PAN AMERICAN HEALTH ORGANIZATION
WORLD HEALTH ORGANIZATION

HAITI

Emergency Rehabilitation Program for the Transition Period (12 -18 Months)

Health
Nutrition
Water and Sanitation

Port-au-Prince, Haiti
August 1994

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PREFACE

The international community, while suspending bilateral assistance programs with the succession of Haitian governments following the coup of September 1991, decided to maintain emergency humanitarian assistance for the populations affected by this situation. This assistance was to be channelled through timely actions and funding, and essentially implemented by the not-for-profit private sector and non-governmental organizations (NGOs). However, despite the high level of this assistance, the slow deterioration of the nutritional and health situation could not be avoided.

Today, Haiti has lost even the minute successes achieved in the early nineties. Thus, there is a need for an emergency rehabilitation plan, both coherent and coordinated, which is capable of ensuring a minimum program of activities to be undertaken immediately, and is able to respond the most urgent needs while establishing the basis for the recovery of the health situation.

As a result of the needs expressed during discussions between donors and different partners in the not-for-profit health sector, in October 1991 the Health Interagency Coordination Committee (HICC), was initiated by PAHO/WHO, which assumed the part of Health Coordinator in accordance with its mandate.

As soon as a Constitutional Government was reinstated, HICC invited the participation of the Ministry of Public Health and Population (MSPP) in the committee.

Since the first meeting, **MSPP clearly expressed its will to act in partnership with all those participating organisms likely to advance the cause of health in Haiti.** Concurrently, HICC was assisted by a Technical Committee responsible for designing an integrated emergency plan of action.

This collaboration continues under the aegis of the Constitutional Government of Haiti, despite the emergence of the illegitimate government on 11 May 1994.

The main guidelines of a health policy, as well as a listing of concrete activities relevant to the present emergency, were identified and adopted by all partners. **It is in this frame of consensus and in total agreement with the Constitutional Government that PAHO/WHO is proposing to the donor community to pledge their funds in emergency health, nutrition, water and basic sanitation programmes for the twelve to eighteen months following the political resolution of the crisis.**

General Objective

The emergency rehabilitation plan aims at giving the entire Haitian population access to essential health services, potable water and an acceptable level of hygiene, in addition to decent nutritional condition.

Beneficiaries

The priority beneficiaries of the proposed interventions are the 80% of the population living under the threshold of absolute poverty, with a special focus on the principal victims of the crisis, namely small children, pregnant women and the elderly.

General Strategy

The PAHO/WHO-proposed plan of rehabilitation rests on four key elements:

- **Decentralization** aimed at the establishment of local health systems (communal health units or CHUs).
- **Community participation.**
- **Partnership** between the public sector, NGOs, donors and bilateral and international organizations.
- **Coordination** of all partners for an optimum utilization of resources.

Actions

There are four components to the actions proposed.

I. **Essential health services**
II. **Nutrition**
III. **Potable water and environmental sanitation.**

I
ESSENTIAL HEALTH SERVICES

I. ESSENTIAL HEALTH SERVICES

INTRODUCTION

The identified emergency activities are grouped as follows: activities linked with maternal and child survival; management of medical and surgical emergencies; control and prevention of transmitted diseases and epidemics.

1. OBJECTIVES

The specific objectives are to stop the progress of pregnancy and childbirth-linked morbidity and mortality, immuno-preventable diseases, lethal childhood pathologies such as acute diarrhoea, measles, respiratory infections, medical and surgical emergencies, transmitted diseases and epidemics such as malaria, tuberculosis, meningitis, animal-transmitted diseases such as rabies and anthrax, sexually transmitted diseases, HIV infection and AIDS.

2. ACTIONS

2.1 Activities linked with maternal-child survival

2.1.1 Reproductive health and maternal mortality reduction

Management of reproductive health implies the establishment of activities essentially linked with follow-up of health care for women before, during and after childbirth, as well as the availability and the promotion of contraceptive methods.

The general objective is to ensure that within 12 to 18 months, 100% of selected CHUs will offer reproductive health services to women of childbearing age, with special attention being given to adolescents. Such care will be provided by trained personnel thanks to a strengthened health system within these CHUs.

In order to reach this objective, three strategies will be combined: improvement of management of patients including training of health personnel; information, education, and communication (IEC); reinforcement of CHUs by ensuring constant availability of necessary supplies.

2.1.2 Vaccination

A combination of two strategies will be established to reach the double objective of eradication of measles and increase of vaccination coverage of children and women of childbearing age. The first strategy consists of launching a massive vaccination campaign in favor of children aged 6 months to 15 years against measles; the second is the reinforcement of vaccination at the institutional level, including improvement of the cold chain with a general emphasis on solar energy as well as the increase of the present number of storage and distribution units (SDUs) from 28 to 50.

2.2 Management of medical and surgical emergencies

The activation of the proposed emergency management network includes interventions in 100 health institutions structured according to four levels of emergency (level 1 to 4), starting from primary care to the specialized health center.

This intervention has four components:

- Physical rehabilitation of health facilities including supply of water and electrical power.
- Standardized equipment to be maintained on the premises.
- Training of personnel in management of emergencies in line with the pilot model developed in May 1994 by PAHO/WHO.
- Logistic capacity for referrals, from ambulance to small aircraft.
- Radio-communications, which are an essential element of the referral system.

2.3 Control and prevention of transmitted diseases and epidemics.

The common denominator for control and prevention of transmitted diseases and epidemics is an approach combining: an improvement of diagnosis capacity; standardization of ordinary treatments; constant availability of essential drugs; information-education-communication; establishment of a referral system.

More specific actions are planned for malaria, tuberculosis, meningococcemy, anthrax, rabies, sexually transmitted diseases, HIV infection and AIDS.

3. SPECIFIC STRATEGIES

The rehabilitation program as a whole relies on considerable efforts at training, housing personnel, establishing logistical capacity, and communication.

3.1 Training of personnel

The outcome of the project will depend to a great extent on the absorption and management capacity of beneficiary institutions. In this context, training assistance must be proportionate to the investment.

Training will be necessary to adapt the resources to new methods of intervention in a situation marked by demobilization, disorganization and discouragement. Training sessions must be organized in all the identified fields of intervention. Training must be conducted with public sector health personnel as well as that of NGOs. These sessions will be **short, practical, integrated, and specific.** In fact, they will be emergency-training sessions.

Training interventions involve all subjects, with an emphasis on management of medical and surgical emergencies, rational use of essential drugs, stock management at health institution level, modern methods in nutrition, vaccination and management of the sick child, including diarrhoeal diseases, acute respiratory infections, water and sanitation.

PAHO/WHO has recently committed large resources for the strenghtening of its support to this sector. The Organization is capable of ensuring coordination of a general training program, with an emphasis on interventions in emergency situations.

3.2 Housing of health personnel

It is imperative to improve the housing conditions of staff if they are to be encouraged to serve in peripheral CHUs, rather than being concentrated in the main cities. The project provides for the improvement of the living quarters of 200 health personnel serving in remote areas in the 12 to 18 months following the solution to the crisis.

3.3 Logistics

The rehabilitation programme has two logistics components: supply to health institutions and transport.

3.3.1 Supply

Supply to institutions is based on the strengthening of the current structure of supply, storage and distribution of essential drugs and medical supplies, known as PROMESS, which to date serves 520 of the 660 health institutions in the country. PROMESS ensures the availability of essential drugs and medical supplies and equipment thanks to standardized, high-quality products that are obtained at prices below those of the international market.

The project provides for an improvement in storage conditions at PROMESS central level, as well as decentralization of the system through the establishment of peripheral warehouses and pharmacies.

Specific efforts must be fostered in remote areas in order to improve the cold chain, preferably by using solar energy.

3.3.2 Transport

All activities are subject to the availability of transport. According to the level and accessibility of the institutions, the rehabilitation program uses a combination of different methods of transport ranging from **mules, motorcycles, all-terrain vehicles, ambulances,** to the purchase of a **small aircraft** for internal air transport.

This acquisition is intended for distribution of vaccines, evacuation of patients and facilitation of transport for the needs of the project has become a necessity, given the deterioration of the roads and the distances to be covered.

In addition to the obvious advantages in terms of necessary travel for the purposes of the humanitarian assistance program, the major impact of the utilization of air transport will be vital in the future, for the protection of vaccine quality and the evacuation of medical emergencies.

3.4 Communications

The health communication network established in 1992 can be extended to participating organizations and institutions. The cost of equipment will be kept low because of already existing relay installations. The importance of standardisation of equipment is evident if one wants to benefit from the advantages of the network. PROMESS could facilitate purchases as well, since it has always coordinated the network's expansion and maintenance and could also use readily available studies.

EMERGENCY REHABILITATION PROGRAMME

ESSENTIAL HEALTH SERVICES
(needs for 12 - 18 months)

DRUGS AND MEDICAL SUPPLIES	USD AMOUNT
- Anti-tuberculosis drugs and supplies for diagnosis	450,000.00
- Drugs for STD/AIDS	1,000,000.00
- Drugs for curative care: basic lots for regional warehouses and startup lots for institutions	2,000,000.00
- Supplies for laboratories including AIDS tests	1,000,000.00
- X-ray films	200,000.00
- Iron, folic acid, vaccines, contraceptives, syringes for vaccination, vitamin A and portion of ORS already furnished by FRANCE, UNICEF, UNFPA and ROTARY	0.00
- Complementary supplies to ensure free distribution of essential drugs and supplies for vaccination of mothers and children	500,000.00
- Disposable supplies and bandages for medical and surgical emergencies	
- Replacement of old stocks of medical material and instruments	1,000,000.00
SUB-TOTAL	**8,050,000.00**

MEDICAL EQUIPMENT FOR HEALTH INSTITUTIONS	USD AMOUNT
- Emergency equipment for N2 and N3 levels	1,500,000.00
- Replacement of basic equipment of 100 institutions (X-ray equipment, surgical kits, laboratory equipment, pediatric ward equipment)	3,200,000.00
SUB-TOTAL	**4,700,000.00**

PHARMACIES AND PHARMACY WAREHOUSES	USD AMOUNT
- Shelves for pharmacies	300,000.00
- Adaptation of twenty (20) warehouses and one hundred (100) pharmacies	400,000.00
- Equipment for hospital pharmacies	200,000.00
- Development of pharmacy service of MSPP (Port-au-Prince plus 9 departments).	300,000.00
SUB-TOTAL	**1,200,000.00**

REHABILITATION OF HEALTH STRUCTURES	USD AMOUNT
- Emergency repairs	400,000.00
SUB-TOTAL	**400,000.00**

ENERGY FOR HEALTH INSTITUTIONS	USD AMOUNT
- Energy for community clinics and health centers including solar refrigerators (100)	800,000.00
- Generators for hospitals, fuel and maintenance for 6 months (20)	500,000.00
SUB-TOTAL	**1,300,000.00**

INSTITUTIONAL SUPPORT TO MSPP	USD AMOUNT
SUB-TOTAL	**300,000.00**

SUPPORT TO ACTIVITIES INCLUDING SUPERVISION	USD AMOUNT
- Activity linked with maternal-child survival (excluding activities in reproductive health financed by UNFPA, and measles vaccination financed by France and European Union)	400,000.00
- Activities linked with management of medical and surgical emergencies	250,000.00
- Activities linked with control of transmitted diseases and epidemics	300,000.00
SUB-TOTAL	**950,000.00**

TRAINING	USD AMOUNT
- Expenses for seminars, printing of educational material, consultants	3,000,000.00
SUB-TOTAL	**3,000,000.00**

INFORMATION-EDUCATION-COMMUNICATION	USD AMOUNT
- Production and dissemination of material, consultants	200,000.00
SUB-TOTAL	**200,000.00**

LOGISTICS	USD AMOUNT
- Purchase of motorcycles and mopeds	100,000.00
- Replacement of twenty (20) MSPP vehicles	500,000.00
- Twenty all-terrain vehicles for transport to peripheral warehouses and supervision	400,000.00
- Ambulances equipped for transport of patients (20)	800,000.00
- Small aircraft for sanitary evacuations and transport of vaccines and drugs	300,000.00
SUB-TOTAL	**2,350,000.00**

INFORMATION-EDUCATION-COMMUNICATION	USD AMOUNT
- Equipment, maintenance of relays	150,000.00
SUB-TOTAL	**150,000.00**

ADMINISTRATIVE AND MANAGEMENT COSTS	USD AMOUNT
SUB-TOTAL	**1,800,000.00**

GRAND TOTAL	23,700,000.00

II
NUTRITION

II. NUTRITION

INTRODUCTION

Haiti is one of the most underdeveloped countries in the western hemisphere and has some of the worst indices of social deprivation. An estimated 80% of the rural population subsists below the World Bank poverty line. Since the political and economic situation has deteriorated drastically, the underdeveloped Haitian economy has now become one of subsistence and survival.

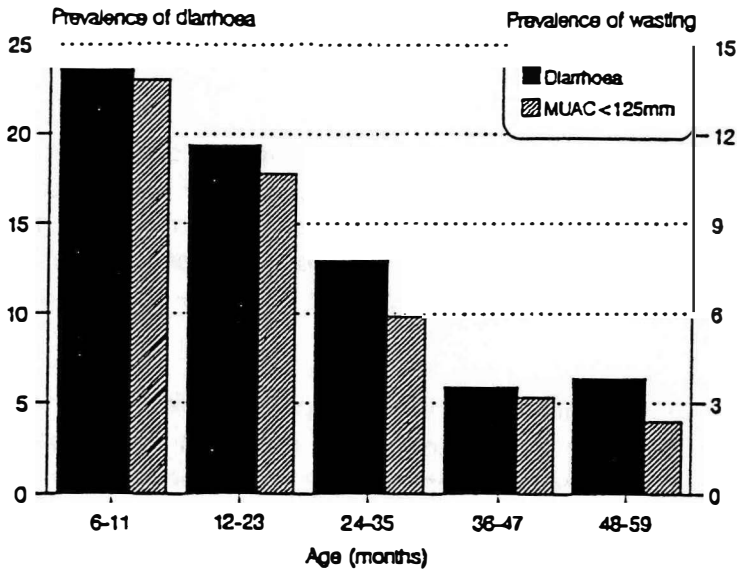
Despite efforts by humanitarian agencies, there are concerns about the effects of the politically induced economic crisis on the nutrition and health conditions, particularly of women and children. Based on two recent situation analyses, this proposal outlines immediate interventions within the health sector for the improvement of child and maternal nutrition (PAHO/WHO, 1994; OPS/OMS, 1994).

1. NUTRITIONAL PROBLEMS AND PRIORITIES

1.1. CHILDHOOD MALNUTRITION

Recent morbidity, mortality and anthropometric studies have demonstrated that health and nutritional problems are concentrated in young children less than 24 months of age. Diarrhea has been associated with 47% of all child deaths between 1-59 months of age (Cayemittes and Chahnazarian, 1989). Most of the under-five deaths are also associated with malnutrition. The synergism between malnutrition and diarrhea is demonstrated in Figure 1.

Poor nutritional conditions, including high exposure to infectious diseases, inadequate child care, and faulty feeding practices, are direct causes of children's growth and developmental retardation. Factors that adversely affect child care and feeding practices include maternal absence, budgetary constraints, and inadequate information. Due to the economic crisis, mothers are forced to intensify their activities outside the home. Consequently, household chores are accommodated around the intensified working schedules. This often results in compromised child care and feeding practices, due to lack of correct information on children's needs. The implications are hazardous: exclusive breast-feeding hardly lasts beyond one month, bottle feeding is practically universal, children are cared for by other (often incompetent) caretakers, the child is given inadequate foods and is fed too infrequently. For new mothers, these incorrect child care practices easily become the norm if they are not discouraged (PAHO/WHO, 1994; MotherCare, 1990).



Source: Cayemittes & Chatterjee, 1987/CDC et.al., 1993

Fig.1 *Point prevalence of diarrhea (1987) and wasting by MUAC<125mm (1990) in preschool children by age*

As a result, one in every five children under two years are severely wasted, and by the age of five, 40% of children demonstrate serious linear growth retardation (CDC, et.al., 1993). It has also been shown that childhood malnutrition is associated with functional outcomes in adult life such as poor educational performance, low productivity, retarded psychological development, etc. In other words, the malnourished children of today are the less competent adults of tomorrow.

1.2 MATERNAL MALNUTRITION

Improving child care cannot be achieved without taking care of mothers. Their health and nutritional status are important determining factors for children's growth and development. Data on maternal nutrition is limited to

two indicators; (i) the prevalence of low birth weight, and (ii) the prevalence of anemia.

Low birth weight is associated with mothers' pre-pregnancy nutritional status and dietary intake (or weight gain) during pregnancy. An estimated 15% of all newborns (233,000) weigh less than 2.5 kilogram and are at high risk of dying.

The iron status is associated with both the quality and quantity of dietary intake, and thus, a proxy indicator of household food security. Approximately, 35-40% of adult women suffer from anemia, a public health problem whose importance is often underestimated (PAHO/WHO, 1994; USAID/VITAL, 1993; DeMaeyer, 1989).

Maternal malnutrition is mainly an outcome of the economic environment of the household. Due to the economic hardship, women are forced to return to jobs shortly after delivery. Consequently, the post-natal recovery period is considerably shortened. In addition, breast-feeding frequency is reduced, which has an adverse effect on child spacing. This will add up to the maternal deprivation syndrome. Furthermore, poor households spend a high proportion of their income on food and are, therefore, particularly vulnerable to adverse changes in their incomes and/or food prices. The most vulnerable group includes women of child bearing age. Their needs for sufficient nutritious food following pregnancies, lactation, and physiological cycles, are undoubtedly compromised due to budgetary constraints at the household level (PAHO/WHO, 1994).

1.3 IODINE DEFICIENCY

Iodine deficiency is a compounding factor of malnutrition and malnutrition-related outcomes, particularly among vulnerable groups in the mountainous interior of the country, where iodine deficiency is a moderate severe public health problem (CAPS, PAHO/WHO, UNICEF, 1994). Iodine deficiency affects all people equally, but the health outcomes are more severe among women of child-bearing age and young children. They include pregnancy complications, low birth weight, infant mortality, cretinism, deaf mutism, and mental retardation.

2. OBJECTIVES

The overall goal is to reduce childhood and maternal malnutrition. Innovative interventions are urgently needed to reverse the rapidly deteriorating nutritional environment of mothers and children and increase mothers' capacity to take better care of their children. This implies that mothers must have access to (and control over) essential resources such as correct information, income, and appropriate technology. The general objective of the nutrition recovery program is:

"To protect children's growth by improving the nutritional environment of mothers and children in order to prevent linear growth retardation, malnutrition, and malnutrition-associated morbidity and mortality."

Specific objectives include:

A. To improve mothers' caring capacity by enhancing their access to, and control over, essential resources such as correct information, income, and appropriate technology in order to prevent growth faltering in children.

B. To reduce maternal malnutrition by enhancing adequate dietary intake of child-bearing age women from impoverished households in order to increase birth weight and give newborns a better start in life.

3. STRATEGY

3.1 INTEGRATION OF SERVICES

The public sector has experienced an almost total break down in the health infra-structure, while the country's health and nutrition situation has continued to deteriorate. Therefore, services need to be integrated, rather than vertically implemented, to address simultaneously major health and nutrition problems in mothers and children.

Nutrition-relevant interventions for the protection of child growth and development such as breast-feeding promotion, weaning education, vitamin A distribution, growth monitoring, and on-site feeding will be linked to the prevention and control of major infectious diseases, including diarrhea, pneumonia, and measles. The Ministry of Health of Haiti, PAHO, UNICEF, USAID, and major NGOs will work together to develop and implement a comprehensive strategy for the integrated management of the sick and healthy child approach.

Similarly, where possible, nutrition-relevant actions for women, including iron supplementation, prenatal nutrition monitoring, nutrition education, and/or food distribution will be linked to health interventions such as family planning, prenatal and postnatal care. Collaboration will include the Ministry of Health of Haiti, PAHO, UNFPA, major NGOs in the health sector, and major food distributing agencies, including WFP, CARE, etc.

Integration allows health agents to efficiently plan household visits, given the logistical problem of Haiti's mountainous interior which cause the inaccessibility of many households and communities. Similarly, households obtain maximum benefit of health workers' visits, as they provide all basic services for children's health.

Furthermore, PAHO will collaborate with the Ministry of Health of Haiti and UNICEF in the preparation and implementation of integrated nutrition projects with nutritional and household food security objectives, e.g., nutrition education with a poverty lending scheme, or nutrition education with a food production and processing program. These projects have a potential of increasing maternal control over various essential resources for better child care. These pilot experiences will serve as a base for the identification of effective approaches to improve child care and nutrition.

3.2 TARGETING

The program targets mothers and children from impoverished families with low incomes and poor access to correct information. The majority of poor households are female headed which means that these mothers have to contend with many, often incompatible, responsibilities. Needless to say, their children are at highest risk of being exposed to inadequate caring and feeding practices. The target population includes around one million households, 1.34 million women of child-bearing age, and 800,000 children under five years of age.

A number of simple and sensitive indicators will be used to identify the most vulnerable households and to monitor their progress in improving the maternal and child nutritional environment. Field observations have shown that these households are not necessarily the most remote. For example, maternal absence, a major determinant of inadequate child care, is associated with the potential of remunerative activities outside the home. These situations are found more often in economically active areas than in remote mountainous areas.

3.3 MONITORING AND EVALUATION

Monitoring is useful if it can detect problems, if the problem can be understood by those who are responsible, and if corrective actions can be undertaken. In other words, PAHO will apply the triple A approach (i.e., Assessment, Analysis, Action) to ensure effective monitoring of program progress.

Monitoring is an integral part of Haiti's newly established community-oriented health infrastructure which is guided by the following principles: services integration, community participation, and equal access to modern health care and information. Therefore, decentralized monitoring systems are needed for various administrative levels. This implies the establishment of a decentralized nutritional surveillance system, which will make use of various information sources, including institution-based management information systems (some of which may need PAHO's assistance) and allow for complementary rapid assessments at National and Departmental level data.

The evaluation strategy is based on the identification of milestones in program implementation that allow for radical decision-making. Depending on the program elements of integrated services and intensified communication, internal and external evaluation studies will be planned and conducted.

4. GLOBAL ACTIVITIES

4.1 TRAINING

Nutrition learning packages will be developed for integration with other health training curricula in the same way as health services are being integrated. For the nutrition learning packages, PAHO will closely collaborate with the Ministry of Health of Haiti, UNICEF, the Haitian Institute for Community Health (INHSAC), and other relevant institutions.

In the context of capacity building, PAHO will support the training of public and private health workers as well as other nutrition-relevant professionals, such as communication officers, statisticians, and food aid personnel. An important guideline in the training strategy is to diversify - rather than monopolize - local research capacity.

Important areas for training are (i) nutrition, (ii) research methodology, and (iii) inter-personnel communication. Apart from curricula development, activities will include material development, training of trainers, and training of

health agents, traditional health practitioners, and other nutrition-relevant extension workers.

4.2 INFORMATION, EDUCATION AND COMMUNICATION (IEC)

Most mothers have no access to correct information on issues like pre-lacteal purgatives, bottle feeding, feeding frequency, etc. Therefore, communication and education strategies are urgently needed to improve breast-feeding, weaning, and child feeding practices, as well as nutritional case management of sick children, and dietary intake during pregnancy.

Many communication strategies aim at increasing (i) awareness through the dissemination of information and messages, and (ii) knowledge through health and nutrition education. However, few communication programs aim at persuading mothers to change behaviors.

PAHO, in collaboration with the Ministry of Health of Haiti and UNICEF, will promote the development of convincing communication strategies. A good example is the nutrition demonstration foyers approach. These foyers are community-based nutrition rehabilitation centers which aim at educating mothers in the principles of household case management. The behavioral change is brought about by demonstrating to mothers the change in their malnourished children. This approach has been successfully tested and implemented in various public and private settings. Other successful communication experiences exist in (i) the promotion of dietary intake of vitamin A rich foods, and (ii) the prohibition of bottle feeding.

At present, PAHO is involved in the formulation of a global IEC strategy, which will be used by the Ministry of Health, existing IEC task forces and/or individual organizations to formulate specific communication strategies. PAHO will provide assistance for communication-relevant activities including formative research, inter-personnel communication training, material development, mass media utilization, etc.

The communication strategy includes advocacy to generate and ensure the administrative and socio-political commitment and leadership for program implementation. Hence, the advocacy targets high-level decision-makers to develop and reformulate norms and standards for breast-feeding, infant formulas, growth monitoring, food aid, universal salt iodization, etc. Alliances have been built with other interested agencies such as UNICEF, UNFPA, and various local associations.

Social mobilization is included to consolidate existing alliances and actively seek new partners and support for bringing about a social movement

for the protection and promotion of child growth and development. Existing collaboration with NGOs will be strengthened and expanded to increase coverage of integrated services delivery systems.

Furthermore, various program communication and social marketing techniques will be applied to disseminate messages and information, and encourage the adoption of healthy behaviors. Technical support will be ensured through expertise available at the local Resident Office of the Johns Hopkins University/Center for Communication Programs, the Haitian Institute for Community Health (INHSAC), and other private and public institutions. PAHO, in collaboration with other like-minded organizations such as UNICEF, will identify and mobilize potential channels for program communication, including food distribution systems, traditional health care providers (e.g., traditional birth attendants), religious leaders, teachers, women's clubs/organizations, etc.

4.3 RESEARCH

A recent nutrition situation analysis identified various areas of research needs (PAHO/WHO, 1994). Apart from anthropometric data, most information is either outdated, or non-existent. There are paramount nutrition-relevant research needs:

- *Prevalence of micronutrient deficiencies*: The information on vitamin A deficiency dates back to 1975, is limited to eye symptoms, and does not include seasonal influences. The most recent information on anemia stems from a national study in 1978. Similarly, data on iodine deficiency includes national data on goiter prevalence from 1978, and on goiter prevalence and urinary iodine excretion in one Department from 1990.

- *Vitamin A dietary intake and its determinants*: Vitamin A rich fruits are widely available and consumed by the whole population including children. However, seasonal variation is considerable, and, due to the ecological variation, may vary from region to region. Information is necessary for appropriate planning of program issues including supplementation of high-dose vitamin A capsules, vitamin A education, and food production and processing techniques.

- *Infant and child feeding practices*: The only comprehensive KAP (knowledge, attitude, and practice) study on infant and child nutrition was conducted in 1982 in one locality near Port-au-Prince. This study has provided essential information for nutrition-relevant IEC activities. However, more up to date information is needed to evaluate changes over time as well as identify geographical differences.

- *Profile identification of mothers with malnourished children*: Hardly any information exists on the characteristics of mothers that have malnourished children. Such information can be quickly obtained through community based health service delivery systems. The information will be very helpful for targeting, as well as identifying risk factors for child growth and development.

- *Maternal time expenditure and child growth*: Information is urgently needed on maternal time expenditure and its determinants for policy and program planning referring to the complex mechanism of maternal involvement in remunerative activities, maternal absence, inadequate child care practices, and child malnutrition.

There is an urgent need to strengthen local capacity for research, particularly in the area of rapid assessments. For local capacity building, PAHO will support the training of relevant counterparts. In addition, international consultants, who will be invited for research assistance, will work with counterparts in order to develop and improve their skills in (and expand their experiences with) different research methods and principles.

Given the logistical characteristics of the country, PAHO will maintain a stock of motorbikes to support research and evaluation activities in the field.

4.4 SALT IODIZATION

The strategy aims at setting up a salt iodization system. However, Haiti's salt market is characterized by a few big and many small producers, no processing, no state intervention, many traders and numerous transport routes including road and sea transport (however, a major part of the salt passes through Port-au-Prince). In addition, law enforcement for universal salt iodization is not to be anticipated in the very near future. Therefore, a market study, which will provide essential information on the production and marketing of (iodized) salt, is currently being planned. Based on the study results, the most effective way of salt iodization will be planned. This salt will also be used for supplementing target groups (e.g., iodized salt distribution to pregnant women in high risk areas). In the short-term, a targeted supplementation program with iodized oil capsules will be set up.

4.5 EQUIPMENT AND SUPPLIES

Nutritional supplements such as vitamin A, iron and iodized oil, are supplied by UNICEF. PAHO/WHO supplies anthropometric equipment for institutional as well as field use. Furthermore, robust equipment for the

detection of anemia will be provided to selected organizations for (i) the enhancement of prenatal care and (ii) obtaining relevant information on anemia in specific population groups.

5. PROJECTS AND BUDGET

	US$
Training	200,000
Curriculum and material development Training of trainers Training of health agents and other extension workers	
IEC	500,000
Formative research Workshops and seminars Material development Dissemination	
Research	400,000
Micronutrient prevalence study KAP studies on infant and child feeding Vitamin A consumption studies Profile identification of mothers Maternal time expenditure study	
Equipemnt/supplies	500,000
Anthropometric equipment Hemoglobin meters	
Monitoring/evaluation	220,000
Nutritional surveillance Rapid assessments Management information systems Supervision	
Logistics	30,000
Motorbikes	
Household food security	150,000
Poverty lending Skills development (including food production)	
TOTAL	2,000,000

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III
WATER AND SANITATION

III. POTABLE WATER AND SANITATION

INTRODUCTION

Since the beginning of 1992, PAHO/WHO has been implementing humanitarian assistance projects in the Potable Water and Sanitation sector to maintain the operation of existing infrastructure. PAHO/WHO is currently gearing toward implementation of rehabilitation projects, to be followed by development projects as soon as the current crisis is solved. A listing of the projects, totalling US$4.38 million, describes the scope of the proposed interventions.

As this crisis has dramatically weakened the national institutions, destabilized grass-roots community organizations, and consequently, caused a slump in 1990 coverage figures, the implementation of this new 18-month new program will call for more intense technical assistance.

1. SITUATION IN THE POTABLE WATER AND SANITATION SECTOR

1.1 IMPACTS OF THE POLITICAL CRISIS

When the political crisis broke out at the end of September 1991, it slashed all efforts to improve and even deteriorated the already critical situation in the sector. The impacts of the ever-deepening political crisis are outlined below:

- **Drop (30 to 50%) in production of potable water** due to frequent and prolonged interruptions by the Haitian Electricity Authority (EDH) in the power supply of public networks, to major shortages of fuel (embargo) needed for emergency power generators and to the lack of spare parts for electrical and mechanical equipments.

- **Disruption of maintenance services** of potable water systems.

- **Disorganization and replacement of all decision-makers** in national institutions in this sector. The same holds true for executives, who, for the last ten years, had been trained with the contribution of international cooperation agencies, including PAHO/WHO. For example, since February 1986, six different director-generals ruled CAMEP (Metropolitan Water Authority), compared with five for SNEP (National Water Authority), and four executive directors for POCHEP.

- Reduction of the staff to a minimum. POCHEP has had to reduce its personnel by 83%, before closing down for lack of funding.

- Serious shortages of cash in national organisations involved in the sector, including CAMEP but especially, SNEP.

- Abrupt suppression of external technical cooperation (GTZ, FKW, UNDP, World Bank, French CCCE, etc.).

- Sudden suspension of all on-going projects totalling approximately US$163 million.

- Dramatic reduction in NGO activities in rural areas.

- Destabilization of grass-roots community organisations, such as the Potable Water Committees (PWC). A survey carried out in July 1993 by ASSODLO (an NGO), with the cooperation of PAHO/WHO, showed that 80% of the 105 PWC studied did not function properly.

1.2 COVERAGE OF NEEDS IN POTABLE WATER AND SANITATION (PWS)

As a consequence of efforts by the international community during the 1981-1990 decade - dedicated to potable water and sanitation, US$128 million were invested in this PWS sector, which helped to considerably increase the coverage of needs.

Trained observers estimate that over the three-year political crisis, despite efforts in humanitarian assistance by PAHO/WHO, UNICEF, UNDP, bilateral cooperation and selected NGOs, the coverage of needs in PWS fell by at least 30%. The following table shows the evolution of this coverage from 1980 to 1993.

Geographic Areas	Coverage of needs		
	December 1980	December 1990	December 1993
Potable water in the capital	48%	53%	37%
Potable water in the 27 secondary cities	47%	58%	41%
Potable water in rural areas	8%	33%	23%
Basic sanitation in urban areas	41%	43%	43%
Basic sanitation in rural areas	10%	16%	16%
Garbage collection in the capital	40%	60%	30%

2. OBJECTIVES OF THE EMERGENCY PROGRAM

Six objectives are proposed:

- Rapid re-startup of projects implemented in September 1991, and whose activities were brought to a sudden halt;

- Startup of projects meeting the urgent needs of the populations, for which studies have already been done;

- Rehabilitation/extension of existing systems;

- Supply of essential equipment for the implementation/supervision of projects; supply of spare parts;

- Significant improvement in garbage collection and clean up of rainwater canals in the capital;

- Prevention and control of diarrhoeal diseases, especially cholera, through an improved quality of drinking water and environmental hygiene.

3. TECHNICAL COOPERATION FOR PROJECT DEVELOPMENT

The extreme urgency of the situation, the high volume of investments, the short period of implementation (12 to 18 months), as well as the state of ruin of the State institutions, all call for the establishment of dynamic, flexible and novel structures for the development of emergency programs.

The implementation of substantial projects by national institutions severely weakened by three years of political crisis demands **a highly committed technical assistance** integrated within these institutions. This technical cooperation should contribute to the updating of the projects, the launching of bids, the granting of markets, the preparation of corporate contracts, the financial and technical management of construction sites, the design of procedures for equipment supply, etc.

The technical cooperation for support to the PAHO/WHO team of the "Water and Sanitation" project consists of: two national consulting engineers and one supplementary secretary.

The Potable Water and Basic Sanitation Section of PAHO/WHO is capable of managing the following projects, through NGOs and small, specialised companies:

- rehabilitation of rural Potable Water Systems (PWS);
- installation of water chlorination systems in rural PWS;
- potable water supply by water trucks in the slums;
- construction of cisterns for the collection of rainwater;
- rehabilitation of buildings and hydro-sanitary systems in community clinics and health centres;
- reinforcement of electrical systems in health institutions, including the provision and installation of emergency power generators.

The PAHO/WHO Water and Sanitation section has enjoyed successful experiences with the following NGOs: ASSODLO, CDS, PROTOS, AICF and COHAN/BAGE.

4. LIST OF PROPOSED PROJECTS

A. POTABLE WATER

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (months)	COST US$	REMARKS
Rehabilitation of 30 rural potable water systems (PWS)	Rural areas	12	150,000	Subcontract to NGOs and small national businesses
Construction of 40 domestic rainwater cisterns including roof rehabilitation	Kenscoff/ Fermathe	12	200,000	Subcontract to NGOs in the area
Rehabilitation of 5 rural PWS	South-East/ Jacmel	12	100,000	Subcontract to ASSODLO
Construction of rainwater cisterns in 13 community clinics and schools	North-West	12	250,000	Subcontract to ASSODLO
Distribution of potable water by water trucks in 3 slums: Solino, Fonds Delmas 33 and St.Philomène	Port-au-Prince	12	450,000	Subcontract to ASSODLO
Construction of 35 chlorination systems in rural PWS	Rural areas	12	280,000	Subcontract to small national businesses
Reinforcement of water truck distribution system in La Saline slum	Port-au-Prince	12	340,000	Implementation with Haitian NGO: CDS
POTABLE WATER SUB-TOTAL			1,770,000	

B. BASIC SANITATION (HYGIENIC LATRINES IN HEALTH CENTERS)

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (MONTHS)	COST US$	REMARKS
CONSTRUCTION OF 400 FAMILY-SIZE LATRINES	KENSCOFF	12	80,000	IMPLEMENTATION WITH THE BAPTIST MISSION IN HAITI
CONSTRUCTION OF 3000 FAMILY-SIZE AND 10 PUBLIC LATRINES	NORTH AND CENTER DISTRICTS	12	600,000	SUBCONTRACT TO CADRI (CENTER OF SUPPORT TO INTEGRATED RURAL DEVELOPMENT)

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (MONTHS)	COST US$	REMARKS
REHABILITATION/IMPROVEMENT OF BASIC SANITATION IN 40 HEALTH CENTERS (EXCRETA AND WASTE WATER DISPOSAL, DOMESTIC INCINERATORS)	RURAL AREAS	12	400,000	SUBCONTRACT TO SMALL LOCAL BUSINESSES
PREFABRICATION OF 500 SETS OF SLABS AND LATRINE SEATS FOR HEALTH CENTERS IN ANTICIPATION OF A CHOLERA OUTBREAK	PORT-AU-PRINCE	6	30,000	SUBCONTRACT TO A LOCAL NGO
BASIC SANITATION SUB-TOTAL			1,110,000	

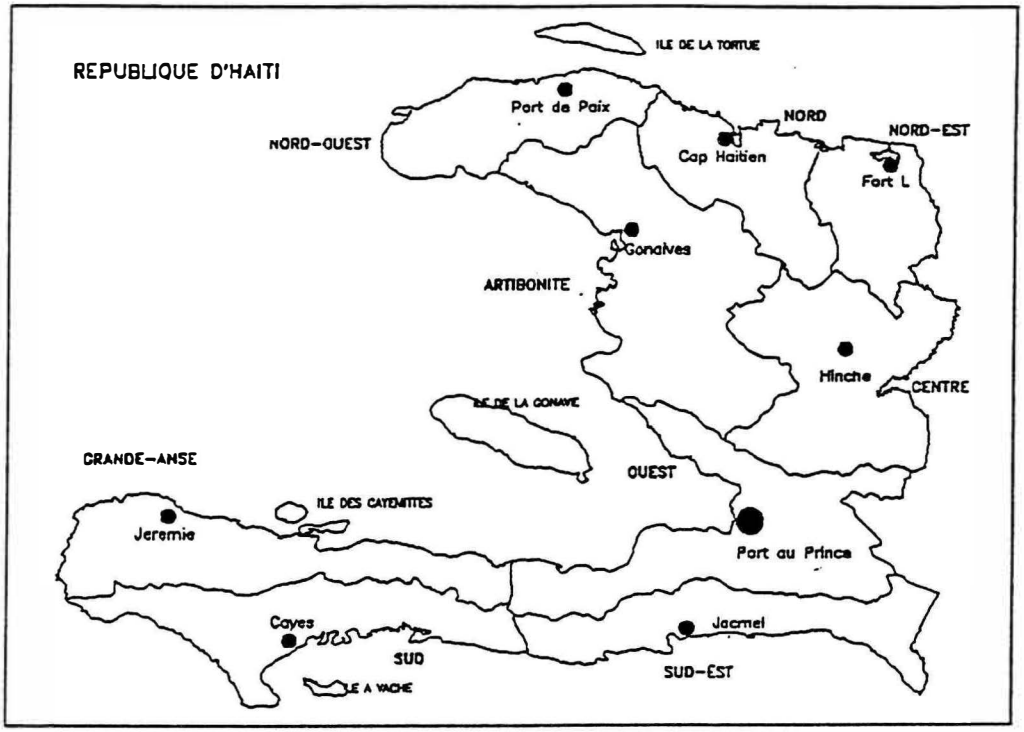
C. REORGANIZATION/REHABILITATION OF HEALTH INSTITUTIONS

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (MONTHS)	COST US$	REMARKS
REHABILITATION OF COMMUNITY CLINICS IN DÉSARMES AND LA CHAPELLE	ARTIBONITE	9	295,000	CLINICS MANAGED BY SOE, A HAITIAN NGO
REHABILITATION OF ST.MICHEL COMMUNITY CLINIC IN BOLOSSE	PORT-AU-PRINCE	4	105,000	CLINIC MANAGED BY SOE, A HAITIAN NGO
REHABILITATION OF ELIAZAR GERMAIN HEALTH CENTER IN PÉTION-VILLE	PÉTION-VILLE	3	80,000	PUBLIC SECTOR CENTER
CONSTRUCTION OF A PROCESSING CENTER FOR EMERGENCIES/RE-HABILITATION OF DIQUINI HOSPITAL	CARREFOUR	9	180,000	HOSPITAL MANAGED BY THE ADVENTIST MISSION IN HAITI
REHABILITATION OF THE COMPLEXE MÉDICO-SOCIAL IN LA SALINE	PORT-AU-PRINCE	3	75,000	COMPLEX MANAGED BY THE METHODIST MISSION IN HAITI
SANITATION OF THE COMPLEXE MÉDICO-SOCIAL OF CITÉ-SOLEIL	PORT-AU-PRINCE	2	70,000	COMPLEX MANAGED BY CDS, A HAITIAN NGO
CONSTRUCTION OF A PROCESSING CENTER FOR EMERGENCIES/RE-HABILITATION OF AQUIN HOSPITAL	AQUIN	3	35,000	PUBLIC SECTOR HOSPITAL
CONSTRUCTION OF A PROCESSING CENTER FOR EMERGENCIES/RE-HABILITATION OF THE CARREFOUR HOSPITAL	PORT-AU-PRINCE	3	45,000	PUBLIC SECTOR HOSPITAL

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (MONTHS)	COST US$	REMARKS
REHABILITATION OF THE COMPLEXE MÉDICO-SOCIAL IN SOLINO	PORT-AU-PRINCE	6	42,000	COMPLEX MANAGED BY A CHARITY ORGANISATION CALLED LE BON BERGER
REHABILITATION/SANITATION OF THE FOYER ORPHELINAT DE L'ENFANT JÉSUS IN MÉYOTTE, PÉTION-VILLE	PÉTION-VILLE	6	50,000	CHARITY INSTITUTION MANAGED BY CATHOLIC NUNS
REHABILITATION OF HOSPITAL IN ST.MARC	ARTIBONITE	6	13,000	PUBLIC SECTOR HOSPITAL
REHABILITATION OF HEALTH INSTITUTIONS SUB-TOTAL			990,000	

D. SUPPORT TO PROGRAMME DEVELOPMENT

PROJECT TITLE	LOCATION	DURATION OF IMPLEMENT. (MONTHS)	COST US$	REMARKS
FUNDING OF STUDIES, DESIGN AND SUPERVISION OF PROJECTS	PORT-AU-PRINCE	18	400,000	
SUPPORT STAFF FOR PROGRAM IMPLEMENTATION	PORT-AU-PRINCE	18	60,000	
2 ALL-TERRAIN VEHICLES FOR CONSTRUCTION SITE SUPERVISION AND COMPUTER EQUIPMENT	PORT-AU-PRINCE	6	50,000	
SUPPORT TO PROGRAMME DEVELOPMENT SUB-TOTAL			510,000	
GRAND TOTAL			4,380,000	



Map of Haiti's Republic

LIST OF ABREVIATIONS

AICF	Action internationale contre la faim (International Action against Hunger)
ASSODLO	Association haïtienne pour la maîtrise de l'eau en milieu rural (Haitian Association for the Control of Water in Rural Areas)
CADRI	Centre d'appui au développement rural intégré (Center for Development of Rural Integration)
CAEP	Comité d'approvisionnement en eau potable (Committee for Potable Water Supply)
CDS	Centre pour le développement et la santé (Center for Development and Health)
CHU	Communal health units
CIDA	Canadian International Development Agency
EDH	Electricité d'Haïti
FKW	German Bank for Development
GTZ	German Agency for Technical Cooperation
INHSAC	Institut haïtien de santé publique (Haitian Institute for Community Health)
MSPP	Ministère de la Santé publique et de la Population de la république d'Haïti (Ministry of Public Health and Population of Haiti)
NGO	Non-governmental organization
OAS	Organization of American States
ORS	Oral rehydration salts
PAHO/WHO	Pan American Health Organization/World Health Organization
PAC-Humanitaire	Programme d'approvisionnement en combustible pour les activités humanitaires en Haïti (Fuel Program for Humanitarian Assistance Activities in Haiti)
PROMESS	Centrale d'approvisionnement en médicaments essentiels et en produits médicaux (Essential Drugs and Medical Supplies Center)
SDU	Storage and distribution unit
SOE	Service oecuménique d'entraide (Ecumenical Aid Service)
SNEP	Service national d'eau potable (National Service of Potable Water)
UNDP	United Nations Development Program
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Program