BELIZE HEALTH SECTOR ASSESSMENT

(A WORKING DOCUMENT)

Report of a visit to Belize

26 August - 10 September 1982

Sponsored by
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and
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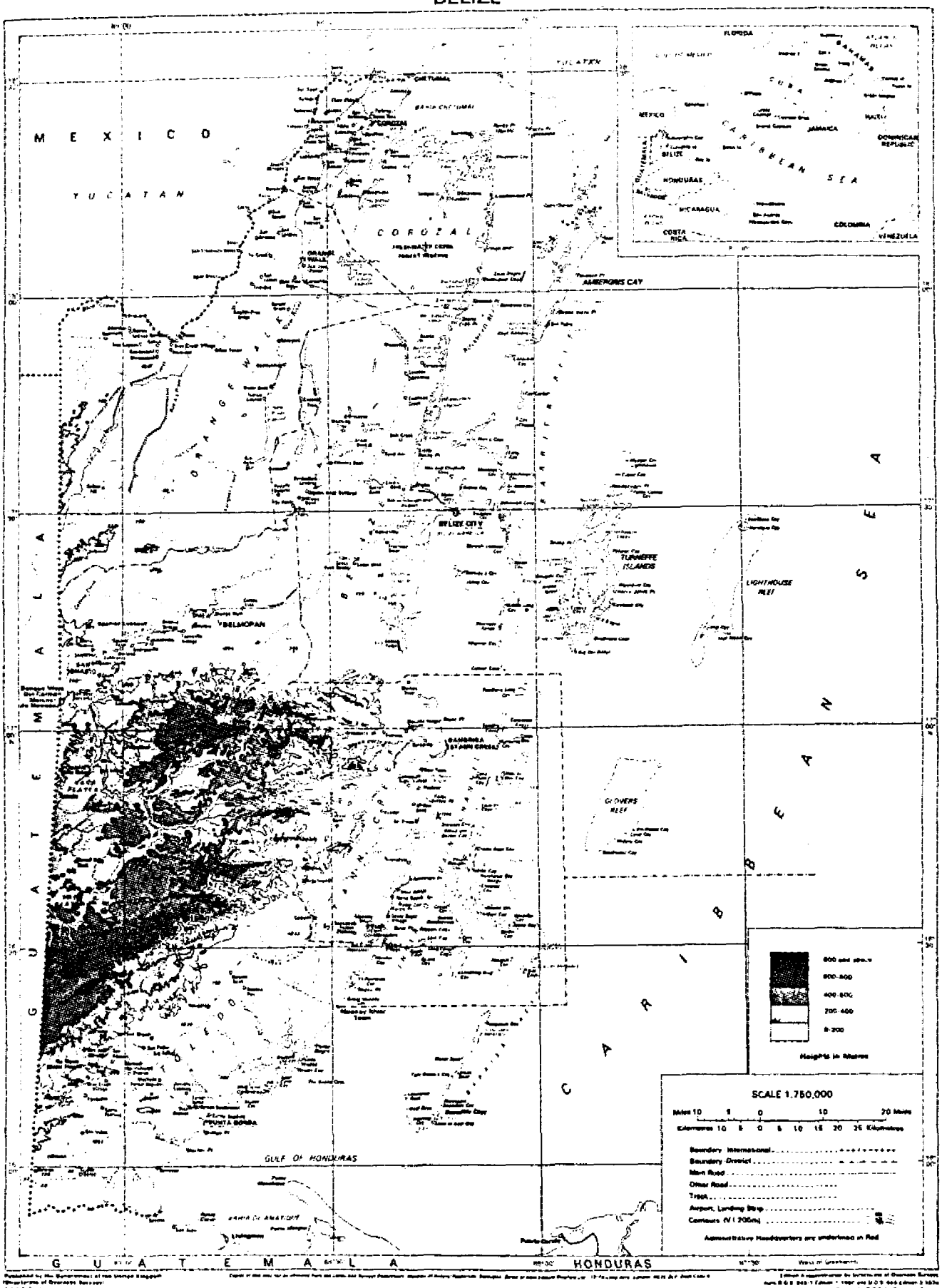
in collaboration with the Government of Belize

BELIZE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SUMMARY

A team of four health workers -- a planner, an epidemiologist, an economist, and an engineer, sponsored by US/AID and PAHO, conducted a 2-3 week assessment of the health sector in Belize, C.A. The country was celebrating its first anniversary of independence. During the past year, government health workers have been preparing a plan describing health problems and proposed solutions as a basis for setting priorities. Published reports are available which deal with health status, programs, facilities, manpower and support services based on studies by PAHO and other consultants in recent years. The 1982 World Bank study, for example, catalogs 4 health issues -- emphasis on primary care, desire to build a new Belize City Hospital, manpower shortages, and need for a population policy. A list of projects includes, in addition, the need for equipment for regional hospitals, renovation of health centers, and sanitation projects. These issues and projects are similar to those identified by the present team. Most proposed projects require foreign assistance.

The national health plan is in draft form and subject to revision. A small relatively underpopulationed largely agricultural country is described. Half of the population is $\leq$ 15 years of age. There are diverse ethnic groups distributed mostly in a few large towns, smaller settlements, and isolated villages. Northern communities are linked to the capitol, to the major population center, and to nearby Mexico by satisfactory roads. However, surface links to the south are barely adequate and occasionally cut by untoward weather conditions.

Government-sponsored services provide nearly all medical care in hospitals. The extent to which private practitioners provide medical attention is not documented. Physicians may supplement their government salaries by private practice. Most nurses, however, are employed by the government. Advantages and disadvantages of current spending for medical care are discussed. Charges for hospitalization, for example, might be revised in a more equitable manner.

Medical manpower is not trained in the country. However, a local stepwise or "ladder" system of nursing education has been developed which prepares practical nurses, midwives, and professional nurses. Some nurses take postgraduate training programs, particularly in community health nursing, in other english-speaking Caribbean schools. However, a substantial proportion of these well-trained health professionals leave Belize after a few years to work mostly in the U.S. Young physicians who staff district hospitals face a variety of demanding tasks for which few physicians are trained, such as, management of a network of health centers and clinics and public health programs. A recurrent well-recognized problem is lack of infrastructure necessary to support health programs.

Environmental health services are poorly developed: water quality control is inadequate, liquid waste disposal below par, and solid waste disposal almost non-existant. Mosquito-borne illnesses, such as, malaria are frequent. Food sanitation is deficient. Housing conditions are unhealthful. The need for an occuaptional health and safety program has been pointed out in a previous study. It is axiomatic that improved

health levels in contemporary society are not the result of improved personal health services -- bigger and better facilities or increased access to modern surgical procedures, but to ample working conditions, homes, and nutrition. To accomplish change, it will be necessary to increase the number of trained personnel, to institute modern standards and legal codes, and to enlist the cooperation of high risk groups.

A major effort is being made to increase immunizations particularly among pre-school children, to treat dehydration and electrolyte depletion due to acute diarrheal disease promptly and adequately on an ambulatory basis, and to extend MCH services. There is little or no attempt to limit family size.

Efforts at primary care are in progress in the Toledo district. Much remains to be learned about how best to recruit, retain, and supervise indigenous health aides; how to achieve optimal compliance with a variety of interventions; and how to evaluate the impact of the program.

Finally, what proposals for assistance have Belizean health authorities put forward? First and foremost is a plan for a new Belize City Hospital, for at least one structurally sound well-equipped referral facility. Next, is an improved network of district hospitals and clinics. However, a number of difficult questions related to such a network remain unanswered. Some of these deal with optimal patterns of referral, staffing, management, transportation, maintenance, and

financing. Development of primary health care infrastructure would appear critical. An efficient reorganized mosquito-borne disease control program is another high priority proposal and offers economic as well as health benefits. The same can be said of a proposed rural water and sanitation program.

The present study is intended as a working document upon which to build for planning. It lacks, for example, inputs from other related sectors and coordinating agencies.

I. INTRODUCTION

I. Introduction

1. Background, preparation, and calendar of events

A collaborative USAID-PAHO team was formed to perform a health sector assessment in Belize, C.A. The team included a team leader/health manpower and facilities planner, R. Oseasohn/Consultant; an epidemiologist/planner, M. Pollack/Consultant; a health economist, P. Musgrove/PAHO; and an engineer advisor, R. Williams/PAHO. The purpose of the assessment was to assist Belize health authorities in identifying priority health problem areas to be addressed in the first Belize Health Policy Paper now being prepared.

The assessment activity began with a meeting in Washington on 23 August attended by USAID and PAHO representatives and team members with the exception of Mr. Williams who joined the group subsequently in Kingston. Two days were spent there meeting with Dr. G. Monekasso (CR/PAHO) and his staff and reviewing documents dealing with the health sector in Belize. There are a substantial number of informative reports available in the PAHO Jamaica office which describe visits by PAHO staff and consultants. These documents summarize many aspects of the setting, health status, health services, projects, and the need for further activities in Belize. A few selected documents are appended to this report and provided a useful starting point for the present survey (see attached appendices). Other papers were reviewed which may be of a special interest. These included PAHO staff trip reports, one by Dr. Monekasso in 1982 to explore the role of development arrangements with neighboring countries and another by Ms. P. Thompson (PAHO/Jamaica) in 1981 concerned with plans for primary health care and collection of health data; and visits by consultants,

one on water quality control problems and industrial pollution in 1981, another concerned with developing a proposal for a program in occupational health in 1980, another on the rural well-drilling program in 1979, another on the development of mental health services in 1979, and, lastly, a report dealing with psychiatric nursing in 1981. This is only a partial list of recent reports on health issues in Belize.

The Belizean economy was quite thoroughly studied last year by a World Bank mission, whose Economic Memorandum[1] is the most recent and complete source of information both on the sttucture of the economy and on the development plans of the government for the period to 1985. In the latter respect it is considerably more helpful than the official, national Economic Plan[2] published two years earlier. The Plan includes a list of development investment projects for the period 1980-83, but there is little description of the economic situation of the country nor an evaluation of the projects listed.

The World Bank study concentrates on the "productive sectors" of the economy, and particularly on agriculture. This sector provides nearly one-fourth of GDP, probably a larger share of employment, and almost three-quarters of the country's exports; it also appears to have potential for much more development. Health is discussed in less than one page, with a brief mention of four issues: the government's emphasis on primary

[1]Latin American and Caribbean Regional Office, the World Bank, *Economic Memorandum on Belize*, Report No. 3823-BEL. (Washington, D.C., 5 April 1982. Restricted distribution)

[2]Central Planning Unit, Government of Belize, *Economic Plan of Belize, 1980-1983* (Belmopan, April 1980).

care, the desire to build a new hospital for Belize City, the shortage of staff, some of which is due to emigration, and the need for a population policy. The 1982-85 project list includes seven projects: a hospital, equipment for regional hospitals, renovation of health centers, acquisition of vehicles, and three water and sewerage projects. In most respects the situation seen by the team differs little from that reported by the Bank, except that more can be said about the particular economic problems and policy choices faced by the Ministry of Health. These are discussed in more detail later in this report.

By way of introduction, several features of the Belizean economy and of the state of knowledge about it should be mentioned.

a) The economy is extraordinarily open. There is free convertibility with the U.S. dollar at a fixed rate, and trade is essentially unrestricted. Imports are equal to about 90 percent of GDP and exports to about 80 percent. Import duties constitute some 36 percent of total central government revenues, or about 15 percent of the value of imports. This openness of the economy is probably responsible for two other features of interest, namely,

b) prices are largely determined outside the country, which means that the rate of inflation does not differ very much from that prevailing in the United States. In the absence of a consumer or retail price index, nothing is known exactly about inflation; and

c) there is no reason to suspect gross economic inefficiency caused by distortions of relative prices, protection of inefficient domestic industries, failure to practice comparative advantage, etc. This

also means, of course, that there is no simple adjustment or rationalization of the economy that would yield large gains. It does not necessarily mean that within the government and particularly within the health sector, all prices are correct and resources efficiently used.

d) there are substantial inequalities in income, associated in part with geography (the northern part of the country being richer than the south) and with the degree of integration into the market. (Commercial agricultural incomes appear to be substantially higher than those obtained in subsistence farming). However, there is no detailed knowledge of income distribution, and it is not possible to say whether public sector salaries are notably high or low with respect to private employment.

e) both the birth rate (36.8 per thousand) and the dependency ratio (55 percent of the population under 15 or over 60) are quite high. These features limit the economy's ability to save, and require a fairly high rate of investment (probably of the order of five percent of GDP) just ot keep up with population growth. Whether the situation is made easier or harder by the large number of Belizeans living abroad and the continued emigration especially to the U.S., depends on whether on average they send home remittances equal to what they would have produced by staying in Belize, and there is no information on which to base such an estimate.

f) because of the limited capacity to finance investment from domestic resources, and the colonial history of dependence on aid for capital products, Belize's capital development plan is essentially a shopping

list for foreign assistance. All large public sector projects are intended to be foreign financed, with limited domestic contributions; the government essentially counts on the private sector for small scale investment in productive activities, and concerns itself with meeting the recurrent costs of existing and projected social capital. This situation characterizes the health sector as much as any other sector.

The team arrived in Belize City on the night of 26 August and met with Dr. A. Casas, Chief Medical Officer (CMO) the next day. Dr. Casas provided us with draft copies of the first Belize Health Plan. On 30 August, a meeting was held with the Minister of Health (A. Shoman), the Permanent Secretary (D. Gibson), the Deputy Minister (G. Usher), and the CMO. Objectives of the visit were reviewed and a scope of work was outlined. That afternoon, visits included the district hospital at Belmopan, the capitol, and a trip to a new farming settlement for refugees from Salvador under the joint sponsorship of the government of Belize, the U.N., and a church group.

On 31 August and 1 September, the team met with program managers - Mr. Fred Smith (environmental health), Dr. Gladys Roy (communicable diseases), Dr. William Hawley (MCH and PHC), and Ms. D. Goff (nursing). 2 September was spent at the Belize City Hospital and the proposed site for a new hospital to replace it.

On 3 September, Mr. Williams returned to Barbados. Remaining members of the team and Dr. Casas visited health facilities in the towns of Orange Walk and Corozal. Dr. Musgrove returned to Washington on 4 September. Drs. Pollack and Oseasohn spent the morning with

the Belize City Hospital and the Head Office of the Medical Department.

The objective of this present study is to provide a broad analysis of the management problems faced by the District Health Services, and make proposals for overcoming these problems by improving the efficiency and effectiveness of these services.

Health profile of Belize, 1982. Ministry of Health, Housing and Cooperatives (supplied by Dr. A. Casas, Chief Medical Officer).

A draft including background (geography, demography, economy, political system, and educational system); health status (mortality, morbidity, nutrition, environmental health); health services (organization, facilities, and programs); and health support services (information system, education, and administration).

Primary health care services - Belize, C.A., Profile and Analysis, 1979, H.C. Dyer.

a) Overall Objective

The overall objective is to bring about improvement in the health of the residents of Toledo District through the implementation of an integrated Primary Care Project.

b) Long-term Objective

1. To increase the level of health awareness in Toledo and to promote the development of healthy practices.
2. To bring about change in those attitudes which militate against healthy habits.
3. To achieve a significant reduction in the occurrence of intestinal parasitic infestations.
4. To develop the mechanisms to facilitate the delivery of Primary Health Care to the Toledo District.
5. To liaise with other agencies delivering services to Toledo District in order to integrate Primary Health Care Services with the other community services.
6. To develop a model of Primary Health Care which can be used in other rural areas of Belize, and as field training experience for Primary Care students in the health field.

3. *Outline of report*

The report itself follows. Cental to it is 1) the current draft of the *Health Plan of Belize* prepared by Belize health workers, followed by a description of 2) *the performance of the health sector* collected by the assessment team, 3) *position papers* on high priority projects provided by Belize health workers, 4) *comments* on these projects by the team, and 5) relevant *supporting documents*.

II. HEALTH PLAN OF BELIZE, 1982

II. Health plan of Belize, August 1982

1. An Overview

A copy of a current draft of the plan itself is appended and represents a major step by Belize health authorities. The document describes several aspects of the country — its geography, people, economy, and political and educational systems; the health status of the population -- the frequency and courses of death and illness, nutritional status, and environmental health conditions; the health services — organization, primary facilities (health centers and clinics), secondary facilities (the Belize City Hospital and the network of 6 district hospitals), ancillary services including laboratories and pharmacies, special institutions, and private facilities; health programs -- maternal and child health, food and nutrition, environmental, surveillance, malaria/Aedes eradication, tuberculosis control, sexually transmitted diseases control, mental health, dental health, and primary care project; and health support systems — concerned with information, education, and administration. The appended draft is subject to further changes by health workers and health ministry staff.

The description of the land, its people, and their institutions is that of a small tropical country, largely agricultural, sparsely populated by diverse ethnic groups, and short on trained manpower with which to operate curative and preventive services. The bulk of the population of Belize has ready access to urban health facilities while a substantial number in small towns and villages, particularly in the

south, are many hours from definitive health services and, occasionally, cut off from them by poor roads made worse by bad weather. Some medical attention is available in nearby countries; however, its extent and quality are not documented. The present plan calls for regionalization of services starting at the village level with referral to small hospital units in district towns and to Belize City when necessary. A wide variety of programs is described with emphasis on health maintenance and disease prevention. The need for support systems is recognized.

The health plan is developing to a point where proposals to deal with specific needs are being developed and some of them already implemented. Five proposals were prepared by health authorities and are included in this report (see section IV). A primary health care project in the Toledo district has been the subject of considerable planning and parts of the program are already in progress. This project stresses the availability of multiple services and health education by indigenous health workers at the village level. One of the appended background papers (see section VI) on primary care by Dyer deals with the background of this project.

A note on environmental health aspects of the health plan follows.

2. *Note on Environmental Health*

With respect to the Environmental Health component of the Health Plan, two important conditions should be pointed out as follows:

> The statements and data included in the present draft of the "Health Profile of Belize 1982" concerning environmental health are being reviewed by the environmental health planning cell and are likely to go further revision.
> The environmental health program is still being drafted and it will therefore be weeks, or months, before it is finalized for inclusion in the Plan.

(a) Policy

Among the health policies of government is the "provision of an adequate and safe water supply and basic sanitation", which was discussed with environmental health personnel in terms of the protection of the total environment of all inhabitants at home, in school, at the workplace, in the community, and in recreational areas. It should be understood that environmental, health and development policies should be interdependent and inherent in the constitution and life of the nation.

(b) Priorities

The priorities of the government in environmental health are:

- The prevention of disease by employing environmental control measures, with the education of the public to participate fully.
- Attention to the poor and underprivileged, to persons in

underserved areas, and to high risk groups.

- The development of managerial skills among workers, including the desire and ability to function as part of the overall health team.

Among environmental control measures, priority attention will be given to:

- water supply, adequacy and potability.
- sanitary waste disposal, solid and liquid.
- food sanitation
- vector control

(c) Strategies

In the context of government decentralization and regionalization, and as part of the commitment to Primary Health Care, the environmental health strategies being discussed are:

- Improved program design by more detailed planning of surveillance and control activities within fixed time frames.
- Improved program implementation and management, including monitoring and evaluation by:
  - Manpower training and development,
  - Increased work supervision,
  - Utilizing the primary health care principles of community education and participation, inter-sectoral and intra-sectoral coordination, and use of appropriate technology,
  - Updating and expanding environmental health legislation,
  - Reviewing the collection and usage of environmental health information.

- Reorganization of environmental health services (by absorbing anti-Aedes aegypti inspectors, chaning the official postings of Public Health Inspector to Environmental Health Officer, etc.)

(d) General components

Manpower development:

The main objective is to increase the present cadre of Environmental Health Officers and Assistants by local training to meet the growing demands throughout the country for better environmental surveillance. For the Officers, a new one year course will be developed in the Belize College of Arts and Science and for the Assistants an annual 4-6 week training program (initiated in 1982) will be continued with PAHO assistance. Assistants will be shared among the districts and supervised by officers who will enjoy a continuing education program as follows:

- 1 EHO for degree training in U.S.A. for January 1983
- 1 EHO for the Tutor Training Program (PAHO) in Barbados from August 1983
- EHOs for short training courses in U.S.A. in Water Quality Control, Vector Control, Solid Waste Management and General Environmental Health from 1983 to 1988.

Legislation:

The objective is the provision of modern environmental health legislation and standards to permit the inspectorate to enforce environmental control measures in all areas of human activity - home, school, work, community and recreational areas. A committee will be appointed

to review existing environmental health legislation in Belize and elsewhere in the Caribbean; and with the assistance of a PAHO health law consultant, will draft new laws and standards (by June 1983) for the Solicitor General to formalize and present to parliament in January 1984.

Community education and participation:

The objective is to get all communities to participate directly in preventing and controlling environmental health hazards and problems. It is proposed to study the mechanisms and procedures by which citizens, families, school bodies, employers in general, and community organizations can share in the routine environmental surveillance of the inspectorate (e.g. water quality, street litter, home inspection, etc.); and to introduce feasible solutions on a pilot basis in one section of Belize City, or in any other urban community.

Information system:

The objective of a review of the present environmental health information system is to ensure that the most useful information is available for the management of environmental health programs. A study of the present system will be carried out and recommendations made by June 1983.

Program design and management:

The objective of developing within the inspectorate greater expertise in program design and management is to permit better monitoring and evaluation of inspectors' work programs and a more effective supervision of their field activities, all for more cost-effective

environmental health programs in the future. This development will be an integral part of the training of Primary Health Care teams which can only be estimated to be within an 1983-85 timeframe.

Inter-sectoral coordination:

The objective of increasing inter-sectoral coordination is to ensure that environmental health considerations are included in the management of all communities and in the development programs of the country. In order to achieve this certain coordinating mechanisms at the national level need to be established along lines of a National Environmental Council. In the absence of this, the inspectorate plans to step-up its efforts with all government agencies (e.g. WASA) by mid-1983 to achieve continuous inter-agency consultation.

(e) Water supply

The main objectives are to ensure that all water provided for human use is safe and wholesome and supplied in adequate quantities and on premises or within easy access of every household, even though water supply in urban areas is the responsibility of WASA. Water supplied to all communities, especially from surface sources will be adequately treated so as to meet the approved standards for drinking water (e.g. WHO International Standards for Drinking Water) and an effective water quality control program will be developed. The program in rural areas will include:

- A comprehensive village-to-village survey of water demand and supply to develop cost-benefit criteria for action.

- A rationalization of rural water supply activities between WASA and the Ministry of Health.

- The integration of the activities into the Primary Health Care program with the accent on joint health education programming.

Attempts will be made to win inter-ministerial attention for the International Drinking Water and Sanitation Decade (1981-90) and to develop programs and projects for external funding (see IV-5) for basic data on a proposed Toledo Rural Water Supply Project.

(f) Liquid waste disposal

The objective is to encourage WASA to develop communal sewerage systems for the remaining 5 district capitals, to promote the complete use of water closets and septic tanks in all communities with a pipe-borne water supply, and to assist all other areas with the installation of a pit latrine for each house.

In the rural areas the inspectorate will conduct surveys of all communities in order to develop a rural sanitation program to meet the needs for excreta disposal facilities within the foreseeable future.

The monitoring of industrial effluents and the assessment of wastewater disposal by new industries will also be carriedout in conjunction with the development of water pollution control legislation and standards.

(g) Solid waste management

The objective of the inspectorate's solid waste management program is to improve and expand the solid waste collection and disposal services in all urban communities, and especially in Belize City. For this it is proposed to:

- Reactivate the Board of Health to allow health personnel to participate more in solid waste management in Belize City and elsewhere.

- Update solid waste management legislation.

- Develop stronger ties with all municipalities.

- Carry out periodic evaluation of such services.

- Encourage the coordination of all agencies concerned (e.g. municipalities, social service, police, agriculture, etc.).

- Undertake public education and in-service training of all sanitation workers.

(h) Food sanitation

The main objective is to ensure that all foods intended for human consumption are unadulterated, sound, wholesome and fit for use. Specifically, 95% of food handlers are to be trained, registered and kept under surveillance; 90% of imported foods and 75% of locally prepared or processed foods to be examined by public health inspectors; and 90% of meat produced locally to be slaughtered in approved places.

For these objectives to be realized an increase in the inspection of food establishments will be necessary , accompanied by a program for grading establishments, thereby inviting the interest and participation of the public. Food sanitation legislation will be reviewed and revised with detailed requirements and stiffer penalties. Efforts will be made to improve the testing, certification and control of all food handlers. Additionally, food sanitation will have a prominent place in the health education of the public.

(i) Vector control

The main objective is to ensure that disease vectors (e.g.

mosquitoes and rodents) and domestic pests are reduced to negligible levels (or eradicated) and to prevent the introduction of others.

The anti-malaria and anti-Aedes aegypti program is reported elsewhere, but the rodent control program will incorporate the following activities:

- Survey and control of the rat population.
- Re-assessment of homes and yards with a view to preventing the breeding and movement of rats.
- Health education of the public at large.

It is recognized that improved storage, collection, and disposal of solid waste will assist greatly in the prevention of rat breeding, especially in Belize City.

(j) Housing and institutional sanitation

The objective is to ensure that all families, school children and institutional residents enjoy an acceptable level of environmental conditions. For this it will be essential that the inspectorate should play a greater role in approving building plans and a more active role in building (or premises) surveillance. This will depend on a revision of the relevant legislation, an increase in the inspectorate manpower, and more consultation by the Housing Department.

(k) Other technical components

To complete the inspectorate's efforts in the control of the total environment of the people of Belize, the following actions are proposed:

- Present services will be continued and intensified as new staff come on stream in: Quarantine, Occupational Health and Safety, and in Nuisance Abatement.

- In the fields of Noise Control, Air Pollution Control, Accident Prevention and the Sanitation of Recreational Areas, appropriate action will be taken if significant problems arise or are forecasted.

- In Disaster Sanitation, in order to minimize the environmental impact of natural disasters and to reduce the post-disaster threat to community environments, special emphasis will be payed to the training of the inspectorate in emergency health management and the development of emergency action plans in water supply and in environmental health.