

II. RECONSTRUCTION STAGE

SUMMARY OF INVESTMENTS AND FINANCING RELATING TO THE
RECONSTRUCTION STAGE

(Millions of US dollars)

Number	Sector	Investments	External financing
1.	Housing	153.6	130.0
2.	Health	2.7	2.5
3.	Education	4.2	3.3
4.	Agriculture and livestock	51.2	37.5
5.	Industry	46.3	40.1
6.	Trade	25.6	20.3
7.	Transport and communications	106.0	95.7
8.	Water and sanitation	35.7	30.0
9.	Energy	23.5	11.0
10.	Public buildings	0.6	0.5
	<u>Total</u>	<u>449.4</u>	<u>370.9</u>

1. HOUSING SECTOR

SUMMARY: HOUSING SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
II.1.1	Construction of 220 prefabricated dwellings on Corn Island	1 320	1 020
II.1.2	Construction of 1 000 prefabricated dwellings in the Municipality of Bluefields	6 000	5 400
II.1.3	Construction of 1 000 dwellings in the Municipality of Bluefields using local materials: First stage	7 000	4 900
II.1.4	Construction of 3 500 dwellings in the Municipality of Bluefields and RAAS using local materials: Second stage	22 750	17 050
II.1.5	Installation of a stone-crushing plant at Bluefields	850	700
II.1.6	Construction of 500 rural wooden dwellings in the South Atlantic Autonomous Region (RAAS): First stage	1 250	750
II.1.7	Construction of 2 000 rural wooden dwellings in the South Atlantic Autonomous Region (RAAS): Second stage	4 600	2 900
II.1.8	Improvement of 2 800 dwellings in the South Atlantic Autonomous Region (RAAS)	2 500	1 900
II.1.9	Installation of a plant for processing lumber for construction purposes at Bluefields	700	550
II.1.10	Reconstruction of 10 000 dwellings in the Fifth Region: First stage	8 800	7 550
II.1.11	Construction of 10 000 dwellings in the Fifth Region	60 000	56 000
II.1.12	Improvement of 14 000 dwellings in the Fifth Region	12 600	9 500
II.1.13	Installation of a sawmill and plant for processing lumber for construction purposes at El Rama: Fifth Region	1 770	1 530
II.1.14	Reconstruction of 2 000 dwellings in the Second, Fourth and Sixth Regions	7 900	6 700
II.1.15	Feasibility study on increasing the production of pozzolanic cement in Nicaragua	400	350
II.1.16	Evaluation of the ceramic products (bricks) industry with emphasis on materials for the construction of dwellings	160	150
II.1.17	Integral technical assistance in the preparation of a development strategy for housing for lower-income sectors	35	30
II.1.18	Reparation of damaged household equipment	15 000	13 000
<u>Total</u>		<u>153 635</u>	<u>129 980</u>

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 220 prefabricated dwellings on Corn Island

Project objectives: To provide a housing solution to approximately 25% of the families on Corn Island who lost their houses. To establish the basis for the execution of a second housing project, applying technology appropriate to the region, and covering the entire population of Corn Island.

Description of activities to be carried out: Production of prefabricated elements at Bluefields and their transportation to Corn Island. Preparation of terrain and urbanization of 10 x 15 metres lots in an area of approximately 5 hectares. Construction of 220 prefabricated concrete dwellings. All the activities will be carried out by self-help construction methods. Evaluation of the typology of constructed housing.

Expected project output: Construction of 220 dwellings in an adequately urbanized area. Local installed capacity for the construction of new housing.

Total investment required: US\$ 1 320 000

Breakdown (US\$)Financing (US\$) 1 320 000

- Manpower:	264 000	Local:	300 000
- National inputs:	586 000	External:	1 020 000
- Imported inputs:	470 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 1 year

Estimated starting date: February 1989

Special observations: External technical assistance from an expert in housing construction will be required for the duration of the project. Because of the savings resulting from the prefabrication process and lower manpower and administrative costs the project is based on unit costs which are lower than those incurred in formal construction.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 1 000 prefabricated houses in the Municipality of Bluefields

Project objectives: To provide an adequate housing solution to approximately 15% of the families in Bluefields who lost their houses. To strengthen the installed capacity at Bluefields for prefabricating concrete components for use in the construction of housing. To evaluate the benefits of prefabricated concrete construction in the Atlantic region.

Description of activities to be carried out: Expansion of the production capacity of the prefabrication plant at Bluefields. Urbanization of approximately 20 hectares in the Municipality of Bluefields. Prefabrication of concrete elements and the construction of 1 000 dwellings. All the activities will be carried out with self-help construction methods and with external support. Evaluation of the typology of constructed housing.

Expected project output: Construction of 1 000 dwellings in an adequately urbanized area. Local installed capacity for the construction of new dwellings.

Total investment required: US\$ 6 000 000

Breakdown (US\$)Financing (US\$) 6 000 000

- Manpower:	1 200 000	Local:	600 000
- National inputs:	1 200 000	External:	5 400 000
- Imported inputs:	3 600 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 1 year

Estimated starting date: January 1989

Special observations: Outside technical assistance from experts in housing construction and the production of prefabricated components will be required. The project is based on unit costs which are lower than those incurred in formal construction thanks to the savings resulting from the prefabrication process and lower manpower and administrative costs.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 1 000 dwellings in the Municipality of Bluefields using local materials. First stage

Project objectives: To provide an adequate housing solution to approximately 15% of the families in Bluefields who lost their houses. To encourage the use of local materials (wood) in the construction of different types of dwellings (only wood, wood and rubble, wood and prefabricated elements, etc.), with the purpose of lowering costs and saving national foreign currency reserves. To evaluate the behaviour and acceptance of various forms of wood construction.

Description of activities to be carried out: Design of typologies of housing to be built, in consultation with the users. Urbanization of approximately 20 hectares in the Municipality of Bluefields. Preparation and processing of building materials. Organization of the distribution of materials and credits for construction. Self-help construction of 1 000 dwellings. Evaluation of the typology of constructed housing.

Expected project output: Construction of 1 000 dwellings in an adequately urbanized area. A set of house designs suitable for local conditions. Local installed capacity for the production of materials and the construction of new dwellings.

Total investment required: US\$ 7 000 000

Breakdown (US\$)Financing (US\$) 7 000 000

- Manpower:	2 100 000	Local:	2 100 000
- National inputs:	2 400 000	External:	4 900 000
- Imported inputs:	2 500 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 18 months

Estimated starting date: February 1989

Special observations: External technical assistance from experts in housing construction, building materials, and community participation will be required. The project is based on unit costs which are lower than those incurred in formal construction thanks to lower manpower and administrative costs and an adequate selection of building materials and technologies.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 3 500 dwellings in the Municipality of Bluefields and the RAAS using local materials. Second stage

Project objectives: To provide an adequate housing solution to approximately 50% of the families in Bluefields and neighbouring areas which lost their houses. To encourage the use of local materials in the construction of dwellings, for the purpose of lowering costs and saving national foreign exchange funds. To strengthen the local capacity for housing construction, using materials produced in the region.

Description of activities to be carried out: Selection of the type of dwelling to be built on the basis of an evaluation of the first stage (see Project No. II.1.3). Selection of and preparation of infrastructure for lots for housing construction. Preparation and processing of building materials. Construction of 3 500 dwellings. Evaluation of the project.

Expected project output: 3 5000 dwellings in the Municipality of Bluefields. Local installed capacity for the production of materials and the construction of new dwellings.

Total investment required: US\$ 22 750 000

Breakdown (US\$)Financing (US\$) 22 750 000

- Manpower:	5 700 000	Local:	5 700 000
- National inputs:	9 400 000	External:	17 050 000
- Imported inputs:	7 650 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 2 years

Estimated starting date: September 1990

Special observations: This project is conceived as a follow-up to Project II.1.3; however, they could both be carried out simultaneously following the main criteria presented in Project II.1.3. In this case, the project will require external technical assistance from experts in housing construction, construction materials, and community participation.

PROJECT OUTLINE

Sector: Housing

Subsector: Building materials

Project title: Installation of a stone-crushing plant at Bluefields.

Project objectives: To satisfy the need for coarse aggregates for projects relating to construction in rubble and prefabricated concrete in the South Atlantic Autonomous Region.

Description of activities to be carried out: Acquisition and installation of a stone-crushing plant of 40/50 cubic metres per hour capacity and auxiliary equipment for extraction and haulage from the quarry. Operation of the crushing equipment and administration of the plant.

Expected project output: Availability of equipment for stone crushing capable of satisfying local needs for concrete construction.

Total investment required: US\$ 850 000

Breakdown (US\$)

- Manpower: 100 000

- National inputs: 80 000

- Imported inputs: 670 000

Financing (US\$) 850 000

Local: 150 000

External: 700 000

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 4 months

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 500 rural wooden dwellings in the South Atlantic Autonomous Region (RAAS): First stage

Project objectives: To provide an adequate housing solution to approximately 17% of the rural families in the RAAS which lost their houses. To encourage the use of wood and wooden prefabricated elements in the construction and improvement of rural dwellings. To develop housing designs suitable to the region and to strengthen the local capacity for housing construction.

Description of activities to be carried out: Designing the dwellings to be constructed in consultation with the users. Preparation and processing of building materials and wooden prefabricated elements. Organization of the distribution of materials and technical support. Self-help construction of 500 dwellings. Evaluation of the dwellings constructed so that similar concepts can be applied to the improvement and construction of new dwellings.

Expected project output: 500 dwellings in rural parts of the RAAS. Type designs of wooden dwellings suitable to local conditions. Availability in the region of installed capacity for carrying out similar projects.

Total investment required: US\$ 1 250 000

Breakdown (US\$)Financing (US\$) 1 250 000

- Manpower:	440 000	Local:	500 000
- National inputs:	585 000	External:	750 000
- Imported inputs:	225 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 18 months

Estimated starting date: February 1989

Special observations: External technical assistance of experts in housing construction, construction materials, and working with the community is required.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 2 000 rural wooden dwellings in the South Atlantic Autonomous Region (RAAS): Second stage

Project objectives: To provide an adequate housing solution to approximately 68% of the rural families in the RAAS who lost their houses. To encourage the use of wood and prefabricated wooden components in the construction and improvement of rural dwellings. To strengthen the local capacity for housing construction.

Description of activities to be carried out: Selection of users. Preparation and processing of building materials and wooden prefabricated components. Organization of the distribution of materials and technical support. Self-help construction of 2 000 dwellings. Evaluation of the project.

Expected project output: 2 000 rural dwellings in the RAAS. Local installed capacity for the production of materials and the construction of new dwellings.

Total investment required: US\$ 4 600 000

<u>Breakdown (US\$)</u>	<u>Financing (US\$) 4 600 000</u>
- Manpower: 1 610 000	Local: 1 700 000
- National inputs: 2 190 000	External: 2 900 000
- Imported inputs: 800 000	

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 2 years

Estimated starting date: September 1990

Special observations: Although this project is designed as a follow-up to Project II.1.6, both projects can be carried out simultaneously following the main criteria presented elsewhere. In this case, the project will require external technical assistance from experts in housing construction, building materials and community participation.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Improvement of 2 800 dwellings in the South Atlantic Autonomous Region (RAAS)

Project objectives: To improve the housing situation of urban and rural families whose dwellings were partially destroyed. To strengthen the local capacity for the construction and maintenance of dwellings.

Description of activities to be carried out: Identification and organization of the families to be helped. Design of repair work and selection of building materials. Supply of materials and/or credits. Repair work on dwellings. Evaluation of the project.

Expected project output: 2 800 dwellings repaired to meet an adequate housing standard. Local installed capacity for the maintenance of dwellings.

Total investment required: US\$ 2 500 000

Breakdown (US\$)Financing (US\$) 2 500 000

- Manpower	600 000	Local:	600 000
- National inputs:	1 200 000	External:	1 900 000
- Imported inputs:	700 000		

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 2 years

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Building materials

Project title: Installation of a wood-processing plant for construction at Bluefields

Project objectives: To satisfy the demand for processed wood protected against foul weather and infestation by natural organisms for use in the construction of dwellings and buildings in the South Atlantic Autonomous Region.

Description of activities to be carried out: Design and construction of facilities for drying wood. Acquisition and installation of equipment and materials for processing and preserving wood, with an initial capacity for 1 000 dwellings per year (approximately 150 000 sq. ft. per yard). The provision of inputs for one-year of plant operation.

Expected project output: A plant for drying and processing wood to meet the needs arising from the construction of 1 000 dwellings per year.

Total investment required: US\$ 700 000

Breakdown (US\$)

- Manpower: 140 000

- National inputs: 60 000

- Imported inputs: 500 000

Financing (US\$) 700 000

Local: 150 000

External: 550 000

National agency in charge: Office of the President: South Atlantic Autonomous Region

Tentative duration: 6 months

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Reconstruction of 10 000 dwellings in the Fifth Region: First stage

Project objectives: To provide an adequate housing solution to approximately 30% of the urban and rural families in the Fifth Region whose dwellings were totally or partially destroyed, self-help construction methods to be applied and building materials and tools supplied. To strengthen the local capacity for housing construction.

Description of activities to be carried out: Identification and organization of the families to be helped. Design of the dwellings to be rebuilt. Supply of material and/or credit for use in repairing or rebuilding dwellings. Self-help construction of 2 200 new dwellings, and 2 800 dwellings with basic structure and roof and repair of 5 000 rural dwellings. Evaluation of the project.

Expected project output: 10 000 housing solutions in the Fifth Region. Local installed capacity for housing construction.

Total investment required: US\$ 8 800 000

Breakdown (US\$)Financing (US\$) 8 800 000

- Manpower:	1 190 000	Local:	1 250 000
- National inputs:	5 010 000	External:	7 550 000
- Imported inputs:	2 600 000		

National agency in charge: Office of the President: Fifth Region

Tentative duration: 30 months

Estimated starting date: February 1989

Special observations: External technical assistance from experts in housing construction, building materials, and community participation is required. Thanks to lower manpower and administrative costs and the approach taken to the selection of building materials and technology, the project is based on unit costs which are lower than those incurred in formal construction.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Construction of 10 000 dwellings in the Fifth Region

Project objectives: To provide a housing solution to approximately 30% of the rural and urban families whose dwellings were totally or partially destroyed. To strengthen local capacity for housing construction.

Description of activities to be carried out: Identification and organization of the families to be helped. Design of the dwellings to be constructed and selection of the materials needed for them. Evaluation of the project. Construction of dwellings.

Expected project output: Construction of 10 000 dwellings. Local installed capacity for housing construction.

Total investment required: US\$ 60 000 000

Breakdown (US\$)

- Manpower:	12 500 000
- National inputs:	27 500 000
- Imported inputs:	21 500 000

Financing (US\$) 60 000 000

Local:	4 000 000 (manpower)
External:	56 000 000

National agency in charge: Office of the President: Fifth Region

Tentative duration: 30 months

Estimated starting date: February 1989

Special observations: The project will require external technical assistance from experts in housing construction, building materials, and community participation. Its unit costs are lower than those incurred in formal construction owing to lower manpower and administrative costs and the approach taken to the selection of building materials and technologies.

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Improvement of 14 000 dwellings in the Fifth Region

Project objectives: To improve the housing situation of the urban and rural families whose dwellings were partially destroyed. To strengthen the local capacity for the construction and maintenance of dwellings.

Description of activities to be carried out: Identification and organization of the families to be helped. Design of repair work and selection of building materials. Supply of materials and/or credits. Evaluation of the project. Repair work on dwellings.

Expected project output: 14 000 dwellings repaired to meet an adequate standard of housing. Local installed capacity for the maintenance of dwellings.

Total investment required: US\$ 12 600 000

Breakdown (US\$)Financing (US\$) 12 600 000

- Manpower:	3 100 000	Local:	3 100 000 (manpower)
- National inputs:	6 000 000	External:	9 500 000
- Imported inputs:	3 500 000		

National agency in charge: Office of the President: Fifth Region

Tentative duration: 3 years

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Building materials

Project title: Installation of a sawmill and plant for processing lumber for construction at El Rama: Fifth Region

Project objectives: To satisfy the demand for processed wood protected against foul weather and infestation by natural organisms, for use in activities related to the construction of dwellings in the Fifth Region.

Description of activities to be carried out: Design and construction of facilities for the sawing, drying and processing of wood. Acquisition and installation of equipment with an initial capacity for 2 000 houses per year (approximately 300 000 sq. ft. per yard). Provision of inputs for one year's operation of the plant.

Expected project output: One sawmill and wood-drying and processing plant to meet the needs arising from the construction of 2 000 houses per year.

Total investment required: US\$ 1 770 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	1 770 000
- Manpower:	220 000	Local:	240 000
- National inputs:	100 000	External:	1 530 000
- Imported inputs:	1 450 000		

National agency in charge: Office of the President: Fifth Region

Tentative duration: 6 months

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Building

Project title: Reconstruction of 2 000 dwellings in the Second, Fourth and Sixth regions

Project objectives: To provide a housing solution for the urban and rural families whose dwellings were totally or partially destroyed. To strengthen the local capacity for the construction of housing.

Description of activities to be carried out: Identification and organization of the families to be helped. Design of dwellings to be reconstructed and selection of building materials. Construction of and repair work on dwellings.

Expected project output: 1 000 new dwellings and 1 000 repaired dwellings. Local installed capacity for the construction of dwellings.

Total investment required: US\$ 7 900 000

Breakdown (US\$)Financing (US\$) 7 900 000

- Manpower:	2 400 000	Local:	1 200 000 (half for manpower)
- National inputs:	3 500 000	External:	6 700 000
- Imported inputs:	2 000 000		

National agency in charge: Ministry of Construction and Transport

Tentative duration: 18 months

Estimated starting date: February 1989

Special observations: The project provides for unit costs which are lower than those incurred in formal construction owing to lower manpower and administrative costs and to the approach taken to the selection of building materials and technologies.

PROJECT OUTLINE

Sector: Housing

Subsector: Preinvestment

Project title: Feasibility study for increasing pozzolanic cement production in Nicaragua

Project objectives: To evaluate local potential in equipment and primary materials to increase the production of pozzolanic cement with a view to reducing the imported inputs (energy) used in the manufacture of cement and the construction of housing.

Description of activities to be carried out: Evaluation of the reserves of pozzolanic material existing in Nicaragua. Market studies. Selection of and specifications for a new plant for the production of pozzolanic cement.

Expected project output: An evaluation of the potential capacity for the production of pozzolanic cement in Nicaragua. Designs, specifications and tender documents for the installation of a pozzolanic cement plant and studies relating to the extraction of the raw material involved.

Total investment required: US\$ 400 000

Breakdown (US\$)Financing (US\$) 400 000

- Manpower:		Local:	50 000
- National inputs:	50 000	External:	350 000
- Imported inputs:	350 000		

National agency in charge: Ministry of Industry

Tentative duration: 30 months

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Preinvestment

Project title: Evaluation of the ceramic products (bricks) industry with emphasis on building materials used in housing

Project objectives: To determine the local capacity for manufacturing clay products. To evaluate alternative sources of energy for the production of bricks. To increase local production of clay products.

Description of activities to be carried out: Evaluating the potential capacity for manufacturing bricks in Nicaragua. Evaluating the plans in existence and preparing a study on alternative sources of energy. Market study. Study of the localization of production plants. Selection of and specifications for new plants for the production of bricks and for converting existing plants to the use of other sources of energy.

Expected project output: An evaluation of the potential capacity for manufacturing bricks. Designs, specifications and tendering documents for the installation of plants producing bricks and for the conversion of plants already in existence.

Total investment required: US\$ 160 000

Breakdown (US\$)Financing (US\$) 160 000

- Manpower:		Local:	10 000
- National inputs:	10 000	External:	150 000
- Imported inputs:	150 000		

National agency in charge: Ministry of Industry

Tentative duration: 2 years

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Housing

Subsector: Technical assistance

Project title: Integral technical assistance in the preparation of a development strategy in the field of housing for low-income sectors

Project objectives: To formulate a suitable strategy for the lower-income sectors in Nicaragua, including those suffering damage in hurricane Joan, within a national development policy. To co-ordinate the work of the various agents working in the housing sector.

Description of activities to be carried out: Preparation of a diagnostic study of the housing sector: needs, institutional structure, resources, etc. Formulation of proposals for structuring the sector within a national development and economic reactivation policy.

Expected project output: A document which will contain guidelines for strengthening the sector and proposals relating to strategies to satisfy the needs of the lower-income sectors.

Total investment required: US\$ 35 000

<u>Breakdown (US\$)</u>	<u>Financing (US\$)</u> 35 000
- Manpower:	Local: 5 000
- National inputs: 5 000	External: 30 000
- Imported inputs: 30 000	

National agency in charge: Department of Planning and the Budget

Tentative duration: 4 months

Estimated starting date: February 1989

Special observations: Will supplement the project now being carried out by the Municipality of Managua.

PROJECT OUTLINE

Sector: Housing

Subsector: Furniture and fittings

Project title: Replenishment of household furniture and fittings in damaged dwellings

Project objectives: To provide the families affected with furniture and household equipment of adequate quality. Promotion of small furniture-production units.

Description of activities to be carried out: Preparation of an inventory of furniture and household equipment to be replaced. Identification and organization of the families participating in the project. Organization of a credit system and distribution of furniture. Encouragement and support of the formation of units producing household equipment.

Expected project output: Improved living conditions for 46 000 families achieved by providing them with adequate household furniture and fittings.

Total investment required: US\$ 15 000 000

Breakdown (US\$)Financing (US\$) 15 000 000

- Manpower:	2 000 000	Local:	2 000 000
- National inputs:	7 000 000	External:	13 000 000
- Imported inputs:	6 000 000		

National agency in charge: Office of the President

Tentative duration: 2 years

Estimated starting date: February 1989

Special observations:

2. HEALTH SECTOR

SUMMARY: HEALTH SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
11.2.1	Rehabilitation of the national refrigeration chain established under the national immunization programme	800	800
11.2.2	Readjustment of the national refrigeration chain established under the immunization programme (PAI) by setting up solar systems	64	59
11.2.3	Replenishment at national level of the equipment of damaged health centres and stations	1 200	1 100
11.2.4	Hyperbaric chamber for the Atlantic Coast	170	155
11.2.5	Recovering the capacity for laboratory diagnosis	35	32
11.2.6	Preparations by the health sector for cases of disaster	450	390
	<u>Total</u>	<u>2 719</u>	<u>2 536</u>

PROJECT OUTLINE

Sector: Health

Subsector: Prevention and control

Project title: Rehabilitation of the national refrigeration chain of the National Immunization Programme

Project objectives: a) To guarantee that the national programme on diseases which can be prevented through immunization functions adequately, and b) to keep child morbidity and mortality from increasing.

Description of activities to be carried out: a) Purchase of 60 kerosene electrical refrigerators with a capacity of 230 litres; b) purchase of 504 portable thermoses for transporting vaccine; c) purchase of 90, 27-litre cold storage boxes for the temporary preservation of vaccine, and d) provision of emergency electrical systems for vaccine banks.

Expected project output: Adequate preservation of the vaccine inventory.

Total investment required: US\$ 800 000

Breakdown (US\$)Financing (US\$) 800 000

- Manpower:	Local:	
- National inputs:	External:	800 000
- Imported inputs:		800 000

National agency in charge: Ministry of Health

Tentative duration: Indefinite

Estimated starting date: Immediately

Special observations: Given the small size of the supply market, it is advisable to seek the collaboration of UNICEF and PAHO/WHO for managing the purchase of vaccine in advantageous conditions.

PROJECT OUTLINE

Sector: Health

Subsector: Prevention and control

Project title: Restoration of the national refrigeration chain of the expanded Immunization Programme (PAI), primarily through the installation of systems operating on solar energy

Project objectives: a) To repair the damage to the PAI refrigeration equipment in 10 isolated health service establishments; b) to improve the reliability of the functioning of the equipment, and c) to evaluate the effectiveness and efficiency of photovoltaic systems.

Description of activities to be carried out: a) Purchase and installation of 10 photovoltaic systems, 10 refrigerators and roof fans, if possible, and b) design and application of an operational research programme on the functioning of these systems in wet tropical zones.

Expected project output: 1) Prevention of vaccine loss due to defects in the functioning of conventional refrigerators; 2) generation of national operating capacity for systems run on solar energy, and 3) generation and dissemination of scientifically validated know-how.

Total investment required: US\$ 64 000

Breakdown (US\$)Financing (US\$) 64 000

- Manpower:	4 000	Local:	5 000
- National inputs:	5 000	External:	59 000
- Imported inputs:	55 000		

National agency in charge: Ministry of Health.

Tentative duration: 12 months (assembly and evaluation)

Estimated starting date: January 1989

Special observations: The project will be promoted and carried out jointly by PAHO/WHO, the Government of Nicaragua and ECLAC/Mexico.

PROJECT OUTLINE

Sector: Health

Subsector: Technical and material supply

Project title: Replacement at the national level of equipment in damaged health centres and stations

Project objectives: a) To re-establish the coverage of health centres in areas of the country which were affected by hurricane Joan, and b) to protect and restore the state of health of populations located in areas serviced by health-service establishments (centres and stations) affected by the disaster.

Description of activities to be carried out: Purchase and replacement of equipment basic to the adequate functioning of the damaged health centres and stations.

Expected project output: Availability of adequate health services and return to the former level of coverage.

Total investment required: US\$ 1 200 000

Breakdown (US\$)Financing (US\$) 1 200 000

- Manpower:		Local:	100 000
- National inputs:	250 000	External:	1 100 000
- Imported inputs:	950 000		

National agency in charge: Ministry of Health

Tentative duration: 6 months

Estimated starting date: December 1988/January 1989

Special observations:

PROJECT OUTLINE

Sector: Health

Subsector: Occupational health

Project title: Hyperbaric Chamber for the Atlantic Coast

Project objectives: a) To provide a hyperbaric chamber to improve the medical attention provided for fishery workers, and b) to provide physicians in Puerto Cabezas and Bluefields with training in the prevention and recognition of decompression syndrome and diseases caused by abnormal pressures, in support therapy, in the transport of persons suffering from such disorders and in their therapeutic management.

Description of activities to be carried out: a) Purchase and assembly of a hyperbaric chamber, and b) technical assistance in its management and in training the necessary personnel.

Expected project output: The availability of more effective protection for fishery workers.

Total investment required: US\$ 170 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$) 170 000</u>	
- Manpower:	10 000	Local:	15 000
- National inputs:	10 000	External:	155 000
- Imported inputs:	150 000		

National agency in charge: Ministry of Health

Tentative duration: 3 months (installation and training)

Estimated starting date: As soon as possible

Special observations: Relates to the creation of conditions in which any similar disasters arising in the future can be handled.

PROJECT OUTLINE

Sector: Health

Subsector: Laboratory services

Project title: Restoration of the capacity for laboratory diagnosis

Project objectives: To restore the capacity to make parasitological and microbiological diagnoses in clinical laboratories, four hospitals, five health centres and four health stations.

Description of activities to be carried out: a) Repairing damaged infrastructure; b) setting up damaged laboratory equipment and putting it into operation (repairing or replacement), and c) training personnel.

Expected project output: Maintenance of the coverage and quality of hygienic/epidemiological laboratory tests in affected health units.

Total investment required: US\$ 35 000

Breakdown (US\$)Financing (US\$) 35 000

- Manpower:		Local:	2 500
- National inputs:	2 500	External:	32 500
- Imported inputs:	32 500		

National agency in charge: Ministry of Health

Tentative duration: 6 months

Estimated starting date: As soon as possible

Special observations:

PROJECT OUTLINE

Sector: Health

Subsector: Organization and development

Project title: Health preparations for cases of disaster

Project objectives: To improve the national capacity for confronting emergencies and to strengthen the participation of the health sector in disaster prevention planning.

Description of activities to be carried out: a) Evaluating the capacity of the country and its health sector to respond to emergencies by taking advantage of the experience acquired from hurricane Joan and the subsequent recovery phase; b) the provision of technical assistance in the organization and strengthening of the national programme and to train the human resources needed for these purposes, and c) enhancing the provision of appropriate means of communication.

Expected project output: Improved capacity of the country and its health sector, in particular, to respond to natural disaster situations.

Total investment required: US\$ 450 000

<u>Breakdown (US\$)</u>	<u>Financing (US\$)</u>	450 000
- Manpower:	Local:	60 000
- National inputs: 260 000	External:	390 000
- Imported inputs: 190 000		

National agency in charge: Ministry of Health

Tentative duration: Throughout 1989

Estimated starting date: First quarter of 1989

Special observations:

3. EDUCATION SECTOR

SUMMARY: EDUCATION SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
II.3.1	Support for the reconstruction of the school infrastructure: Fifth Region	1 600	1 300
II.3.2	Support for the reconstruction of the school infrastructure: South Atlantic Autonomous Region (RAAS)	1 500	1 250
II.3.3	Support for the reconstruction of the school infrastructure: Third Special Zone (Río San Juan)	200	140
II.3.4	Support for the reconstruction of the damaged portion of the physical plant of the school system: Fifth Region	450	300
II.3.5	Rehabilitation of the equipment of regional workshops for the production of school furniture: Fourth, Fifth and Sixth Regions and Third Special Zone	410	330
<u>Total</u>		<u>4 160</u>	<u>3 320</u>

PROJECT OUTLINE

Sector: Education

Subsector: Building

Project title: Support for the reconstruction of the school infrastructure: Fifth Region

Project objectives: To guarantee continuity of schooling by reconstructing the facilities destroyed in urban and rural areas.

Description of activities to be carried out: Organization of the task of constructing 116 schoolhouses with community participation. Purchase and transport of materials and components for use in constructing these facilities. Construction jobs.

Expected project output: 116 new schoolhouses (19 urban and 97 rural) with a total capacity for 5 220 pupils per shift.

Total investment required: US\$ 1 600 000

Breakdown (US\$)

- Manpower:	600 000
- National inputs:	500 000
- Imported inputs:	500 000

Financing (US\$) 1 600 000

Local:	300 000
External:	1 300 000

National agency in charge: Ministry of Education.

Tentative duration: 2 years

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Education

Subsector: Building

Project title: Support for the reconstruction of the school infrastructure: Third Special Zone (Río San Juan)

Project objectives: To guarantee continuity of schooling by reconstructing or repairing schoolhouses which were totally or partially destroyed.

Description of activities to be carried out: The organization of the tasks involved in the construction and repair of 6 and 26 schoolhouses, respectively, with community participation. Purchase and transport of materials and components for use in constructing and repairing schoolhouses. Construction work.

Expected project output: Six new rural schoolhouses and 26 repaired schools in urban zones with a total capacity for 1 440 pupils per shift.

Total investment required: US\$ 200 000

Breakdown (US\$)

- Manpower:	60 000
- National inputs:	70 000
- Imported inputs:	70 000

Financing (US\$) 200 000

Local:	60 000
External:	140 000

National agency in charge: Ministry of Education.

Tentative duration: 1 year

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Education

Subsector: Building

Project title: Support for the reconstruction of the damaged portion of physical plant of the school system: Fifth Region

Project objectives: To guarantee continuity of schooling by repairing partially destroyed schools.

Description of activities to be carried out: The organization of the tasks involved in repairing 106 schoolhouses with community participation. Purchase and transport of materials and components for repairing the schools. Construction work.

Expected project output: 106 adequately rehabilitated schools (41 urban and 65 rural) with a total capacity for 4 770 pupils per shift.

Total investment required: US\$ 450 000

Breakdown (US\$)

- Manpower:	150 000
- National inputs:	120 000
- Imported inputs:	180 000

Financing (US\$) 450 000

Local:	150 000
External:	300 000

National agency in charge: Ministry of Education.

Tentative duration: 1 year

Estimated starting date: February 1989

Special observations:

PROJECT OUTLINE

Sector: Education

Subsector: Equipment

Project title: Rehabilitation of the equipment of regional workshops for the production of school furniture: Fourth and Fifth Regions, RAAS and Third Special Zone

Project objectives: To guarantee the continuity of schooling by replacing damaged furniture and school equipment.

Description of activities to be carried out: Design and construction of four regional workshops for producing school furniture. Manufacture of furniture with pupil participation. Identifying and purchasing laboratory equipment for secondary and technical schools.

Expected project output: Four regional workshops for making and maintaining school furniture. Adequately equipped secondary schools. Support of apprentice training for pupils in which manual work and mental work are combined.

Total investment required: US\$ 410 000

Breakdown (US\$)Financing (US\$) 410 000

- Manpower:	80 000
- National inputs:	130 000
- Imported inputs:	200 000

Local:	80 000
External:	330 000

National agency in charge: Ministry of Education.

Tentative duration: 18 months

Estimated starting date: February 1989

Special observations:

4. AGRICULTURAL AND LIVESTOCK SECTOR

SUMMARY: AGRICULTURE AND LIVESTOCK SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
II.4.1	Seed production	2 000	1 500
II.4.2	Recovery of banana plantations in co-operative and peasant agriculture zones: Fifth Region and South Atlantic Autonomous Region	7 000	4 500
II.4.3	Rehabilitation of livestock production infrastructure: Fifth Region and South Atlantic Autonomous Region	5 000	4 000
II.4.4	Replacement of small livestock: Fifth Region and South Atlantic Autonomous Region	3 000	2 500
II.4.5	Rehabilitation of citrus fruit plantations: Fifth Region	3 200	2 600
II.4.6	Recovery of peasant cocoa growing areas: Fifth Region and South Atlantic Autonomous Region	4 500	3 500
II.4.7	Construction of small infrastructure works and irrigation mechanization: Fifth Region and South Atlantic Autonomous Region	8 250	6 000
II.4.8	Recovery of coffee plantations: Fifth and Sixth Regions	3 400	2 700
II.4.9	Recovery of banana plantations	1 000	900
II.4.10	Recovery of coconut plantations	2 400	1 650
II.4.11	Reforestation of the Escondido river basin	9 500	6 000
II.4.12	Technical assistance in carrying out preinvestment studies	1 930	1 680
	<u>Total</u>	<u>51 180</u>	<u>37 530</u>

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Seed production

Project objectives: To recover the lost capacity of the Experimental Farm at El Recreo to produce seeds of plants suitable for growing in tropical wetlands.

Description of activities to be carried out: Reconstruction and equipping of research facilities; purchase of the genetic material needed to resume research and the main inputs required for the production of cocoa, palmetto, African palm, vanilla, cinnamon, pepper and other seeds.

Expected project output: Recovery of the capacity of the Experimental Farm to continue advancing in the promotion of tropical wetlands agricultural diversification, especially on settlements and peasant colonies.

Total investment required: US\$ 2 000 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u> 2 000 000	
- Manpower:	750 000	Local:	500 000
- National inputs:	100 000	External:	1 500 000
- Imported inputs:	1 150 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform

Tentative duration: 3 years

Estimated starting date: January 1989

Special observations: A priority rehabilitation stage project.

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Recovery of banana plantations in co-operative and peasant agriculture zones:
Fifth Region and South Atlantic Autonomous Region

Project objectives: To rehabilitate the sowing of bananas, one of the basic foods in the diet of the peasants affected.

Description of activities to be carried out: Provision of means (in cash and kind) to enable peasants to resume sowing the small banana plots which they lost.

Expected project output: Recovery of the production of bananas for peasant consumption and occasionally for sale in times of need or surplus.

Total investment required: US\$ 7 000 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u> 7 000 000	
- Manpower:	5 000 000	Local:	2 500 000
- National inputs:	1 000 000	External:	4 500 000
- Imported inputs:	1 000 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform and regional authorities

Tentative duration: 3 years

Estimated starting date: 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Rehabilitation of livestock production infrastructure (fences, pasturage, sheds, etc.): Fifth Region and South Atlantic Autonomous Region

Project objectives: To give peasants the means to reconstruct damaged livestock infrastructure.

Description of activities to be carried out: Provision of means to enable peasants to reconstruct fences, sheds, irrigation canals and other structures. Resowing of 2 500 hectares of damaged pasturage.

Expected project output: Rehabilitation of the damaged capacity to raise livestock in the peasant zones affected.

Total investment required: US\$ 5 000 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u>	5 000 000
- Manpower:	1 300 000	Local:	1 000 000
- National inputs:	2 000 000	External:	4 000 000
- Imported inputs:	1 700 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform and regional authorities

Tentative duration: 2 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Replacement of small livestock (pigs and poultry) in the Fourth and Fifth Regions and in the South Atlantic Autonomous Region

Project objectives: To provide small animals so that the peasants affected can recuperate the capital lost in this activity.

Description of activities to be carried out: Generation of the breeding stock and pigs needed to deliver 25 000 pigs and 1 000 hogs to families in the affected zones. Generation of the capacity of chickens to produce 500 000 chicks for delivery to the same families. Establishment of the breeding facilities needed to attain those objectives.

Expected project output: Provision of breeding stock to peasants to enable them to recover their capacity to produce food of animal origin for their own consumption and, if possible, for sale.

Total investment required: US\$ 3 000 000

Breakdown (US\$)

- Manpower: 200 000
- National inputs: 2 500 000
- Imported inputs: 300 000

Financing (US\$) 3 000 000

Local: 500 000
External: 2 500 000

National agency in charge: Ministry of Agricultural Development and Agrarian Reform and regional offices

Tentative duration: 2 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Rehabilitation of citrus fruit plantation: Fifth Region

Project objectives: To reclaim 1 250 hectares of citrus fruit plantations belonging to affected peasants.

Description of activities to be carried out: To prepare seed-beds and water them and sow seed in 1 250 hectares in the affected zones; to fertilize the land zone and combat pests and diseases; to cultivate the land, carry out pruning once a year, and perform all the work necessary to ensure satisfactory growth of the crop.

Expected project output: Rehabilitation of the citrus fruit areas affected in order to recover production and peasant income.

Total investment required: US\$ 3 200 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u>	3 200 000
- Manpower:	1 200 000	Local:	600 000
- National inputs:	1 000 000	External:	2 600 000
- Imported inputs:	1 000 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform

Tentative duration: 5 years

Estimated starting date: March 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Recovery of peasant cocoa-growing areas: Fifth Region and South Atlantic Autonomous Region

Project objectives: To recover the 350 hectares lost as a result of the hurricane and to rehabilitate 1 750 hectares of plantations which were partially damaged.

Description of activities to be carried out: Preparation and sowing of 350 hectares of cocoa bushes which were not totally affected; recovery and sowing of shade plants; application of fertilizer and pest and disease control; drainage repairs and, in general, all the work related to the sowing and care of a plantation.

Expected project output: Re-establishment of the country's cocoa production capacity and restoration of the income level of the peasants affected in Nueva Guinea and Bluefields.

Total investment required: US\$ 4 500 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	4 500 000
- Manpower:	2 000 000	Local:	1 000 000
- National inputs:	1 600 000	External:	3 500 000
- Imported inputs:	900 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform. Authorities in the Fifth Region and the South Atlantic Autonomous Region.

Tentative duration: 5 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Construction of small infrastructure works and irrigation mechanization: Fourth Region

Project objectives: To provide affected peasants with land and water resources to enable them to recover their standard of living.

Description of activities to be carried out: To construct hydraulic infrastructure (micro-dams, pumping stations and distribution canals) to make it possible to irrigate approximately 2 000 hectares in the hope that they might be used by those peasants who lost all they owned. Possible establishment of co-operatives would be formed in order to encourage the use of machinery and other modern agricultural techniques.

Expected project output: Recovery of the production of basic grains, garden vegetables, dairy products and meat by peasants at Nandaine and Tola who lost their land through erosion or flooding by materials which down-graded the quality of the soil.

Total investment required: US\$ 8 250 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	8 250 000
- Manpower:	2 000 000	Local:	2 250 000
- National inputs:	750 000	External:	6 000 000
- Imported inputs:	1 750 000		

National agency in charge: Government of the Fourth Region

Tentative duration: 2 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Recovery of coffee plantations: Fifth and Sixth Regions

Project objectives: To recover the 2 000 hectares sown with coffee which were totally lost as a result of the flooding of rivers. (The export capacity fell by 1 800 tons, which reduced foreign currency receipts.)

Description of activities to be carried out: Establishment of nurseries and eventual transplanting of young plants, cultivation and management of the plantation for three years, fertilizing and annual pest control.

Expected project output: Recovery of levels of coffee production and generation of foreign currency from exports.

Total investment required: US\$ 3 400 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u>	3 400 000
- Manpower:	1 700 000	Local:	700 000
- National inputs:	1 300 000	External:	2 700 000
- Imported inputs:	400 000		

National agency in charge: Ministry of Agricultural Development and Agrarian Reform and authorities in the Fifth and Sixth Regions

Tentative duration: 5 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Recovery of banana plantations

Project objectives: To recover the 114-hectare area sown with bananas which was totally lost and 757 hectares which were partially damaged.

Description of activities to be carried out: Sowing banana plants in a 134-hectare area; reactivating the irrigation and drainage systems of the entire plantation of 3 500 hectares. Repairing the systems used to transport the fruit to the packers. Initiating some intensive farm practices in the area affected.

Expected project output: Recovery of production levels and generation of foreign currency through banana exports.

Total investment required: US\$ 1 000 000

Breakdown (US\$)

- Manpower: 200 000

- National inputs: 100 000

- Imported inputs: 700 000

Financing (US\$) 1 000 000

Local: 100 000

External: 900 000

National agency in charge: Banana Corporation

Tentative duration: 2 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Recovery of coconut plantations on Corn Island and in the Second Special Autonomous Zone

Project objectives: To rehabilitate the areas sown with coconut palm, which were almost totally lost.

Description of activities to be carried out: To prepare land and seed-beds and resow the area devastated by the storm. To look after the plantation till it is fully irrigated.

Expected project output: Recovery of coconut palm plantations and production of the oil needed to supply the country.

Total investment required: US\$ 2 400 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	2 400 000
- Manpower:	750 000	Local:	750 000
- National inputs:	250 000	External:	1 650 000
- Imported inputs:	1 400 000		

National agency in charge: Authorities in the Second Special Autonomous Zone

Tentative duration: 5 years

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Forestry

Project title: Reforestation of the Escondido river basin

Project objectives: To reforest destroyed woodlands and improve them by adding species of high economic value.

Description of activities to be carried out: Establishment of nurseries for species of high economic value, such as mahogany and royal cedar; to incorporate these species among those which are naturally regenerated; care and management of the forest and prevention of fires. External technical assistance over a period of 10 years.

Expected project output: Recovery of the ecological balance of the zone and an increase in the value of the forest and in the forestry patrimony.

Total investment required: US\$ 9 500 000

Breakdown (US\$)

- Manpower: 2 500 000

- National inputs: 1 000 000

- Imported inputs: 6 000 000

Financing (US\$) 9 500 000

Local: 3 500 000

External: 6 000 000

National agency in charge: Department of Natural Resources of the Ministry of Agricultural Development and Agrarian Reform

Tentative duration: 10 years

Estimated starting date: 1989

Special observations:

PROJECT OUTLINE

Sector: Agriculture and livestock

Subsector: Agriculture

Project title: Technical assistance in carrying out preinvestment studies

Project objectives: To work with MIDINRA in the training of personnel in techniques used in the identification and preparation of agricultural and agroindustrial projects at the preinvestment level which are aimed primarily at the recovery of the sector.

Description of activities to be carried out: Working jointly with national technicians in the activities described above. Identifying candidates for training abroad and working with the Planning Department on tasks related to the development of the sector and based on projects.

Expected project output: Training for at least 20 national technicians in the activities described above.

Total investment required: US\$ 1 930 000

Breakdown (US\$)Financing (US\$) 1 930 000

- Manpower:		Local:	250 000
- National inputs:	250 000	External:	1 680 000
- Imported inputs:	1 680 000		

National agency in charge: Planning Department of the Ministry of Agricultural Development and Agrarian Reform

Tentative duration: 2 years

Estimated starting date: January 1989

Special observations:

5. INDUSTRY SECTOR

SUMMARY: INDUSTRY SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
II.5.1	Rehabilitation of the PROMAR fishery corporation	4 910	4 400
II.5.2	Rehabilitation of the PESCANICA fishery corporation	512	450
II.5.3	Rehabilitation of the PICA shipyard	795	700
II.5.4	Rehabilitation of the COPESNICA fishery corporation	2 050	1 850
II.5.5	Rehabilitation of the PESCARA fishery corporation	3 450	3 000
II.5.6	Installation of five on-line sawmills along the Rio Rama	16 000	13 000
II.5.7	Reactivation of the lumber industry at Bluefields	9 450	8 450
II.5.8	Study on timber resources in forests affected by the hurricane	250	250
II.5.9	Additional production of palm oil	3 000	2 700
II.5.10	Rehabilitation of the Camilo Ortega sugar mill	5 000	4 500
II.5.11	Development of the tourism infrastructure on Corn Island	840	760
	<u>Total</u>	<u>46 257</u>	<u>40 060</u>

PROJECT OUTLINE

Sector: Industry

Subsector: Fisheries

Project title: Rehabilitation of the PROMAR fishery corporation

Project objectives: To repair damage in order to recover normal levels of lobster trapping and sales.

Description of activities to be carried out: Integral repair of the processing plant on Corn Island, includes its roof, freezing and maintenance facilities, repair shops, dock, water supply system, storage facilities and electricity generators.

Expected project output: Recovery of levels of employment and lobster exports maintained before the disaster.

Total investment required: US\$ 4 910 000

Breakdown (US\$)

- Manpower: 760 000

- National inputs: 3 000 000

- Imported inputs: 1 150 000

Financing (US\$) 4 910 000

Local: 510 000

External: 4 400 000

National agency in charge: National Fishery Institute

Tentative duration: 6 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Fisheries

Project title: Rehabilitation of the PESCANICA fishery corporation

Project objectives: To repair the damage suffered by this company in order to recover its former levels of activity.

Description of activities to be carried out: Restoration of the shipyard on Sandino island in the Río Escondido. Replacing mechanical parts, tools and injection pump laboratory of the fishing fleet. Repairing the electricity generators and the launching line.

Expected project output: Recovery of levels of repair work on fishing vessels which existed before the hurricane.

Total investment required: US\$ 512 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	512 000
- Manpower:	12 000	Local:	62 000
- National inputs:	50 000	External:	450 000
- Imported inputs:	450 000		

National agency in charge: National Fishery Institute

Tentative duration: 6 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Fisheries

Project title: Rehabilitation of the PISCA shipyard

Project objectives: Repair damage in this shipyard in order to guarantee normal levels of activity.

Description of activities to be carried out: Construction of the industrial ship, repair shops and launching line. Installation of its generators and electrical connections.

Expected project output: Availability of shipyard services on a regular basis.

Total investment required: US\$ 795 000

<u>Breakdown</u> (US\$)		<u>Financing</u> (US\$)	795 000
- Manpower:	135 000	Local:	95 000
- National inputs:	300 000	External:	700 000
- Imported inputs:	360 000		

National agency in charge: National Fishery Institute

Tentative duration: 8 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Fisheries

Project title: Rehabilitation of the COPESNICA fishery corporation

Project objectives: To repair damage to this company in order to recover its normal levels of shrimp catch and sales.

Description of activities to be carried out: Integral repair of the shrimp processing plant at Bluefields including roof, access channel, freezing equipment, electricity generators, processing room, etc.

Expected project output: Recovery of levels of employment and shrimp exports which existed before the hurricane.

Total investment required: US\$ 2 050 000

Breakdown (US\$)Financing (US\$) 2 050 000

- Manpower:	120 000	Local:	200 000
- National inputs:	230 000	External:	1 850 000
- Imported inputs:	1 700 000		

National agency in charge: National Fishery Institute

Tentative duration: 6 months

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Fisheries

Project title: Rehabilitation of the PESCARA fishery corporation

Project objectives: To repair damage in order to recover normal levels of catch and sale of shrimp.

Description of activities to be carried out: Integral repairing of the processing plant at El Bluff including repairs to its roof, electricity generators, ice compressors, freezing facilities, etc. Construction of dock and drinking-water network. Construction and equipping of processing room.

Expected project output: Return to the levels of employment and shrimp exports maintained before the hurricane.

Total investment required: US\$ 3 450 000

<u>Breakdown (US\$)</u>	<u>Financing (US\$)</u>
- Manpower: 450 000	Local: 450 000
- National inputs: 500 000	External: 3 000 000
- Imported inputs: 2 500 000	

National agency in charge: National Fishery Institute

Tentative duration: 6 months

Estimated starting date: December 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Wood

Project title: Installation of five on-line sawmills along the Río Rama

Project objectives: To extract as much timber as possible from the affected forest.

Description of activities to be carried out: Purchase of five portable saws and other equipment.

Expected project output: 25 000 cubic metres of round logs.

Total investment required: US\$ 16 000 000

Breakdown (US\$)

- Manpower: 1 000 000
 - National inputs: 2 000 000
 - Imported inputs: 13 000 000

Financing (US\$) 16 000 000

Local: 3 000 000
 External: 13 000 000

National agency in charge: Forestry Corporation

Tentative duration: 3 months

Estimated starting date: December 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Wood

Project title: Reactivation of the lumber industry at Bluefields

Project objectives: To increase wood production capacity in the region by developing the affected forests.

Description of activities to be carried out: Reconstruction of the building housing the sawmill; purchase of machinery and sawing equipment and extraction of timber.

Expected project output: Large quantities of wood for the reconstruction of dwellings and other facilities and for export. To increase employment availability in this sector.

Total investment required: US\$ 9 450 000

Breakdown (US\$)Financing (US\$) 9 450 000

- Manpower:	600 000	Local:	1 000 000
- National inputs:	8 000 000	External:	8 450 000
- Imported inputs:	850 000		

National agency in charge: Forestry Corporation and Bluefields Lumber Corporation.

Tentative duration: 6 months

Estimated starting date: December 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Wood

Project title: Study on timber resources in forests affected by the hurricane

Project objectives: To identify with a high level of precision the usable timber resources in order to determine the real possibilities of extraction.

Description of activities to be carried out: Taking aerial photographs and interpreting them. Making an inventory of the timber available by variety or type.

Expected project output: Availability of proven data for use in negotiating effectively with foreign firms concerning extraction and marketing terms.

Total investment required: US\$ 250 000

<u>Breakdown</u> (US\$)	<u>Financing</u> (US\$)	250 000
- Manpower:	Local:	
- National inputs:	External:	250 000
- Imported inputs:		250 000

National agency in charge: National Resources Institute and Forestry Corporation

Tentative duration: 1 month

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Food

Project title: Additional production of palm oil

Project objectives: To satisfy the domestic demand in the area.

Description of activities to be carried out: Installation of an oil processing plant.

Expected project output: Substitution of the productive capacity of palm oil for that of coconut oil.

Total investment required: US\$ 3 000 000

Breakdown (US\$)

• Manpower: 150 000

• National inputs: 650 000

• Imported inputs: 2 200 000

Financing (US\$) 3 000 000

Local: 300 000

External: 2 700 000

National agency in charge:

Tentative duration: 1 year

Estimated starting date: January 1989

Special observations: Coconut oil production was affected by the hurricane, and it seems inadvisable to reactivate it.

PROJECT OUTLINE

Sector: Industry

Subsector: Food

Project title: Rehabilitation of the Camilo Ortega sugar mill

Project objectives: To recover the productive capacity of this mill in order to bring it up to its export levels.

Description of activities to be carried out: Rehabilitation of installations, equipment and machinery.

Expected project output: Return to the production and employment levels maintained prior to the disaster.

Total investment required: US\$ 5 000 000

Breakdown (US\$)Financing (US\$) 5 000 000

- Manpower: 300 000

Local: 500 000

- National inputs: 700 000

External: 4 500 000

- Imported inputs: 4 000 000

National agency in charge: Sugar Corporation

Tentative duration: 7 months

Estimated starting date: January 1989

Special observations:

PROJECT OUTLINE

Sector: Industry

Subsector: Tourism

Project title: Development of the tourism infrastructure on Corn Island

Project objectives: To create conditions suitable for the development of tourism on this island.

Description of activities to be carried out: Construction of three 10-room hotels and of other service areas.

Expected project output: Encouragement of tourism by developing the natural conditions of the island and thereby generating employment and foreign currency.

Total investment required: US\$ 840 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u>	840 000
- Manpower:	260 000	Local:	80 000
- National inputs:	180 000	External:	760 000
- Imported inputs:	400 000		

National agency in charge: Nicaraguan Tourism Institute

Tentative duration: 1 year

Estimated starting date: February 1989

Special observations:

6. TRADE SECTOR

SUMMARY: TRADE SECTOR

(Thousands of US dollars)

Number	Title	Investment	External financing
II.6.1	Rehabilitation of the infrastructure of the Nicaraguan Supply Corporation (ENABAS)	16 000	12 000
II.6.2	Credit for rehabilitating private wholesale trade	2 000	1 800
II.6.3	Credit for rehabilitating retail trade in the areas affected	2 000	1 800
II.6.4	Rehabilitation of the network of sales of food for immediate consumption	2 900	2 030
II.6.5	Renovation of the commercial land-transport fleet	2 700	2 700
	<u>Total</u>	<u>25 600</u>	<u>20 330</u>

PROJECT OUTLINE

Sector: Trade

Subsector: Wholesale

Project title: Rehabilitation of the infrastructure of the Nicaraguan Supply Corporation (ENABAS)

Project objectives: To repair damaged infrastructure in order to facilitate the wholesale distribution of basic commodities to Bluefields, Rama, La Esperanza and neighbouring areas.

Description of activities to be carried out: Reconstruction of destroyed warehouses and repairing partial damage. Restoration of refrigeration capacity.

Expected project output: Re-establishment of this corporation's territorial network of warehouses in support of the flow of commodities to the areas affected.

Total investment required: US\$ 16 000 000

<u>Breakdown (US\$)</u>		<u>Financing (US\$)</u>	16 000 000
- Manpower:	3 000 000	Local:	4 000 000
- National inputs:	7 000 000	External:	12 000 000
- Imported inputs:	6 000 000		

National agency in charge: Nicaraguan Supply Corporation (ENABAS)

Tentative duration: 6 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Trade

Subsector: Wholesale

Project title: Credit for rehabilitating private wholesale trade

Project objectives: To repair the damaged infrastructure of some 60 wholesale trade establishments.

Description of activities to be carried out: Provision of a suitable public institution with the legal mechanisms and financial resources needed to grant easy credit to merchants.

Expected project output: Re-establishment of the normal distribution of goods to retail merchants.

Total investment required: US\$ 2 000 000

Breakdown (US\$)

- Manpower:	300 000
- National inputs:	900 000
- Imported inputs:	800 000

Financing (US\$) 2 000 000

Local:	200 000
External:	1 800 000

National agency in charge: Nicaraguan Supply Corporation (ENABAS)

Tentative duration: 6 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Trade

Subsector: Retail

Project title: Credit for rehabilitating retail trade in the areas affected

Project objectives: To support retail merchants.

Description of activities to be carried out: Restoration of the physical infrastructure of retail trade through the granting of easy credit by a suitable public institution.

Expected project output: Availability of merchandise required by the consumers of Bluefields, Corn Island, Rama, La Esperanza and neighbouring areas.

Total investment required: US\$ 2 000 000

Breakdown (US\$)Financing (US\$) 2 000 000

- Manpower:	300 000	Local:	200 000
- National inputs:	900 000	External:	1 800 000
- Imported inputs:	800 000		

National agency in charge: Nicaraguan Supply Corporation (ENABAS)

Tentative duration: 6 months

Estimated starting date: November 1988

Special observations:

PROJECT OUTLINE

Sector: Trade

Subsector: Public food supply

Project title: Rehabilitation of the network of sales of food for immediate consumption

Project objectives: To re-establish the services offered by restaurants, coffee houses, bars, etc., in Bluefields, Corn Island, Rama, La Esperanza and neighbouring areas in order to satisfy the needs of the population and to promote tourism.

Description of activities to be carried out: Restoring the infrastructure of centres serving food to the public.

Expected project output: Restoration of normal daily living.

Total investment required: US\$ 2 900 000

Breakdown (US\$)

- Manpower: 900 000

- National inputs: 1 200 000

- Imported inputs: 800 000

Financing (US\$) 2 900 000

Local: 870 000

External: 2 030 000

National agency in charge: Nicaraguan Supply Corporation (ENABAS)

Tentative duration: 5 months

Estimated starting date: December 1988

Special observations:

PROJECT OUTLINE

Sector: Trade

Subsector: Wholesale

Project title: Renovation of the commercial land-transport fleet

Project objectives: To improve commercial transport in the area affected.

Description of activities to be carried out: Purchase of 80 trucks. Supply of 768 000 gallons of fuel.

Expected project output: Effective satisfaction of normal transport needs.

Total investment required: US\$ 2 700 000

Breakdown (US\$)

- Manpower:

- National inputs:

- Imported inputs: 2 700 000

Financing (US\$) 2 700 000

Local:

External: 2 700 000

National agency in charge: Nicaraguan Supply Corporation (ENABAS)

Tentative duration: 6 months

Estimated starting date: January 1989

Special observations: