 per cent of such needs.<sup>6/</sup> This situation has become more acute in recent years, since the daily calorie intake between the years 1973 and 1975 decreased by slightly more than 9 per cent and child malnutrition reached very high levels.<sup>7/</sup>

Nutritional deficiencies and the insufficiency of certain social services, such as water supply, sewerage facilities and medical care, have taken their toll on the health of the population. The child mortality rate is 99 per 1,000 - 94 in urban areas and 103 in rural areas - and life expectancy at birth is 53.2 years for males and 56.1 years for women (1975 statistics).

Most health services - consisting more of curative rather than preventive care - are concentrated in Santo Domingo and Santiago, to the disadvantage of the rural areas.

---

<sup>5/</sup> According to the National Survey of Income and Expenditures of Families in the Dominican Republic, carried out by the Central Bank, in 1976 10 per cent of families in the lowest income level (which did not exceed 50 dollars) received 1.3 per cent of the national income, whereas the 10 per cent in the highest level received 38.5 per cent of the national income.

<sup>6/</sup> Information provided directly by ONAPLAN.

<sup>7/</sup> According to a survey carried out by CARITAS Dominicana in 1976, a sample of 12,000 children showed 66 per cent to be undernourished, although only 4 per cent were considered to be serious cases or to show chronic malnutrition.

Despite a certain amount of progress, the situation is still deficient in the field of education.<sup>8/</sup> Of every 1,000 students entering the first grade of elementary education, only 16 conclude the cycle six years later.<sup>9/</sup> Education has traditionally suffered from an acute limitation of resources, which has resulted in the deterioration of school premises, particularly in rural areas.

The lack of dynamism in the economy - which contrasts with the rapid demographic growth - combined with an increase in the economically-active population deriving from the recent incorporation of female labour and increasing migration from rural to urban areas have contributed to increasing manpower surpluses. It is estimated that in 1978, for an economically-active population of slightly more than 1.5 million people, the rate of open unemployment approached 23 per cent. Surveys made by the National Office of Statistics (ONE) and the International Labour Organization (ILO) show that the unemployment rate increased during the present decade.

At the time the disaster struck, the Dominican economy appeared to be recovering from the slackening it had shown during the preceding two-year period. Certain partial indicators for the first half of 1979, compared with the same period in the preceding year, confirm this prediction.

In the agricultural sector, production volumes of the principal products for domestic consumption, such as rice, kidney beans, bananas and chicken, had increased notably. The cultivated area devoted to the principal crops increased by an average 15 per cent, whereas at the same time credits granted by the Agricultural Bank expanded by almost 16 per cent. These signs made it possible to foresee that

---

<sup>8/</sup> The percentage of school-age population covered by the educational system in the primary grades was 52.9 per cent in the 1965-1966 school year, increasing to 62.2 per cent in the 1974-1975 year; in intermediate education these figures were 18.3 and 37.6 per cent respectively.

<sup>9/</sup> Ernesto Schiefelbein, "Los recursos humanos y el empleo en la República Dominicana", Diagrama de flujo del sistema educativo dominicano en el año 1970. Probably this situation has been modified in a positive sense in recent years.

agricultural production - with the exception of sugar cane - would grow during the year between 7 and 8 per cent in comparison with slightly more than 4 per cent the preceding year, invigorated more by crops for domestic consumption than by export crops.

In addition, the salary increases granted in 1978 and 1979 may have had a positive effect on expanding the market for industrial goods until mid-1979.

Means of payment decreased by 2.5 per cent, between July 1978 and June 1979, principally due to reductions in demand, deposits, and in the gross reserves of the Central Bank (-2.6 per cent). Nevertheless, the inflationary pressures had become more acute, albeit within much more modest magnitudes than in most of the countries of Latin America.<sup>10/</sup> These pressures were further sharpened by problems regarding the supply of meat.

In summary, during the months of 1979 preceding the disaster, the economy presented contradictory symptoms. On the one hand, the principal productive sectors showed signs of reactivation, which gave the authorities reason to foresee an increase in the gross national product in excess of 5.5 per cent for the entire year. On the other hand, however, some of the imbalances that emerged during the previous two-year period continued to persist or became even more accentuated. Under such circumstances, the hurricanes caused a regression in the above-mentioned positive variables and at the same time aggravated the adverse elements present in the situation.

---

<sup>10/</sup> Between April 1978 and April 1979 the price index of foodstuffs showed an increase of 6.2 per cent.