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CONSULTANCY REPORT

**with the
Department of Health
of the
Republic of the Philippines
on**

PRIMARY HEALTH CARE

Report Prepared By:

Horace DeLien, M.D.

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Report of Consultancy with the Department of Health
of the Republic of the Philippines
on
PRIMARY HEALTH CARE

May 3-31, 1976

by
Horace DeLien, M.D., | Consultant

Situation and Background

The general health status in the Republic of the Philippines at the time of consultancy can be identified at three levels. These are:

1. the 21st century as witnessed by atomic medicine, the Nutrition Center, the Population Center, and the curricula of some of the medical schools;
2. the 20th century in the medical centers and larger hospitals; and
3. the late 19th and early 20th century as demonstrated by the morbidity and mortality rates, and the lack of primary health care at the Barangay level.

There is a plethora of international, national, bilateral, governmental and nongovernmental organizations, foundations, religious groups, institutions, individuals, etc. engaged in and/or supporting health and health-related activities in the country involved in specific fields not necessarily related to others similarly engaged.

Unusual emphasis is placed on surveys, studies and research while health problems become more complex, and the population increase outdistances the economic, health, education, agricultural, natural resources and the necessities for improving the quality of life.

The parallel and often duplicating lines of approach to health and associated problems are best demonstrated in the population, nutrition and medicare areas. This is especially so in staffing, organization and regionalization.

There exists a generally acceptable pool of trained health and health-associated personnel at all levels except at the Barangay. The Department of Health is moving with a sense of urgency and pressing to develop integrated direct health services to the people wherever they are located.

The National Health Plan - 1975-1978, a sectorial study, has been prepared as a component of the implementation process of the National Development Plan (FY 1974-Fy 1975). Specific targets, activities and policies are presented to ensure unified action and planning with other sectorial studies.

The Undersecretary of Health and eleven Regional Health Officers have all had training at the Developmental Academy of the Philippines (DAP), training of the provincial and other health personnel in the techniques of MBO (Management by Objectives) is planned to streamline the Department of Health, making it more efficient and effective.

Problem or Problems

The major problems at the moment other than morbidity and mortality rates, inadequate nutrition, unsafe water supply or lack of potable water, tuberculosis and other communicable diseases, and population increase, are:

1. the need for restructuring the Department of Health to establish greater flexibility for operations;
2. development of a sound decentralized logistic system; and
3. development of a means for remedying the almost complete lack of primary health care and integrated health services at the level of the Barangays.

Findings

1. The Secretary and the Undersecretary of Health are highly qualified health-oriented and trained individuals with a wide background of experience in the field of health, and who have the flexibility and desire for making changes necessary to provide direct integrated health services to all the people in the country. The following excerpts from their respective presentations indicate their thoughts and feelings on Primary Health Care and integrated health services to the people:

(From a keynote address of Secretary of Health Gatmaitan at the Philippine Public Health Association convention, May 3, 1976.)

"...At this year's convention, the Association focuses attention to a subject of compelling interest, that is 'KRA-Primary Health Care.' In a country like ours, with 70% of the population living in rural areas, in isolated island municipalities, far-flung mountain villages or remote coastal communities, there is no health concern more significant and challenging than the provision of primary health care.

"The 28th World Health Assembly in May 1975, brought to the limelight this concept of primary health care. In his report to the Health Assembly, the Director General of the World Health Organization pointed out that, 'in general, the health services are not improving people's health as much as could be desired. A large proportion of the world's population has not or limited access to health services. Often

such services operate more or less in isolation, neglecting other factors contributing to human well being, such as education, communication, agriculture, social organization and community motivation and involvement. At the same time, many consumers are finding the health services increasingly irrelevant to their needs.' This documented observation of the Director General should cause us all public health men to review, re-assess and reconsider alternate approaches feasible and realistic to our needs and resources. With relevance to this matter, the report recommended the adoption of the primary care approach as a solution to the situation -- an approach 'that integrates at the community level all the elements necessary to make an impact upon the health status of the people.' This approach involves the provision of at least the bare minimum of health services to the rural population. These are the measures that are simple and effective in terms of cost, techniques and organization; are easily accessible to the people and are practicable as to local available resources.

"We have to admit and realize that in spite of the great efforts and the millions of pesos devoted by our government, the basic health needs of still a vast number of our rural people remain unsatisfied. ..."

(Opening Remarks by Undersecretary J.C. Azurin)

"...In a period of change like our own, we believe that the challenge today is 'KRA - Primary Health Care.' What do we mean by Primary Health Care? Primary Health Care is the lowest level of health care within a health care delivery system, available to the population. It is usually the first entry of the population to community health services. Such services may be able to meet their needs or are capable of referring them to the next higher level of health care. Primary health care:

- includes promotive, protective, curative and rehabilitative health care.
- is an integrated health service delivered by individual health worker and or health team.
- is accessible to all.
- is comprehensive and acceptable to the population.
- is usually manned by lower level professionals.
- workers are trained for a short period of time and would need continuing training.
- contains an effective 2-way referral system.

"The Philippine Public Health conference this year provides us with an opportunity to reflect on the experiences of the past and to rekindle our hopes for the future. What we have done and should be proud to own is the fact that we are reaching our people with basic health care and trying to meet the needs of Filipinos as Filipinos. ..."

2. The DEIDS (Development and Evaluation of Integrated Delivery Systems) Reconnaissance report, April 9-19, 1973, provided excellent review material. No significant appreciable change has occurred except: (a) the two buildings have been built for the Population Center and the Nutrition Center activities. Dr. Florentino Solon is now the Executive Director of the Nutrition Council (moved from his previous assignment in Cebu); (b) the population is now estimated to be 45 to 46 million in 1976.
3. The approach to the total improvement of quality of life of the people is being related to an island-wide or basin-type concept rather than a piecemeal approach in some regions.
4. Primary health care and integrated health services for the people are the major goals of the Department of Health.
5. Restructuring the Department of Health with the Provincial Health Officer responsible for the total integrated direct health services to the people is underway.
6. The Management by Objectives class is well along as a step in program restructuring the Department of Health. The Undersecretary of Health and the eleven regional directors, as stated before, have already been trained in the Development Academy of the Philippines. The Provincial and Municipal Health Officers are the next ones to be trained.
7. There is a considerable training program underway for the nurses, doctors and other categories of health personnel assigned to rural areas and the Barangays at the various levels of the Department. These personnel must serve various times according to their disciplines prior to receiving full accreditation and the right to practice.

Suggestions

1. National Health Plan 1974-1978 - Continuing review of the National Health Plan should take place especially regarding the feasibility of restructuring in relation to the Management by Objectives techniques. Emphasis needs to be placed on delivery of health services to the Barangays (50,000) in the major areas of disease control and eradication, nutrition, sanitation and waste disposal, water supplies, health education, disease prevention.* When

* NOTE: The Undersecretary and the Regional Health Officers have received excellent training in the Management by Objectives class from the Development Academy of the Philippines.

satisfied as to the restructuring possibilities, implementation should be considered from sources other than in the Philippines. The following method of obtaining such help may have merit.

The Philippines may invite all international, bilateral and individual organizations, governmental and nongovernmental agencies to form a consortium with the objective of assisting in the implementation of the total National Health Plan formulated by the ROP (Republic of the Philippines). Such a consortium would attack the problems given priority by the ROP in an orderly and effective manner, and thus avoid the piecemeal and fragmented approach to health problems. Due credit could be given all participants in the consortium in the resolution of any problem. The total assistance (in funds and/or in kind) available through such a consortium would be monumental, plus the fact that Management by Objectives would allow assessment of effectiveness and productiveness of all-for-one-and-one-for-all approach to better health services for the people.

It is timely to direct the attention of the Department of Health to integrated health services to all echelons of the population, but with a major attack on the health problems in the Barangay. The areas needing immediate attention are in communicable disease control and eradication, potable water supplies, adequacy of waste disposal systems, nutritional status, health education, quality and quantity of food available, logistics, and provisions of primary health care.

The Department of Health now has the armaments to tackle these problems with enthusiasm, courage and trained personnel. Effective Management by Objectives at all levels will convert the National Health Plan sectors to schedules with assigned dates to the activities for planning, programming, implementation or execution. This will include staffing required, starting dates, medical equipment and supplies required, integration necessary with other activities, funds in relationship to total resources, priority status, measurement methods, scheduling of activities, date expected to be completed, actual performance achieved, etc. Selection of the four major categories, i.e., tuberculosis control, nutrition, family planning, water supplies and waste disposal, is excellently suited to the application of the techniques of Management by Objectives by the Department of Health.

2. Restructuring the Health Attention to Barangay - It is suggested that pertinent health services and activities be decentralized to the Barangay, now designated as the viable unit closest to the people.

The Barangay, the viable operating unit of the people, has much to offer in the field of health. In a sense, it is a present-day reflection of the self-sufficient clan of ancient times. The period of dormancy resulted from centralized government's role in education, health activities, agriculture, commerce and the areas of activity usually a part of an extended nuclear family, clan or Barangay.

Recent experience has shown the fallacy inherent in withdrawing much of the independence and responsibility from local compact aggregates of people wherein they reside. Many centralized functions can well be carried out by lesser skilled people who have the confidence and understanding of their families and neighbors. The local staff, with a modicum of training and some continuing supervision, can undertake many health procedures with few difficulties. These are within the fields of family planning, nutrition, sanitation, rodent and vermin control, water supplies and waste disposal, immunizations and vaccinations, acquisition, control, storage and distribution of supplies and health materials (and providing security for them), repair and maintenance of equipment, emergency first-aid and pre-planning for and actual assistance during diasters.

A technique that may be useful may be the development of a Barangay Health Services Support Association in each Barangay. The Department of Health, as the producer of health services, and the Barangay as user, need mutual and close continuing consultation to benefit the people of the Barangay. The most useful way to do this is to provide such consultation by the joining together of the Barangay people into a health support or cooperative association.

The Association can participate by consultation with and advising the health service technician on the health needs, the desires and expectations of the Barangay people. After identifying their needs, the Association can set priorities and call in health experts to provide minimal to optimal health services to the people. The Provincial Health Officer can supply such personnel, supplies, equipment, material, training of personnel, etc. after a specific plan has been developed by the Barangay association or cooperative.

The plan may be developed by identifying all information and data available on the health problems of the Barangay, the setting up of priorities, and the establishing of goals and time targets for accomplishment of these goals. In developing these goals, it is desirable to have consultation in depth between Barangay leaders, health workers, members of the business community, owners of drug stores and pharmacies, government agencies, the church, etc. The Barangay people may identify specific information relating to the development of an adequate source of water, a sewerage and waste disposal design, the utilities needed and sources available, the status of plants, buildings and other physical resources for health, housing, minimum to optimum staffing needs, fiscal and budget requirements, supplies, materials and equipment needed, storage and warehousing preventive maintenance resources and other pertinent assessed areas.

To expedite action, immediate documentation and evaluation of all information and data is needed so that it may be given to the health service support association for consideration and assessment with experts in each field. Specific plan of action must be immediately developed and put into effect.

To facilitate action, a health technician who, can identify himself with the desires and expectations of the people of the Barangays, must be supplied in each Barangay and stationed in a centrally located health service center (home, house, school, etc.) and must function as follows:

- a. maintain mutual and close continuing consultation on health services and associated matters to the benefit of the Barangay residents;
- b. secure means and methods of carrying out the desires and expectations of the Barangay residents;
- c. develop with Barangays and other sources, methods of funding and support of the health services activity;
- d. lead or assist the Barangay and other technicians to develop, renovate or repair:
 - (1) an adequate source of potable water;
 - (2) a sewerage and waste disposal system:
 - (a) latrines
 - (b) pits
 - (c) tanks
 - (d) water seal toilets
 - (e) other
- e. cooperate in operation of the Center
 - (1) seek with others all sources of funds and in kind needed to operate the center on a continuing basis;
 - (2) assist in obtaining supplies, materials and equipment for the Center;
 - (3) see that the Center is secured at all times.
- f. train or seek help in training local residents in preventive maintenance, road construction, communication, etc.;
- g. assist in setting up all types of health programs aiming at providing optimum health in the community;
- h. carry out other pertinent activities to help Barangay residents .

The health technician may also wish to see a more secure logistics system developed. The objective may be considered to identify

the elements necessary to establish a sound procurement and time sequence to be followed in a logistic operation which is capable of delivering on a continuing basis adequate health service to the Barangay health center and the residents. Logistics, in general, is the procurement, maintenance, storage, warehousing and transporting of materials facilities and personnel, and providing the necessary funds for operation. Material is generally regarded as equipment, apparatuses, and supplies used in providing health services to the Barangay residents.

Transportation may be by ships, planes, trucks, trains, cars, motorcycles, bicycles, banca, on foot, etc. Assistance in the field of logistics especially in storage, warehousing, procurement, security and transportation may be obtained from and by health personnel, other governmental personnel, bus companies, company trucks, drug companies, Armed Forces, schools, RHUs, hospitals, health activities of all types, Department of Agriculture, Department of Social Welfare, Red Cross, regular commercial channels, regional health offices, provincial health officers, pharmacists, Barangay residents, sari-sari-stores, etc.

The health technician, with the help of Barangay residents, must agree on methods of purchase, procurement, storage, distribution of supplies, etc. A start may be to secure legislation, directives and orders governing such matters. Changes are needed to make possible a flexible but sound system of procurement and purchase, etc. The following possible methods of procurement and purchase should be assessed: centralized vs. decentralized, regional, provincial, city, health cooperatives, health support association, open market purchases, purchases from manufacturers or drug companies on a fixed mark-up over costs, contracts with wholesalers, or sources such as manufacturers, supermarket cost defined, plus mark-up from consortium of drug companies or pharmacies, purchases by Barangays, cooperatives or health support groups, etc. The acquisition, warehousing, control and distribution and quality may require the use of a receipt and issue control system, control of shipment at all levels and in transit, Barangays securing control at Barangay level, follow-up of issues from source to destination and end use and employment of responsible trained personnel.

3. Organization ii #3 National Health Plan 1975-1978 - A suggested method for integration of health services of the private sector and the government of the ROP is contracting the integrated health services with the private sector including the private medical, nursing, dental and associated schools. Legislation and/or directives may be necessary to establish the following authority: the GOP authorizes or directs the Secretary of Health or his designated representative at his discretion, to enter into a contract or contracts with qualified organized medical or health groups, health associations, health corporations, or any university, college or school, or with any appropriate agency or institution for integrated health services to include health education, medical education,

dental education, nursing education, veterinary education, population control, direct primary, secondary and tertiary health services through the vehicle hereinbefore named, and to expend under such contract(s) money set aside appropriated by the GOP including the provision for potable water supplies, sanitation, communicable disease control, waste disposal and nutrition. To make this language broader in scope and more attractive, the GOP may wish to make available, under contract, existing government integrated health facilities, hospitals or institutions to potential health services, contractors or health groups. Safeguards can be included; responsibilities, authorities and penalties for failure to perform properly can be added.

The Department of Health, through its Office of Health, Education and Personnel Training, has the experience to train persons selected by the Barangay to operate as health technicians. It is suggested that these persons be immediately identified and be provided with a general knowledge of the requirements of their contract. They should first be trained to vaccinate and immunize with B.C.G. and DPT for four major diseases. Their training could then be expanded to installation of water-seal toilets and protected dug wells; and, later, the inclusion of nutrition and family planning, as the Barangay people recognize the value of the Health Technician. Vaccinators from the Department of Health can do the training. The experience gained in the Bacolod Cholera Project could be used to provide the water-seal toilets and protected dug wells. These dug well could be so constructed that pumps could be installed later if they become available.

The Barangay Captain with the Health Technician and the Health Support Association should do a survey of the Barangay health needs.

It is also suggested that APHA and USAID reviewers read the attached document "A Proposal for Integration of Health" by the Undersecretary of Health, J. C. Azurin, M.D., M.P.H. Dr. Azurin set forth his proposal in six provinces at which times it was discussed in detail with the Senior Health Officers. If no unforeseen blocks appear, the proposal will become an established mode of operation of the Department of Health at the provincial level. It is a sound proposal and will include the provision of integrated direct health services to the Barangays.

A T T A C H M E N T S

to

First Sector of DeLien Consultancy Report

on

"PRIMARY HEALTH CARE"

1. TIES Health Committee - Objective and Functions
2. Illustrative Establishment of a Straight Line of Communication, Education, Training and Integrated Health Services From the Office of Health to the Barangay Residents.
3. Suggested Framework for Restructuring the Department of Health
4. A Schema to Develop Three Categories of Loose-Leaf Compendiums of Pharmaceuticals, Specialties, Biologicals and Accessory Information and Constraints for Use by Students and Faculties, Paramedics, Barangay Integrated Health Services Technician and for Common Home Usage, respectively.
5. "A Proposal for Integration of Health Services Within the Department of Health" - by Jesus Azurin, Undersecretary of Health. "Comments" by H. DeLien
6. Identification of Host Country and USAID Officials Contacted
7. "The Philippine-American Public Health Program FY 1953 (CY52-53) - Recommendations" by H. DeLien

A T T A C H M E N T 1

TIES HEALTH COMMITTEE - OBJECTIVE AND FUNCTIONS

SUBJECT: TIES Committee (Ties everything together to produce efficient and effective action.)

OBJECTIVE:

To organize a committee to provide the strategy for identifying the problem, setting objectives, assessing resources, considering solutions, planning action, implementing the plan, establishing production schedules and evaluating the outcome. This can be called TIES, the ten-day schedule for attainment of results whatever problem the committee attacks.

FUNCTIONS:

1. To provide strategy, methods and means to produce optimum health attention to people of the Republic of the Philippines.
2. To insure government programs will not duplicate each other's programs.
3. To improve coordination between agencies.
4. To clear all proposals on health matters through the secretariat of the whole committee for appropriate action to avoid duplication of efforts, funding and services.
5. To develop techniques and strategies to produce optimal results in ten-day segments of time.
6. To revise the curricula for the undergraduate programs, both in the pre-professional and professional schools; so as to make the educational activities more responsive to the needs of the people of the Philippines.

COMPOSITION OF THE COMMITTEE:

Representatives, with authority to act from the following: Office of Health, Education, Personnel and Training; Department of Education; Commission on Medical Care; POPCOM; National Nutrition Council; and the Schools of Medicine, Dentistry, Nursing, Veterinary Medicine, Medical Technology and Pharmacy; will serve on the Committee.

DUTIES TO BE CHARGED TO THE COMMITTEE:

1. Curricula revision
2. Student selection methods
3. Manpower needs
4. Faculty-types and needs
5. Qualifications of staff
6. Responsibilities, authorities of staff
7. Continuing education
8. Transitional exercises to avoid change shock resulting from moving out of the school environment into real life exigencies or demands.
9. Logistics
10. Coordination techniques
11. Basic supplies
12. Equipment
13. Post-graduate needs
14. Systematic training and retraining
15. Priorities
16. Accumulation of data and information
17. Staff development
18. Salaries, travel, housing, etc.
19. Others

DISCUSSION:

Subcommittees can be set up to tackle each problem area with a specific charge to produce final documented recommendation and/or programs in a time framework not to exceed ten (10) days. Time and usage will identify changes necessary to improve and retain flexibility. Finally, reports, records analyses must be useful and minimal in numbers and complexity.

A T T A C H M E N T 2

ILLUSTRATIVE ESTABLISHMENT OF A STRAIGHT LINE OF
COMMUNICATION, EDUCATION, TRAINING AND INTEGRATED HEALTH SERVICES
FROM THE OFFICE OF HEALTH TO THE BARANGAY RESIDENTS

OBJECTIVE:

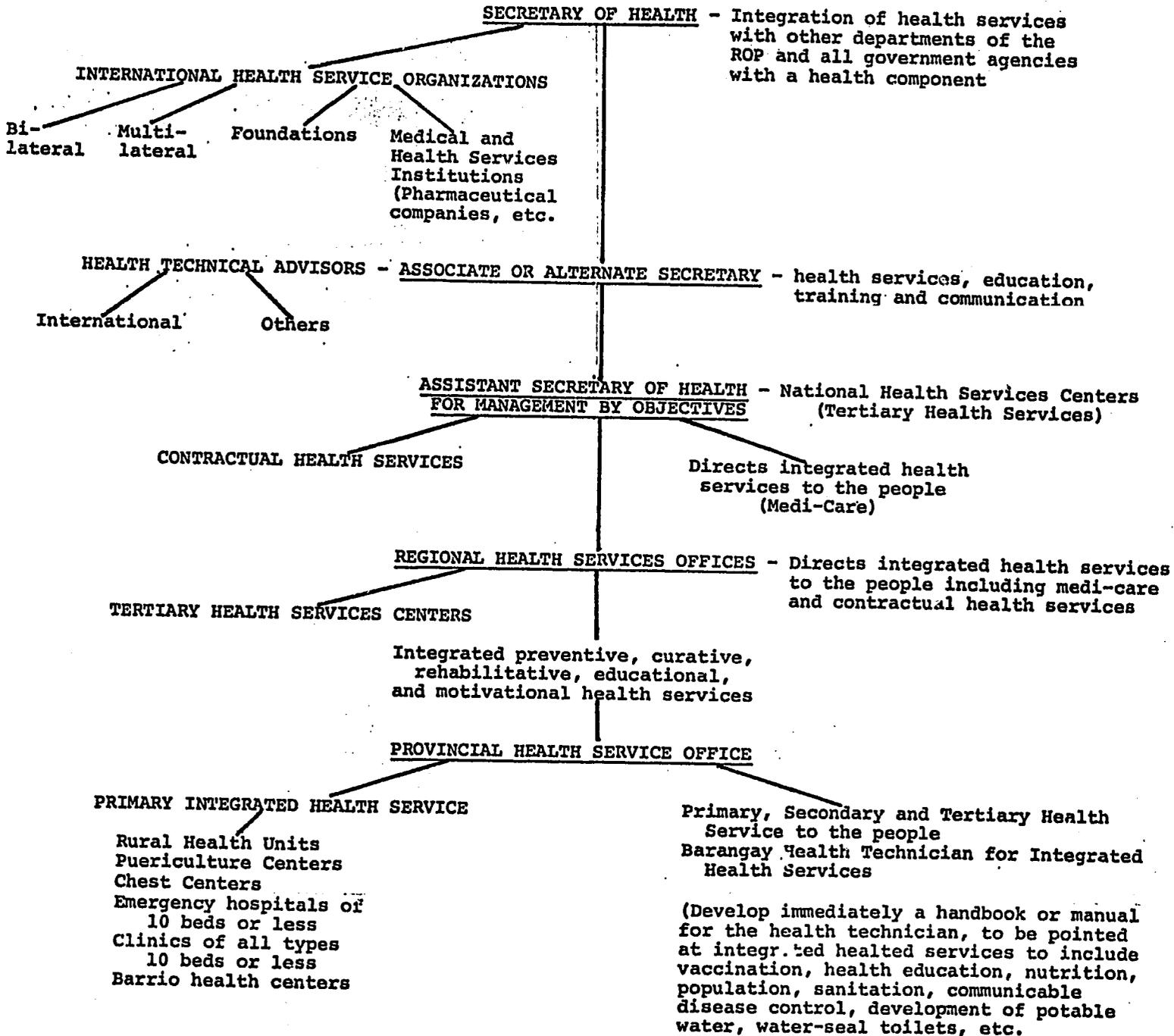
To demonstrate the feasibility, effectiveness and soundness of the use of the straight line multiplier approach from OHEPT through the decentralized health regions and units in transmitting knowledge and training in health, family planning, nutrition, sanitation, water supply etc. to the Barangay residents.

Secretary of Health	O H E P T		
*O H E P T	Coordination	(National Media Center) (Nutrition) (Population/FP) (Maternal-Child Health) (Health and Disease)	- Medical schools - Inst. of Public Health - Bureau of Quarantine
Regional Offices (11)		(National Media Center)	- Provides materials
Provincial Health Departments (71)	Schedule	(Regional Health Office at OHEPT) (Provincial/City personnel) (Rural Health Units) (Barangay leaders) (Residents)	- Seven (7) days - Seven (7) days - Seven (7) days - Seven (7) days - Seven (7) days
(1 to 26,000 gen. pop.)			
Rural Health Units (1,500)	Direct operations	(same as above)	
	Review	(National Media Center) (Chief of Nutrition) (Chief of FP) (Chief of Health Services) (Chief of MCH)	
Barangay leaders (50,000)			
Barangay residents	(X)		
	Evaluation	(Sec. of Health Representative) (POP Council Representative) (Nutrition Representative) (WHO by Invitation) (AID) (National Media Center Representative)	
	Final Evaluation	(same as above)	
	Close out	(AID)	

* Direct integrated health services may be inserted instead of OHEPT, as for example, Population Planning, MCH or others. The chain would be relatively the same.

A T T A C H M E N T 3

S U B S T E D
 FRAMEWORK FOR RESTRUCTURING
 THE DEPARTMENT OF HEALTH



A T T A C H M E N T 4

A SCHEMA

OBJECTIVE:

To develop three categories of loose-leaf compendiums of pharmaceuticals, specialties, biologicals and accessory information and constraints for use by students and faculties, para medics, Barangay Integrated Health Services technician, and for common home usage, respectively. To carry out this objective the following is necessary:

Coordination	(Department of Pharmacology (Department of Medicine (Department of Surgery (Institute of Public Health
Schedule	(Department of Health (N E D A (A I D
Director Operation	(U.P. Department of Pharmacology (U.P. Department of Medicine (U.P. Department of Surgery (U.P. Institute of Public Health
Review	(Department of Health (Philippine Medical Association (A I D (N E D A (O H E P T
Evaluation	(Department of Health (Philippine Medical Association (A I D (Philippine Hospital Association (O H E P T
Final Evaluation	(Department of Health (Philippine Medical Association (A I D (Philippine Hospital Association (O H E P T
Close Out	

1. The Department of Pharmacology and the Department of Medicine and Surgery will develop a loose-leaf compendium for student and faculty use of pharmaceuticals, specialties, biologicals to include compilation, organization and information giving the proprietary name and generic and chemical names. To be included, would be indications for use, effects, dosages, rates, methods, frequency and duration of administration. Relevant warnings of hazards, contra-indications, side effects and precautions are necessary adjuncts to the compendium.
2. Similarly, a loose-leaf booklet of commonly used household drugs, chemicals, medicines, etc, with all the warnings of possible dangers would be most helpful to the general population.
3. A third compendium could be one in between (1) and (2) pointed at the trained paramedic and Integrated Health Services technician.

The ultimate objective would be to produce a compendium developed and kept current by skilled professionals identifying the minimum number and kinds of items needed to practice good medicine, and in the second case, a "Bible" of common household items the people can use with appropriate caution.

A T T A C H M E N T 5

"A PROPOSAL FOR INTEGRATION OF HEALTH SERVICES
WITHIN THE DEPARTMENT OF HEALTH"
by Jesus Azurin, Undersecretary of Health

COMMENTS by H. DeLien

INTRODUCTION:

It is acknowledged that the development of the Department of Health has been rather lopsided with its continued emphasis on medical care services. For so many years now, the building of hospitals and the recruitment of hospital personnel has been a major concern. The bulk of the annual budget of the Department of Health has been channeled to the maintenance and expansion of such hospitals.

On the other hand, preventive health services received much lower allocation of the annual budget. It was difficult to recruit doctors and nurses for this service because of a severe disparity in remunerations, privileges and fringe benefits. In a setting specializing in prevention of disease, the rural health doctor, while developing comparable competence in managing preventive services tended to lose his clinical expertise. Besides, the monotony of rural practice led to job dissatisfaction and lack of interest to render certain types of services. A wide gap was therefore created between the preventive and the curative services and a two-way referral system became almost impossible.

The health situation was aggravated by medical and nursing curriculum which was not relevant to health needs. There was little effort towards the restructuring of the curriculum beyond hospital based medical education regardless of the problems of rural areas. Medical practice in the United States, Canada, and Europe has influenced, to a large extent, medical practice in the Philippines. Moreover, the increasing cost of medical and nursing education has resulted in graduates demanding adequate returns for the cost of education.

In view of this situation, the health and medical services in the Department of Health have become ineffective. The limited utilization of available health and medical services has caused the quality of care to suffer. Primary health care to serve the rural areas are inadequate while hospitals are over-burdened with patients that could have been attended by primary health centers. There is a lack of coordination and non-integration between the preventive and curative services.

The Department of Health has recognized the problem of undesirable separation between the curative and preventive services. It realizes the need to improve the whole process of health care delivery in response to new economic and social realities.

DEFINITIONS:

Webster defines "INTEGRATION" as the act of combining into an integral whole; the unification of diverse elements into a complex whole; harmonious relations.

WHO defines an integrated health service as that necessary for the health protection of a given area and provided either under a single administration or under several agencies with proper provisions for the coordination of their services.

Integration of health services, however, has several meanings depending upon how broad is its context. One point of view would have an integrated health care system as a total system made up of components from the private and public health sectors. Another way of viewing integration is the coordination of all department agencies rendering different forms of health services under the administration of one coordinated system.

The Department of Health, at this particular time, however, views "integration: as the merging of the preventive and curative services under a single administration with the ultimate aim of providing one health program for the nation.

THE INTEGRATED REORGANIZATION PLAN

Declaration of Policy:

Article I, Section 2 - *"The bureaus and offices shall be grouped primarily on the basis of major functions in order to minimize duplication and overlapping of activities, and thus achieve simplicity, economy, and efficiency in government operations."*

The proposed integration shall be carried on at the implementing level beginning with the provincial health office down to the lowest health unit.

Letter of Implementation No. 8, Sec. 20.8 provides the functions of the provincial health offices:

- a. Administer, manage, and coordinate all health activities relative to the preventive, curative and rehabilitative aspects of medicine in the province;
- b. Exercise administrative direction, supervision and control over the rural health units, hospitals, and sanitarium in the province; and
- c. Perform such other functions as may be provided by law.

The Integrated Reorganization Plan, therefore, has provided the basis which should integrate all health units within the province under the administrative jurisdiction of the provincial health office. The

integrating center, therefore, will be the office of the provincial health officer.

This proposed integration of the health delivery system within the provincial units has the following features:

- a. The provincial health officer, chiefs of hospitals, together with the personnel in their immediate offices shall constitute the office of the Provincial Health Officer.
- b. The Office of Chiefs of Hospitals within the province are abolished and are transferred to the Office of the Provincial Health Officer.
- c. An Administrative Service will be established for all health units within the province. It shall have a Personnel Division and a General Service Division. All other administrative units within the provincial health delivery systems shall be abolished.
- d. A Financial and Management Service shall be responsible for budgetary, financial and management improvement matters. It shall have a Budget Division, an Accounting Division and a Management Division.
- e. The Provincial Hospital shall provide the base of the facilities and organization for integration.
- f. A Community Health Service and a Clinical Service will be created within the provincial hospital organization. It shall develop linkages to all units and programs within the provincial health unit.
- g. The Community Health Service shall be an integral part of the Provincial Hospital and shall coordinate with the Clinical Services in the use of staff services of doctors on a rotating basis. It shall provide staff services for rural health units, integrated programs, and other health projects in the province. It shall have direct line supervision and control over Rural Health Units, Barrio Health Stations, and Barangay Health Technicians.
- h. All Barrio Health Units are considered as extensions of the Rural Health Unit while Barangay Health Technicians shall be supervised by Rural Health Unit.
- i. Programs and Projects of the Department of Health such as population, nutrition, malaria, etc. shall be integrated into the Community Health Services.
- j. The Clinical Services which is also a part of the Provincial Hospital shall provide staff services of doctors to the different departments of the hospitals and will also be on a rotating schedule with the Community Health Services.

- k. Emergency hospitals shall be considered as extensions of the Provincial Hospital. It shall provide support to the Rural Health Unit and the other primary health care units up to a secondary level of health care.
- l. A laboratory shall be developed within the hospital, which will be used as a referral laboratory for all health units in the province including private practitioners and private hospitals.
- m. An automatic two-way referral system will be established between all health units by using all possible linkages.
- n. The rural health units and emergency hospitals shall be under the supervision of a public health nurse. Medical officers who shall be rotated at regular intervals shall provide the medical care services needed by the community, while trained nurses and technicians shall provide preventive services.
- o. Recruitment of personnel at all levels shall be through the Administrative Services.
- p. Emoluments, allowances and other privileges shall follow those prescribed by hospital standards.
- q. Health administrators will undertake training on the combined curative and preventive curriculum in the Institute of Public Health.

Following this integration of health services, the following results are expected to be achieved:

- provision of a low cost health delivery system (total cost will not decrease but unit cost will be decreased significantly)
- increased economy and efficiency
- prevention of the overlapping and duplication of functions
- expansion of health services to the rural areas to attain greater coverage
- development of a more effective recruitment system
- maximum utilization of available manpower
- consolidation of Administrative services by eliminating administrative fragmentation
- consolidation of financial, accounting and management staff
- effective sharing of available facilities such as laboratories, x-rays, and other equipments
- provision of an automatic two-way referral system

- systematic management of data
- proper allocation of financial resources
- prevention of personnel mal-distribution and conflicts

PROVINCIAL HEALTH OFFICER
CHIEF OF HOSPITAL
MEDICAL OFFICER

PROVINCIAL HOSPITAL

ADMINISTRATIVE SERVICES

FINANCE & MANAGEMENT SERVICES

GENERAL SERVICES
DIVISION

PERSONNEL
DIVISION

BUDGET
DIVISION

ACCOUNTING
DIVISION

MANAGEMENT
DIVISION

COMMUNITY HEALTH SERVICES

CLINICAL SERVICES

RHU

RHU

RHU

SURGERY

PEDIATRICS

OB-GYN

EMERGENCY
HOSPITAL

BASIC HEALTH
SERVICES

BARRIO HEALTH
CENTER

POPULATION

MALWARDS

POPULATION

MCH

BARRIO HEALTH
TECHNICIANS

NUTRITION

HEALTH EDUCATION

MALARIA

ENVIRONMENTAL
SANITATION

SCHISTOSOMA

ETC.

OTHER PROGRAMS

COMMENTS by H. DeLien

Dr. Azurin rightly felt that in order to develop integrated health services for the people, it would be necessary to integrate the various health personnel disciplines and activities within the Department of Health. This paper sets forth with clarity how this is to be brought about at the provincial level and below, to include the barrios and Barangays. This is a marked departure from the strict emphasis on the separation of educative, curative, preventive, rehabilitative, motivational, managerial, administrative, logistics, training, etc. - activities and operation still in use in the Department of Health. The integration is now underway at the provincial level and should be successful as techniques for its accomplishment are developed and placed in effect. A schematic illustration is attached as a first approach which will be adjusted to conditions as they are found or are developed.

In essence, this treats the health problems as a total provincial health activity without fragmentation, and the family and the individual will receive like treatment or be considered in a similar manner. Flexibility in use of personnel will be an unusual change for the better. Funds will also be used more efficiently and effectively. An example of this is the combination of managerial and administrative skills to effect integrated direct health services, rather than usage in categorical approaches.

A T T A C H M E N T . 6

IDENTIFICATION OF HOST COUNTRY & USAID OFFICIALS CONTACTED

1. Charles C. Christian, Deputy Director, USAID/Manila
2. Garnett A. Zimmerly, USAID Mission Director

Staff Meeting on Bicol River Basin

3. Beverly Ann Fry, Population Advisor, PH Nurse, USAID
4. Maurice I. Hyder, Relief and Rehabilitation Advisor, USAID
5. Blaine W. Jensen, Assistant Program Officer, USAID
6. Lenni W. Kangas, Health and Family Development Officer
7. Lawrence A. Marinelli, General Development Officer, Naga City
8. Edward S. C. Maw, Population Advisor, Public (Logistics)
9. Richard B. Nelson, Area Development Advisor, Roxas City, Capix, USAID
10. Frank W. Sheppard, Assistant Director, Office of Agricultural Development, USAID
11. Gerald V. Van der Vlugt, Public Health Physician, Population, USAID
12. David R. Alt, Population Advisor, USAID
13. Douglas C. Larson, Population Advisor, USAID
14. R. W. Engel, Nutrition Advisor, USAID-Food for Peace
15. Dr. Nery Diaz-Pascual, Program Specialist/Research Assoc., USAID

Department of Health

16. Secretary of Health, Clement Gatmaitan, M.D.
17. Undersecretary of Health, Jesus Azurin, M.D.
18. Dr. Flora Bayan, Director, National Family Planning Office
19. Dr. Trinidad Gomez, Director, Nutrition Council, Dept. of Health
20. Dr. Jacinto Dizon, Bureau of Health Services
21. President of the Philippine Health Association, Jesus Azurin, M.D.
22. Delfin G. Rivera, M.D., Officer in Charge, Malaria Eradication Division and members of his staff
23. The Regional Health Directors and many other health personnel attending the Philippine Public Health Assn. Convention, May 3-4.

Private and Semi-Private Sector

24. Dr. Fe del Mundo, Executive Director, Institute of Maternal and Child Health (MCH)
25. Ruben Apelo, Project Director, Philippine General Hospital/Jose Fabella Memorial Hospital
26. Juan M. Flavier, M.D., Director, International Institute of Rural Reconstruction, Silang, Cavite
27. Dr. Florentino Solon, Executive Director, Nutrition Center of the Philippines
28. Dr. Jose Caedom, Director of the GSIS (Government Service Insurance Service) Hospital.

Luncheon Meeting with
DR. FLORENTINO SOLON, Executive Director
National Nutrition Center
May 27, 1976

The meeting was devoted to the discussion of how nutrition activities could become a part of an integrated health program. Common agreement ensued that the place to begin integration is at the Barangay level and then proceed up the hierarchical levels as far as possible.

Agreement was reached that the Barrio or Barangay health technician should be indigenous persons employed under contractual agreements. The arrangement can be similar to that employed to use malaria sprayers or by specific numbers of vaccinations, wells dug, etc.

There was no firm agreement as to which arm of the government should assume direct responsibility for these technicians.

To revoke this, the Department of Health should take prompt action to recruit and train such technicians. The Office of Health, Education, and Personnel Training is equipped to handle this responsibility.

A T T A C H M E N T 7

THE PHILIPPINE-AMERICAN PUBLIC HEALTH PROGRAM FY 1953 (CY52-53)

RECOMMENDATIONS

General

1. That long-range documented plans be developed by the Department of Health, preferably in six-year blocks, with annual review and re-projection each third year for another six-year period until problem is resolved.
2. That the Department of Health survey its health departments and either provide working tools to the personnel or reduce personnel and use funds used to pay salaries to buy commodities.
3. That the Department of Health be reorganized and streamlined with complete decentralization of all operating and supervisory activities to regional or area offices and local subdivisions thereof.
4. That health activities as far as possible be pointed toward rural areas where need is greatest and economic development and resettlement projects exist or are contemplated.
5. That use be made of citizens committees, such as, puroks.
6. That, aside from limited help to the Institute of Hygiene, Quezon Institute, and Philippine General Hospital, future FOA aid be confined on a decreasing basis to (1) malaria control, (2) health education and training, (3) rural health units, (4) water supply and sanitation, and (5) technical assistance, Types A and B, and short-term consultants.
7. That field personnel participate in program and budget development which will provide acceptable health services. This to include apportionment, expenditure, and control of funds.
8. That all government health activities at the local level - puericulture centers, charity clinics, chest centers, etc. - be combined and integrated.
9. That contract physicians be used to staff all charity clinics, puericulture centers, and chest clinics as soon as possible.
10. That the development of pre-pay and self-protection health plans be developed, such as Blue Cross or its equivalent.
11. That a schedule of fees be established for all health services furnished by any health facility.
12. That a basic survey and study of the following categories be given priority by the Department of Health:

- (1) Health personnel by classes and actual job performance
 - (a) governmental
 - (b) non-governmental
- (2) Health facilities
 - (a) governmental
 - (b) non-governmental
- (3) Vital reports
 - (a) governmental
 - (b) non-governmental
- (4) Morbidity and mortality rates of major causes of disability and death
- (5) Facilities and personnel capable of scientific investigation in medical and para-medical fields
 - (a) governmental
 - (b) non-governmental
- (6) Facilities and personnel capable and available for large-scale production of micro-organisms, whatever their type and use.

Specific Projects

HOSPITAL REHABILITATION

1. That all existing national and provincial hospitals be adequately directed, staffed and equipped and financed before any additional beds are added.
2. That a study be made to determine which of the existing hospitals should be consolidated in order to carry out the above recommendation.
3. That all hospital and medical services be contracted for with non-governmental physicians, nurses, public health engineers, clinics, medical groups, and hospitals wherever possible to secure acceptable services.
4. That private and non-governmental hospitals and health facilities be encouraged to increase in order to satisfy the needs of the people.

MALARIA CONTROL

1. That DDT residual spray be applied to each house in each malarious area once a year for three consecutive years. Due to the need for staggering of the operations, the basic plan will require six years for completion of nationwide spraying.
2. That first priority for spraying be given to areas of high economic development potential.
3. That anti-malarial drugs be administered as a supplementary relief measure during the period of control.

4. That the malaria control program be followed by a long-range program of prevention which would become a part of the general on-going local public health services and education.
5. That close working relationships be maintained at all times between the malaria control field units and the provincial health officers and, wherever feasible, become integrated with and related to other local health units and/or services.

RURAL HEALTH UNITS

1. That major expansion of the Rural Health Unit project be directly related to demonstrated availability of sufficient non-counterpart peso funds to provide continuity of each established rural health unit.
2. That the rural health unit project continue to be considered as a component of the total problem preventive and curative services in rural areas; that continued efforts be made to aid the Philippine Government in the development of a more coordinated, integrated rural health program than existing; and that future development of this project be conditioned by demonstrated efforts toward this coordination.
3. That the approach, outlined in the "Preliminary Document of Philippine-American Program for Rural Health" continue to be used as a working basis for rural health unit project development. Flexibility, however, should be maintained, especially in respect to dollar-peso relationship and to the various components of the project that will receive emphasis from year-to-year. As experience is gained on the effectiveness of these various components, i.e., (1) those of type of unit such as Categories I to IV, and (2) those of method, such as (a) conversion, whereby first the headquarters of a President of Sanitary Division is equipped to function as a Category IV unit, and second the complete complement of personnel is added, and (b) complete establishment whereby the unit is completely set up in one stage, the project will become more channelized.
4. That, insofar as compatible with overall FOA objectives and policies, support be given to legislation which furthers improvement of rural health.

HEALTH PERSONNEL TRAINING

1. That all personnel training activities be consolidated in a single department and adequate budget provision be made from the general fund.
2. That personnel training be decentralized and conducted in five regional training centers in order that training can be based upon the needs of the area at less cost and without the barriers of language and culture differences.

HEALTH EDUCATION OF THE PUBLIC

1. That the Department of Health strengthen and coordinate the health education aspects of all of its work through the implementation of its six-year Philippine-American Health Education Program.
2. That the Department of Health encourage the development of dynamic health education programs at the community level to be carried on by the public health worker(s) within the area which will demonstrate what people can do for themselves.
3. That the development and production of all materials used in training programs and in the health education of the public be geared to fit the real health needs of the people at a reading level which makes them useful; and that a suitable and adequate distribution plan be established and used.
4. That the Department of Health evaluate existing official reports with the view to production of only two -- the Annual Report and a single comprehensive Monthly Bulletin containing all special and general reports of real value.

WATER SUPPLY AND SANITATION

1. That wide development of water supply and sanitation programs be developed on a demonstration basis.
2. That every barrio have available as conveniently as practicable for public use at least one approved safe water supply for the protection of the health of the people. The type and location of construction should be determined by sanitary surveys. Construction based on standards of the Bureau of Health should make maximum use of all available agencies, including private contractors. Local volunteer support is necessary in addition to government construction services in order that a maximum amount of construction be completed in the shortest time consistent with reasonable cost.
3. That at least one adequate municipal water distribution system be made available in each province to improve the health of the people and to serve as a demonstration to neighboring areas of the benefits to health, safety, and property derived from such a water system. Water meters should be provided where they will result in better distribution of water and in increased revenue. Engineering surveys should be made of water distribution systems so that information will be available upon which to base a long-range program to solve the water supply problem of the entire country.
4. That every barrio and municipality have a sanitary system of storage collection and disposal of garbage and offal, dead animals and other solid refuse which might provide food for rats or cause a nuisance.
5. That, in every barrio and municipality having a municipal water distribution system, a sanitary sewerage system be provided and a method of disposal for the sewage approved by the Bureau of Health.

6. That pollution of streams by excreta, sewage, garbage, offal, dead animals, trade wastes, noxious and offensive substances be prevented in a manner satisfactory to the Bureau of Health.

A P P E N D I C E S

to
Dr. Horace DeLien's | Consultancy Report
on
"PRIMARY HEALTH CARE"

1. General Statement on the Consultancy - H. DeLien, M.D.
2. Panay Integration Health Project
 Situation Report on Health in Capiz
3. Bicol River Basin Development Program
 From Pilot Study on Cholera Eradication -- Bacolod City
 from 1964-1968

A P P E N D I X 1

GENERAL STATEMENT ON THE CONSULTANCY

by Horace DeLien, M.D.

The briefings in Washington, D.C., April 30, 1976, plus the documents provided were excellent background material to review on the 10,000 mile plane trip from D.C. to Manila.

I arrived in Manila May 3, 1976 at about 9:00 a.m. After a quick shower I was ushered to the table for guests, and within minutes, it seemed, was awarded a Fellowship in the Philippine Public Health Association. The Secretary and Undersecretary of Health presided in the ceremony, with Dr. Jesus Azurin as President of the PPHA giving a short talk covering the fact that the first two recipients were unusual in that one was a citizen of a foreign country and the other was a pediatrician. Following this, other awards were given to be capped by the keynote address by the Honorable Secretary of Health, Clemente Catmaitan.

The plenary session in the afternoon was devoted to the subject of "Primary Health Care." The lead off speaker was the Honorable Jose Rono, Secretary of the Department of Local Government and Community Development. The discussants were representatives of the Department of Education and Culture, USAID, Regional Health Office, and the Bureau of Social Welfare, Department of Social Welfare.

The second day (Tuesday) was devoted to various subjects such as "Health and the Civil Service, " Health and the Budget, etc. Discussions were followed by addresses by Dr. Fe del Mundo and Dr. Horace DeLien. The meeting was fruitful since, in addition to the main theme of primary health care, the number of health personnel attending was estimated at 1,800, though only 700 to 800 had been expected. This allowed me to see all the regional directors, many provincial health officers, nurses, midwives, sanitary inspectors, malaria workers, health educators, government officials and a few private citizens. This opportunity provided a quick overlook of the health attitudes towards a variety of health programs, problems and suggested remedies.

The third, fourth and fifth days were spent in meeting with USAID Mission personnel and some from the Department of Health. Some time was spent with the Secretary of Health discussing primary health care and getting his understanding and views on the matter. Considerable time during my consultancy was spent with the Undersecretary of Health which was exceedingly productive.

The trip to Cebu, Bohol, Siquijor and Dumaguete allowed me to see most of the health personnel at meetings and in action at the hospitals, rural health units, barrio health centers, family health centers, etc.

We travelled by night aboard a government launch on its trial run with a Peoples Republic of China engine providing the power. Sleeping in the open on the deck was reminiscent of the "good old days". The coterie of women aboard were faced with the same problem of sleeping in working clothes and sharing the one toilet with no mirror. Dry shaves were the rule for the men. Frequent and generous meals were provided at all stops. The schedule of activities at each place was the same.

Morning meetings on population were held, with Marilyn Shema, Deputy Director of the International Division of the Association for Voluntary Sterilization as the principal speaker, with Dr. Flora Bayan, Head of the Population Unit of the Department of Health, moderating the meetings.

In the afternoon all the health personnel were brought together to hear Undersecretary Jesus Azurin discuss primary and integrated health services to the people. His discussion was followed by a short talk by DeLien and Van der Vlugt. The rest of the meeting was open to questions and answers by individuals of the various disciplines.

Following the meeting, official visits were made to the Provincial Health offices where the Provincial Health Officers and members of the staff presented their programs, problems, successes and failures.

Some stops were made to visit governors, mayors, Barangay captains and private individuals interested in health. Some of these discussions were exceedingly useful in understanding local priorities and desires.

The problems clustered about primary health care, secondary care, communicable diseases, tuberculosis, potable water, waste disposal, lack of jobs, inflation, roads, crops, food and some family planning when questions were so directed. The migration of the young away from the provinces caused much concern to some people.

Typhoon "Didang" (called "Olga" in the U.S.) settled in over Manila for nine plus days with extreme flooding and destruction. The President declared it a national catastrophe and set the diaster center in motion. All offices, both governmental and non-governmental, were closed except those immediately engaged in diaster relief. It was interesting that the banks were required to stay open. Prices on certain food items stabilized. I was confined to my hotel for three days, though on the fourth day, with the aid of a carry-all with a four-wheel drive, Dr. Van der Vlugt and I made it to the Department of Health for an extended productive session with the Undersecretary of Health.

Appointments were made and broken constantly depending on the water levels. Dr. F. Solon of the Nutrition Center was isolated enroute home. On the day of my appointment, it was raining so hard that it took over an hour to negotiate a short distance trying one street after another and we arrived a half hour late at the Nutrition Center. Fortunately, while isolated at the hotel, I had a number of documents to study and evaluate. The typhoon and floods precluded further trips to the field and it prevented me from making the trip to Naga City and the Bicol Region. Consequently, my document of the Bicol River Basin activity is constructed on previous knowledge of the territory, discussions with knowledgeable persons, review of reports, etc.

The four-day extension requested by USAID was for the purpose of developing a P.I.D. (Program Identification Document) on the island of Panay. This was my first experience with a P.I.D. and it became a productive exercise. A copy is provided for your use.

Finally, the flooding (and typhoon) prevented me from seeing many knowledgeable people whom I wanted to meet. Telephone discourse was limited by problems with the system. Add to this the three-day holiday of the USA personnel and there was less than continuity in this consultancy.

The major strength of this consultancy lies in the splendid cooperation of the Secretary and Undersecretary of Health.

A P P E N D I X 2

PANAY INTEGRATION HEALTH PROJECT

(USAID/Philippines requested a four-day extension of the APHA consultancy so a P.I.D. [Project Identification Document] could be developed for a Panay Island Health Project.)

SITUATION AND BACKGROUND

Panay Island is one of a cluster of islands in the center of the archipelago. It is composed of four provinces - Aklan, Antique, Capiz and Iloilo. The latter is the Regional Health Office for Region Six. The USAID Mission is interested in improving the quality of life of these four provinces by treating the Island as a whole in developing a strong local capability to deliver integrated health services directly to low income and rural hard-up families.

PROBLEM OR PROBLEMS

The cross section of the health problems throughout the four provinces show high morbidity and mortality from communicable diseases, with tuberculosis in first to third position. Eight of the ten leading causes of mortality are preventable. The infant and maternal mortality rates are high (145 and above and 4.0 respectively).

An estimated 70% of the population use water from unsafe dug wells or catch rainwater for household purposes.

Inadequate human waste disposal units and systems, or none at all, create major health problems.

Malnutrition is estimated to exist in 70% of the 0 to 6 years of age group. The birth rate was in excess of 40 in the four provinces.

FINDINGS

In an on-site survey of Capiz and Iloilo in 1974 with the Provincial Health Officers and some regional personnel, and in Capiz, the Governor and some of his staff, the following information was obtained:

1. Four of the five hospitals surveyed were markedly understaffed and short on necessary supplies and equipment to treat patients.
2. The family planning units were understaffed and not functioning to even a limited degree.

3. All information supplied by hospitals, Rural Health units and health personnel corroborated the high morbidity and mortality from preventable diseases.

Beri-beri was listed as the seventh in the first ten leading causes of death but may have been misdiagnosed. (Beri-beri was probably marasmus)

Waste disposal systems and available potable water were described as major problems by all those contacted.

Inadequate health attention and maldistribution of health personnel was evident everywhere.

RECOMMENDATIONS

1. Mobilize the provincial and regional health personnel to do an adequate survey of information and data available on preventable diseases, sanitation, potable water supplies, waste disposal systems, malnutrition and population characteristics. This should not be in depth or take in excess of six weeks.
2. Identify health services available to rural groups and Barangays generally.
3. Determine how best to develop and implement integrated direct health services to include potable water, proper waste disposal, family planning, adequate nutrition and control of communicable diseases, especially tuberculosis.
4. Meet with Barangay and Barrio officials to determine the needs of the residents.
5. Help organize Barangay Health Support associations or cooperatives. Such assistance should come from experts in this field.
6. Secure a Barangay or a Barrio Health Technician.
7. Supply health information to the Governor, the Provincial Health Officers, the Department of Health and others. Identify the extent to which the provinces can handle their problems with their own resources and what additional help is needed from whatever source. Emphasis should be placed on self-help in the resolution of the problems.

Progress towards implementation will relate to the action stirred up by the presentation of the P.I.D. and stimulation of local interest by the Filipinos at the Island and Provincial levels.

Finally, the information and data available on all aspects of health and disease is far from complete. Review of methods of collecting and reporting is essential but not now of first order. Attacking the major problems is possible with whatever information and data is presently on hand.

PANAY INTEGRATION HEALTH PROJECT

Objectives - Verifiable Indicators

Measurements of Goal Achievement

1. Integrated health services focused on the Barangay population reaching the majority of residents.
2. Expressed desires indicate Barangays include good health as one of their first four priorities.
3. Barangay residents note government's expressed interest in their needs and desires and are doing something to improve their total health.
4. Barangay residents note less apathy and greater resistance to disease plus a better quality of life.

Means of Verification

1. Reports of surveys show improvement of general health and marked reduction of communicable diseases and nutritional problems.
2. Presence of operating water systems including wells.
3. Improvement as demonstrated by data and information reported to the government offices collecting such indications of improved health.
4. Local endorsement and support of residents in health matters.
5. Development of Barangay Health Support Associations
6. Increase in contraceptive prevalence and decrease in birth rates.

Important Assumption

Assumption for Achieving Goal Targets

1. The Department of Health has accepted the integrated health services direct service approach to providing health services to the Barangay residents.
2. Establishment of a health resident Barangay technician in the Barangay is agreed upon by the Department of Health.
3. Top priority is placed upon obtaining the aforementioned objective and training the technician in communicable disease control, population control, better nutrition for the target group, development of safe water supplies in adequate amounts, proper disposal of human waste and in sound logistics methods for the Barangay operation.
4. The costs can well be kept within the ability of the Barangay residents to support with some assistance from the GOP.
5. The development of potable water supplies and waste disposal systems can be cut or addressed to the Barangay's ability to support.

6. That Barangay health support associations will be developed within each Barangay.

Project Purpose

To develop an integrated health program in Panay Island which focuses on the Barangay and provides the capability to reduce nutritional defects in the target group of mother and children (0 to 6 years), decrease the population growth rates to control tuberculosis, reduce incidence of communicable diseases such as pertussis, tetanus, diphtheria, etc., to provide improved water supply; satisfactory waste disposal methods and training in well drilling, water seal toilet construction, population control, proper feeding, case finding in TB, etc.

SITUATION REPORT ON HEALTH IN CAPIZ

A. VITAL HEALTH STATISTICS

The indicators of health in the province may be represented by the following statistics : births, deaths, infant deaths, maternal deaths and causes of mortality. As indicated by Table 1 Capiz ranges above Region Six as a whole and the national average in its total death rate, infant mortality rate, and maternal mortality rate.

Table 1

Vital Health Indices Region Six and Capiz (Rates per 1000) 1975

	<u>Birth</u>	<u>Total Death</u>	<u>Infant Death</u>	<u>Maternal Death</u>
Roxas City	18.14	9.93	129.34	-
Capiz	11.4	6.82	145.68	4.0
Region Six	16.21	6.54	82.87	1.89
Philippines	27.4	6.7	59.3	1.9

The ten leading causes of mortality in Capiz based on a 5 year average from 1969 to 1973 were the following:

1. Bronchitis
2. Bronchopneumonia
3. TB of the respiratory system
4. Pneumonia
5. Tetanus
6. Diarrhea under 2 years
7. Beriberi
8. Congenital debility
9. Beriberi infantile
10. Influenza

B. HEALTH FACILITIES

The major health facilities serving the province are its 9 hospitals, 18 rural health units and 32 barrio health centers. These are served by 71 physicians and 74 nurses. In the provision of necessary health resources Capiz province falls below the figures for Region six as a whole in regards to the availability of hospital beds, doctors and nurses as shown by Table 2.

Table 2
Health Resources Population Ratios Capiz Region Six

	<u>Bed Population ratio</u>	<u>Doctor Population ratio</u>	<u>Nurse Population ratio</u>
Capiz	1 bed to 1097 persons	1 M.D. to 6258 persons	1 Nurse to 6004 persons
Region Six	1 bed to 1086	1 M.D. to 3472 persons	1 Nurse to 2901 persons

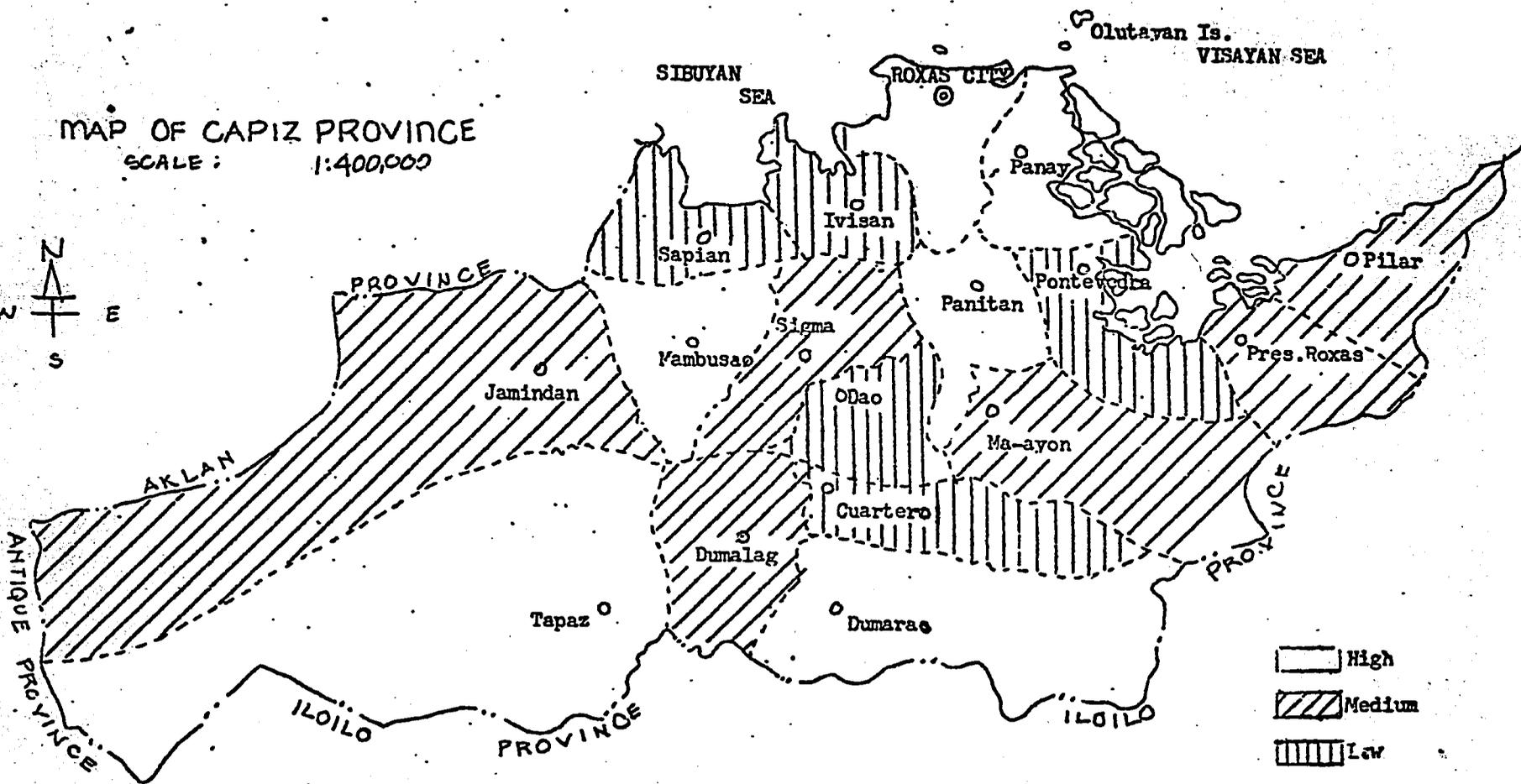
The following is a listing of the hospitals in Capiz province and their bed capacity:

Table 3

<u>Name of Hospital</u>	<u>Bed Capacity</u>	<u>Location</u>
A. Public		
Roxas Memorial Hospital	25	Roxas City
Mambusao General Hospital	75	Mambusao
Dao Emergency Hospital	25	Dao
Dumarao Medicare Hospital	10	Dumarao
Ivisan Community Hospital	6	Ivisan
Capiz TB Pavilion	50	Roxas City
Capiz Provincial Hospital	50	Pontevedra
Tapaz Hospital	25	Tapaz
Pilar Community Hospital	10	Pilar
B. Private		
Capiz Emmanuel Hospital	100	Roxas City
St. Anthony Hospital	100	Roxas City

RELATIVE LEVEL OF HEALTH INFRASTRUCTURE BY MUNICIPALITY

Figure 1



A2-7

Table 4
Hospital Bed Capacity in Capiz 1976
(Excluding Special Hospitals)

	Beds total	Bed Popu- : lation	Population : Served	Population : Needing : Hospitali- : zation for : whole Yr.	No. Needing : Hospitali- : zation Every : 5 days (Equi- : valent to : # of Beds : Needed)	Proportion of : Beds Needed to : Actual Number : Available : Every 5 days : (Utilization : Rates)
Capiz	436	1:1019	444,292	19,105	262	6.1%

Calculations based on DOH assumption that 43% of population will be ill. Of these 10% will require hospitalization.

of Beds needed based on formula:

$$\frac{\text{Pop. Need Hospitalization Per Year}}{365} \times 5$$

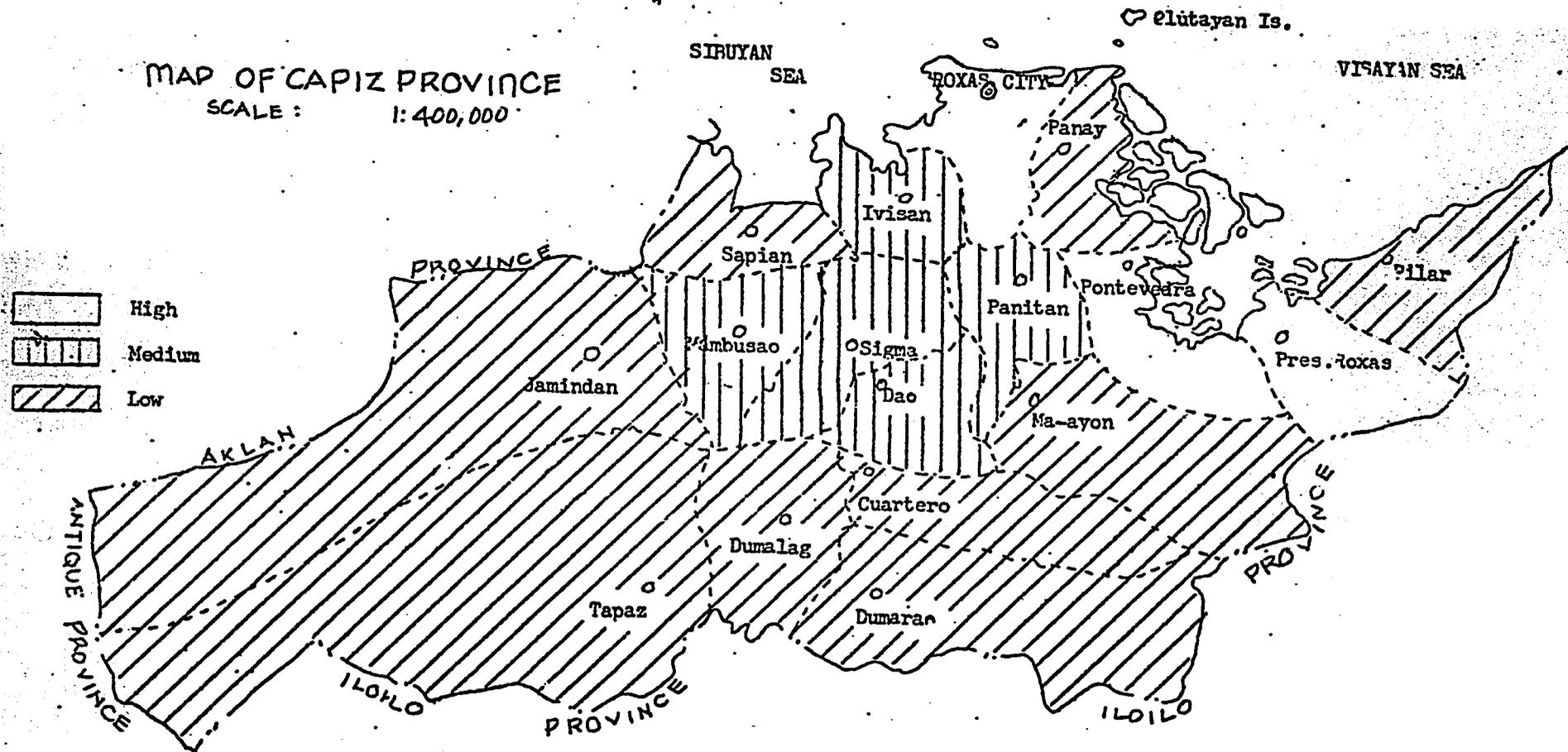
Table 5 and its accompanying Map (Figure 1) indicate the relative level of health infrastructure by municipality. In ranking the municipalities according to the number of hospital beds, barrio health centers and rural health centers per 10,000 population those municipalities with the lowest level of health infrastructure are Cuartero, Dao, Ivisan, Pontevedra and Sapián.

Rural Health Units

The rural health units (RHU) service the rural areas. They are assigned in every municipality and are manned by a team of professional health workers. The RHU's are engaged in a broad range of medical services such as treatment, consultation, attendance at deliveries, home visits, immunization, school health work, health education, sanitary campaigns, minor operations and attendance at emergencies. They are also involved in the implementation of special projects and programs of the Dept. of Health which are integrated into other services of RHU which includes environmental sanitation, nutrition, health education etc. There are 18 RHU's in the province. Auxiliary to the RHU's are the barrio health centers assisting in disseminating their services to more remote areas. There are 32 barrio health centers in the province. These centers are managed by midwives and visited by rural health physicians.

RELATIVE LEVEL OF HEALTH MANPOWER BY MUNICIPALITY.

Figure 2



A2-9

C. HEALTH MANPOWER

In the province of Capiz there are 71 physicians, 74 nurses, 25 dentists, 50 midwives, 40 pharmacists, 33 rural sanitation inspectors, and 8 dental aides. Table 6 shows the distribution of health manpower by municipality. Its accompanying map (Figure 2) illustrates that the municipalities of Cuartero, Dumalag, Dumarao, Jamindan, Panay, Pilar, Sapián and Tapaz have the lowest number of health manpower serving their localities.

D. ENVIRONMENTAL HEALTH

By comparing percentage using open well with percentage with unsafe or no toilet in the household a rough indicator was developed showing level of environmental sanitation by municipality the data is presented in Table 7 and displayed on an accompanying map (Figure 3). Those municipalities having the lowest level of environmental sanitation (highest percentage of households using open wells and using no or unsafe toilets) are Dao, Jamindan, Ma-ayon, Pilar and Sigma. Poor environmental sanitation causes such diseases as typhoid, cholera, and gastro-enteritis.

E. NUTRITION

Statistical data shows that the young population particularly the pre-school children (0-6 years of age) has a high rate of mortality. In Capiz the infant mortality rate was 122.8 per 1000 live births in 1973 compared with 82.87 per 1000 live births for Region Six and 59.3 per 1000 live births for the Philippines as a whole (1970 figures). The causes of mortality were mainly communicable diseases. Research indicates that malnutrition is directly related to these diseases since it increases the infants and child's susceptibility to infections. National figures indicate that in 1970 out of 7.8 million pre-schoolers (0.6 years), 3.5 million were malnourished or roughly 45% of all pre-schoolers. Considering that average family income in Capiz was ₱ 1544 annually in 1970 versus ₱ 2540 nationally, a 45% malnutrition rate for pre-schoolers in Capiz is probably a moderate estimate. Of the population aged 0.6 years in 1970 45% or approximately 40,700 children were malnourished.

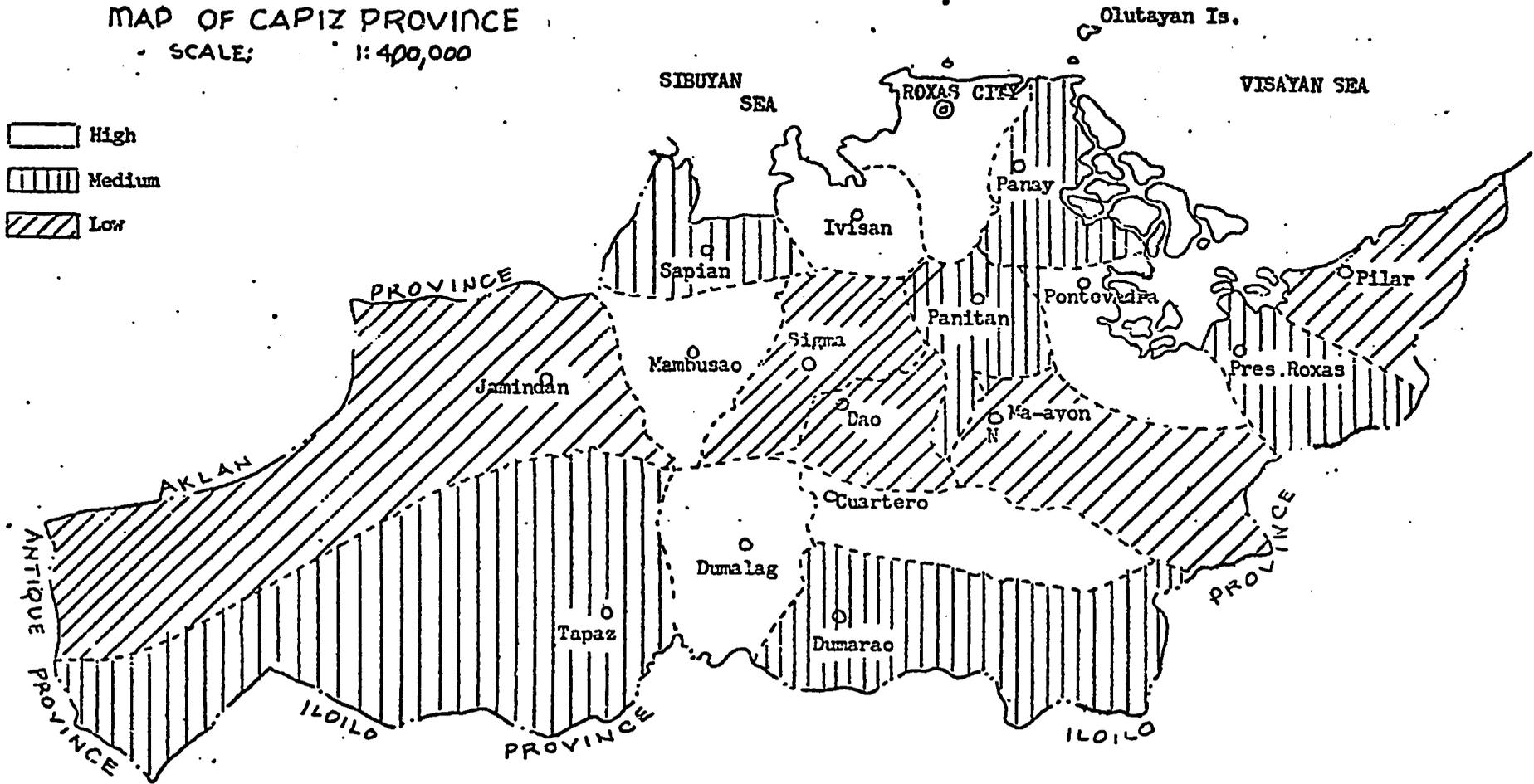
RELATIVE LEVEL OF ENVIRONMENTAL SANITATION BY MUNICIPALITY

Figure 3

MAP OF CAPIZ PROVINCE

SCALE: 1:400,000

-  High
-  Medium
-  Low



A2-11

F. POTABLE WATER

Access to a source of potable water is a major problem to a majority of the inhabitants of Capiz province. This problem has adversely affected the level of health and nutrition here. Capiz province has the highest usage of open wells (70.5% of all households) and rain water in Region Six with a low relative usage of piped and pump water systems as indicated by Table 8. Region Six consist of the provinces of Aklan, Antique, Capiz, Iloilo and Negros Occidental.

Those municipalities in Capiz province with the largest percentage of dwelling units relying on open wells as a water source are Dao, Dumarao, Jamindan, Ma-ayon, Panitan, Pilar, President Roxas, Sapian and Sigma. This is indicated by table 9. It should be pointed out that in the entire province only in Roxas City do less than 50% of the households use an open well as a water source. In the case of Roxas City 46.8% of the household in 1970 used an open well as a water source.

Table 5

HEALTH INFRASTRUCTURE
(Province of Capiz)

Municipality	Population 1975	RHU	Barrio Health centers	Hospitals Beds	RHU Number	RHU rate Per 10000 pop.	Rank RHU	BHC Number	BHC rate per 10000 pop
1. Cuartero	17615	1	2		1	0.57	5	2	1.14
2. Dao	21009	1	2	25	1	0.48	8	2	0.95
3. Dumalag	20044	1	2		1	0.50	7	2	1.0
4. Dumarao	27252	1	2	12	1	0.37	12	2	0.74
5. Ivisan	15373	3	2	6	1	0.67	3	2	1.34
6. Jamindan	23829	1	2		1	0.42	11	2	0.84
7. Maayon	23056	1	2		1	0.43	10	2	0.87
8. Mambusao	27821	1	1	75	1	0.36	14	1	0.36
9. Panay	27407	1	2		1	0.36	14	2	0.73
10. Panitan	26266	1	2		1	0.38	12	2	0.76
11. Pilar	28524	2	1	10	2	0.70	2	1	0.35
12. Pontevedra	27201	2	1	50	2	0.73	1	1	0.37
13. Pres. Roxas	21566	1	2	10	1	0.46	9	2	0.92
14. Sapián	17344	1	2		1	0.58	4	2	1.16
15. Sigma	18417	1	2		1	0.54	6	2	1.09
16. Tapaz	30519	1	2	25	1	0.33	15	2	0.65
17. Roxas City	71049		3	275		-	16	3	0.42

Table 5 (Continued)

M = 25.2 S.D. = 6.97

Municipality	B H C Rank	Hospital Beds Number	Hospital Beds rate per 10000	Hospital bcd: Beds rank	Total of Ranks (x)	Deviation from mean (x-m)	(x-m) ²	Z Scores (x-m)/S.D.
Quartero	3	-	-	10	18	-7.2	51.8	-1.03 Low
Dao	6	25	11.9	4	18	-7.2	51.8	-1.03 Low
Dumalag	5	-	-	10	22	-3.2	10.2	-0.46 Medium
Dumarao	11	12	4.41	7	31	5.8	33.6	0.83 High
Ivisan	1	6	3.9	8	12	-13.2	174.2	-1.89 Low
Jamindan	9	-	-	10	30	4.8	23.0	0.69 Medium
Ma-ayon	8	-	-	10	28	2.8	7.8	0.40 Medium
Mambusao	16	75	27.0	2	32	6.8	46.2	0.98 High
Panay	12	-	-	10	36	10.8	116.6	1.55 High
Panitan	10	-	-	10	32	6.8	46.2	0.98 High
Pilar	17	10	3.5	9	28	2.8	7.8	0.40 Medium
Pontevedra	15	50	18.4	3	19	6.2	38.4	-0.89 Low
Pres. Roxas	7	10	4.6	6	22	-3.2	10.2	-0.46 Medium
Sapian	2	-	-	10	16	-9.2	84.6	-1.32 Low
Sigma	4	-	-	10	20	-5.2	27.0	-0.75 Medium
Tapaz	13	25	8.2	5	33	7.8	60.8	1.12 High
Roxas City	14	275	38.7	1	31	5.8	33.6	0.83 High

428

S.D. = 7.13

RANGE

M = 25.2

823.8

- .75 and Below
 - .75 to + .75
 + .75 and above

Low
 Medium
 High

$\sqrt{48.5} = 6.97$
 S.D. = 6.97

48.5

50.8

Table 6

HEALTH MANPOWER
Province of Capiz

Municipality	Population 1975	Physicians	Nurses	Dentists	Midwives	Pharmacist 1973	Sanitary Engineer	Rural Sanita- tion Inspector	Dental tech- nician Aides
1. Cuartero	17615	1	1	1	2	1		1	
2. Dao	21009	4	1	1	2	2		1	
3. Dumalag	20044		1	1	2	2			
4. Dumarao	27252		1	1	3	1		1	1
5. Ivisan	15373	1	1	1	2			1	1
6. Jamindan	23829		1	1	3			2	
7. Ma-ayon	23056	1	1		2			2	
8. Mambusao	27821	6	1	1	3	1		1	1
9. Panay	27407	1	1		4	1		1	
10. Panitan	26266	5	1	1	2	1		1	1
11. Pilar	28524	1	1		4	1		2	
12. Pontevedra	27201	6	2	1	4	3		2	1
13. Pres. Roxas	21566	4	1	1	3	2		2	1
14. Sapián	17344	1	1		2			1	
15. Sigma	18417	2		2	2	1		1	
16. Tapaz	30519	3	1	1	1	1		1	1
17. Roxas City	71049	33	59	12	9	23	2	13	1
TOTAL	444292	71	75	25	50	40	2	33	8

Table 6 (continued)

Municipality	Total	Medical workers per 10000 Pop.	M = 5.1		S.D. = 4.26		Z Scores (x-m)/S.D.	
			(x-m)	(x-m) ²				
1. Cuartero	7	4	1.1	1.21	-0.26	Low		
2. Dao	11	5.2	0.1	0.01	+0.02	Medium		
3. Dumalag	6	3	2.1	4.41	-0.49	Low		
4. Dumarao	10	3.7	1.4	1.96	-0.33	Low		
5. Ivisan	7	4.7	0.4	0.16	-0.09	Medium		
6. Jamindan	7	2.9	2.2	4.84	-0.52	Low		
7. Ma-ayon	6	2.6	2.5	6.25	-0.59	Low		
8. Nambusao	14	5	0.1	0.01	-0.02	Medium		
9. Panay	8	2.9	2.2	4.84	-0.52	Low		
10. Panitan	12	4.6	0.5	0.25	-0.12	Medium		
11. Pilar	9	3.1	2.0	4.0	-0.47	Low		
12. Pontevedra	19	7	1.9	3.61	+0.45	High		
13. Pres. Roxas	14	6.5	1.4	1.96	+0.33	High		
14. Sapián	5	2.9	2.2	4.84	-0.52	Low		
15. Sigma	8	4.3	0.8	0.64	+0.19	Medium		
16. Tapaz	9	2.9	2.2	4.84	-0.52	Low		
17. Roxas City	152	21.4	16.3	265.7	+3.83	High		
TOTAL	304	86.7						

$$S.d. = \sqrt{\frac{\sum (x-m)^2}{N}}$$

S.D. = 4.26

-0.15 and below - Low

-0.15 to + 0.15 - Medium

+0.15 and above - High

M = 5.1

A2-16

Fig 7

ENVIRONMENTAL SANITATION
Province of Capiz

Municipality	# Of households, 1975	Rate % Using Open well	Rank	Rate % with unsanitary toilet	Rank	Total of Households	(Σ) Ranks	Deviation from mean ($x-\bar{m}$)	($x-\bar{m}$) ²	Scores ($(x-\bar{m})/S.D.$)	
1. Cuartero	2997	73.2%	8	59.3	4	12	12	-5.3	28.1	-0.61	High
2. Dao	3632	88.6	15	73.3	10	25	25	7.7	59.3	0.88	Low
3. Dumalag	3501	54.8	2	58.6	2	4	4	-13.3	176.9	-1.53	High
4. Dumerao	4685	74.6	9	73.2	9	18	18	0.7	0.5	0.08	Medium
5. Ivisan	2677	71.4	7	64%	5	12	12	-5.3	28.1	-0.61	High
6. Jamindan	3919	79.4	12	82%	16	28	28	10.7	114.5	1.23	Low
7. Ma-ayon	3901	93.4	17	81%	15	32	32	14.7	216.1	1.69	Low
8. Mambusao	4816	63.5	3	68.8	6	9	9	-8.3	68.9	-0.95	High
9. Panay	4613	64.2	5	77%	12	17	17	-0.3	0.1	-0.03	Medium
10. Panitan	4420	79.7	13	69.1	7	20	20	2.7	7.3	0.31	Medium
11. Pilar	4856	87	14	79%	13	27	27	9.7	94.1	1.11	Low
12. Pontevedra	4339	61.1	4	66%	6	10	10	-7.3	53.3	-0.84	High
13. Pres. Roxas	3337	78.5	11	58.8	3	14	14	-3.3	10.9	-0.38	Medium
14. Sapián	2913	77.4	10	76%	11	21	21	3.7	13.7	0.42	Medium
15. Sigma	3341	90	16	80%	14	30	30	12.7	161.3	1.46	Low
16. Tapaz	5290	69	6	70%	8	14	14	-3.3	10.9	-0.38	Medium
17. Roxas City	11707	46.8	1	52%	1	2	2	-15.3	234.1	-1.76	High

Range = -1.76 to 1.69
 -1.8 to -0.6
 -0.6 to +0.6
 +0.6 to +1.8

High
 Medium
 Low

$\bar{M} = 17.3$

S.D. = 8.7

TABLE 8

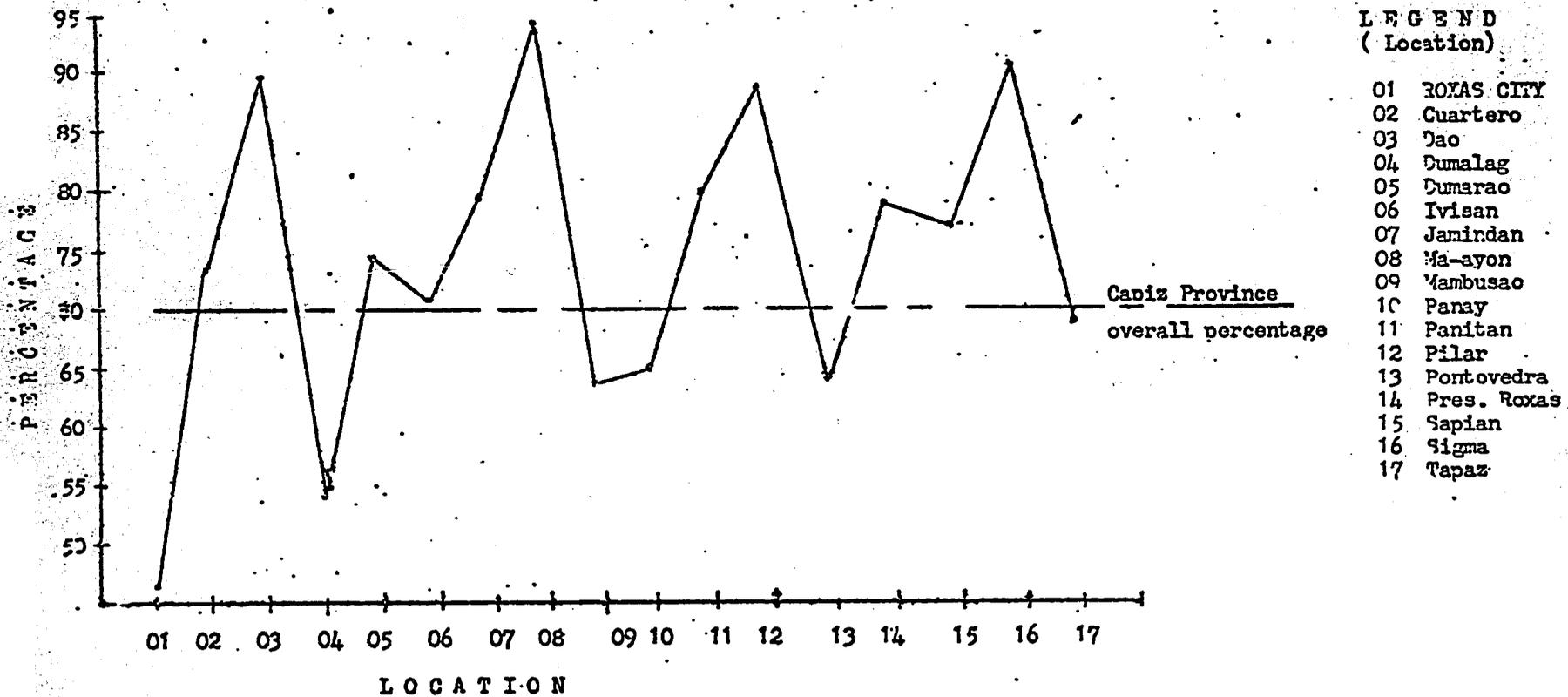
Type of Water Supply in Dwelling Units for Capiz Province and Region Six 1970

(In Percentage Except Total.)

	Region Six	Capiz
Total Number of Households	602,108 (100.0)	66,193 (100.0)
Urban	119,067 (24.7)	9,287 (14)
Rural	453,341 (75.3)	56,906 (86)
Piped Water	18.0%	5.8%
Urban	48.5	20.2
Rural	7.2	3.8
Artesian Well	7.4%	3.3%
Urban	9.9	7.8
Rural	6.3	2.6
Pump	18.5%	5.5%
Urban	20.1	18.8
Rural	17.2	3.6
Open Well	42.6%	70.5%
Urban	16.9	36.5
Rural	49.4	76.6
Spring	12.3%	3.8%
Urban	1.7	0.64
Rural	15.3	4.3
Rain Water	1.9%	9.1%
Urban	2.8	27.5
Rural	1.5	6.6
Lake, river, stream, etc.	2.1%	1.8%
Urban	0.5	0.3
Rural	2.9	2.1

TABLE 9

PERCENTAGE OF OPEN WELL WATER SOURCE USAGE FOR DWELLING UNITS IN CAPIZ BY MUNICIPALITY 1970



LEGEND
(Location)

- 01 ROXAS CITY
- 02 Quartero
- 03 Dao
- 04 Dumalag
- 05 Dumarao
- 06 Ivisan
- 07 Jamindan
- 08 Ma-ayon
- 09 Mambusao
- 10 Panay
- 11 Panitan
- 12 Pilar
- 13 Pontovedra
- 14 Pres. Roxas
- 15 Sapián
- 16 Sigma
- 17 Tapaz

Capiz Province
overall percentage

A2-19

Table 10

Inventory of Medical Resources
Province of Capiz

Municipality	Physicians		Nurses	Dentists	Midwives	Pharmacist	Sanitary	Rural Sanitation	Dental Tech	Drug stores	
	Govt.	Priv.					Engineer	Inspector	nician Aides	in 1973	
1. Cuartero	1		1	1	2	1		1			
2. Dao	4		1	1	2	2		1		3	
3. Dumalag			1	1	2	2					
4. Estero	1	1	1	1	3	1		1	1		
5. Ivisan	1		1	1	2			1	1	1	
6. Jamindan				1	3			2		1	
7. Ma-ayon	1		1		2			2			
8. Mambusao	6		1	1	3	1		1	1	4	
9. Panay	1		1		4	1		1			
10. Panitan	5		1	1	2	1		1	1	2	
11. Pilar	1		1		4	1		2		11	
12. Pontevedra	4	2	2	1	4	3		2	1	7	
13. Pres. Roxas	1	3	1	1	3	2		2	1	4	
14. Sapián	1		1		2			1			
15. Sigma		2		2	2	1		1		2	
16. Tapaz	3		1	1	1	1		1	1	1	
17. Roxas City	3	30	1	50	12	9	23	2	13	1	22
TOTAL	71		74	25	50	40	2	33	8	48	

Table 3. (continued)

Municipality	R H U	Barrio Health Center	Hospital Beds	Puericulture Centers	Family Plan clinics Non-DOH
1. Cuartero	1	2			
2. Dao	1	2	25		
3. Dumalag	1	2			
4. Dumarao	1	2	10		
5. Ivisan	1	2	6		
6. Jamindan	1	2			
7. Ma-ayon	1	2			
8. Mambuso	1	1	75		
9. Panay	1	2			
10. Panitan	1	2			
11. Pilar	2	1	10		
12. Pontevedra	2	1	50	1	
13. Pres. Roxas	1	2	10 (private)	1	1
14. Sapián	1	2			
15. Sigma	1	2		1	
16. Tapaz	1	2	25		
17. Roxas City		3	275	1	3
TOTAL	18	32	486	4	4

A P P E N D I X 3

BICOL RIVER BASIN DEVELOPMENT PROGRAM

SITUATION AND BACKGROUND

The proposed program area includes the whole province of Camarines Sur (35 municipalities and 2 cities), the whole Albay province (17 municipalities and one city), and one municipality in Camarines Norte. One million seven hundred thousand people reside in the Bicol River Basin.

The AID Mission and the governors of the provinces in this development program area are interested in a total Bicol River Basin approach to improving the quality of life of the people residing therein.

Nine of the ten reported causes of morbidity in the program area are preventable. These are tuberculosis, pertussis, tetanus, measles, mumps, diphtheria, infectious hepatitis, gastro enterities due to contaminated food and water, and malnutrition.

To start the process going, it has been determined that the four major categorical problems, namely, communicable disease control, including tuberculosis, provision of potable water supply on a continuing basis, providing human waste disposal system, improving nutrition and reducing the rate of growth of population need immediate attention.

The health situation here approximates that for similar-type locations throughout the country -- insanitation, high morbidity from communicable diseases, poor nutrition, rapidly growing population, lack of potable water, or safe methods of human waste disposal.

PROBLEM OR PROBLEMS

The problems are listed herewith:

1. The magnitude of the problem.
2. The costs of resolution of the problems
3. Low income of the residents
4. The high rate of growth of the population
5. The malnourished 0 to 6 years group and mothers
6. Excessive morbidity from communicable diseases, especially tuberculosis.
7. Inadequate continuing supply of potable water and methods of human waste disposal
8. Lack of resources devoted to resolving all these and other problems.

FINDINGS

1. All data and information available support the seriousness of the problems identified above.
2. The Department of Health has manpower and ability to bring about resolutions of these problems with the development of an integrated health delivery system, including assistance from the governmental and non-governmental agencies from both within and without the Philippines.

RECOMMENDATIONS

1. Integrate into the regional offices all assistance on population, nutrition, water systems and waste disposal.
2. Establish at the Provincial Health Officers' Office complete integration of all health activities to provide direct integrated health services to all the people of the province, with special attention to the Barrios and Barangays. This integration is to include trained population and nutrition technicians, and the development of a position of Barangay Health Technician, who is a resident of the Barangay.
3. Assess local resources available to support an integrated direct health services program for the Bicol River Basin Development Program.
4. Develop a compact program within these resources and determine how much, what kind and source of additional assistance needed.
5. Document a program proposal to submit to whatever source is interested, or to a consortium of agencies that will help.
6. Develop a consortium of sources to provide assistance where indicated by the Bicol River Basin Development Program.
7. Develop a compact PRP (Project Review Paper), well documented and supported by the best data and information available for presentation to AID Mission to determine its interest in assisting the program.

IMPLEMENTATION STEPS

1. The Mission may arrange with the Department of Health for a review on site of the Pilot Study on Cholera Eradication, Bacolod City, from 1964-1968 (See Attachment A of Appendix 3). The sanitary waste disposal, potable water development and vaccination campaign offer a good basis for a multi-faceted use in the Bicol River Basin Development Program.
2. Integrate immediately all health activities in the provinces and municipalities included in the Bicol River Basin Development Program.
3. After (2) above is accomplished, bring in immediately competent technical people in the fields of nutrition, population, water development or human use, human waste disposal to join with the provincial staff

in the development of a total integrated direct health service program aimed at the Barangay level.

4. Identify the responsibilities and functions of a local, trained Barangay Health Technician. This individual should be employed under a contract.
5. Provide direct technical supervision from the Rural Health Unit level.
6. Begin training of Barangay technicians at the provincial level to do the following:
 - a. Vaccinate for diphtheria, whooping cough and tetanus.^{1/}
 - b. Vaccinate with BCG (Bacillus of calmette and guerin)^{2/} against tuberculosis.
 - c. Collect sputum to make slides for forwarding to the nearest laboratory for diagnostic purposes.
 - d. Administer first aid and emergency treatments.
 - e. Treat minor ailments and conditions as identified and described in the Barangay health manual, which has already been developed by the Health Department. This manual should be reviewed regularly and kept current.

The training of the Barangay Technician should be geared to the four major categorical problems mentioned earlier in this report.

7. Make a survey of all operating and non-operating wells (and other sources of water used in the schools and homes) and their locations, and types and methods of human waste disposal. Utilize all Health, Education, Agriculture and other government personnel, Barangay leaders, Barrio captains, health technician and local residents in the survey work. The Provincial Health Officer is responsible for the direction and operation of this survey. Firm data and information already collected in these areas should be incorporated into this survey.

^{1/} Diphtheria, Pertussis and Tetanus (DPT) vaccine will be available for nationwide coverage in four years. Possibly, external assistance may be useful here in increasing the capacity for production of the GOP laboratories.

^{2/} BCG (Bacillus of Calmette and Guerin) is available to do nationwide vaccination against tuberculosis. Produced by GOP laboratories.

SUGGESTIONS FOR RESTRUCTURE OF THE BICOL RIVER BASIN INTEGRATED HEALTH SERVICES PROGRAM

It seems logical to restructure the approach suggested in the Program. The following suggestions can be carried out in a maximum of six weeks, and a possibility of three weeks with proper preparation:

1. Review and document the National Health Plan
2. Review a paper by J.C. Azurin, M.D., M.P.H., Undersecretary of Health, titled "A Proposal for Integration of Health Services within the Department of Health."
3. Review the pertinent quotations from the 1975 FAA, Sec. 213, Sec. 304, Sec. 104(b) and Sec. 305(a).
4. Incorporate these in the body of the Bicol River Basin Development Program document.
5. Develop, in detail, a schematic diagram of the number of organizations (governmental and add to it nongovernmental entities impinging on the contemplated integrated direct health services activity of the Department of Health which will affect the Bicol River Basin Integrated Health and Social Services activities. Add in the international forces contemplating action in the Program. This schema will be useful in planning and programming exercises.
6. Review with the staff of the disease Intelligence Center in the Department of Health the data and information furnished regarding the Program, especially exotic and unusual diseases reported, morbidity and mortality figures, birth and death rates, etc. Similar data relative to nutritional problems, family planning, potable water supplies and waste disposal systems.
7. Review the definition of self-help or self-reliance as local support before planning and funding expectations are enthusiastically "firmed up". Possible definition - national pride, desires, expectations, knowledge "can do" and "hope". Any or all of these may constitute a sign of community maturity development.
8. Review information and data on resources of whatever type exist, or that may be developed and relate to productivity, political issues, expected annual family income in cash and kind.
9. Determine what avenues for a cooperative approach in problem solutions are open.

Then review information and data in relation to express needs - desires - expectations related to resources locally, internationally, etc. Finally, problems, expectations, desires and what quality of life may result can best be determined by them, will have a better possibility of local support.

There are studies, information, surveys and data presently available that can make the above suggestions less onerous to carry out.

On the basis of the information available in existing Bicol River Basin and a contemplated program as drafted, these comments may have some usefulness.

The Department of Health is structured to carry out the integration of health and social services by calling in assistance from other agencies and departments; governmental and nongovernmental, local and international, etc. The Department of Health is a well established, active, moving organization with personnel trained to carry out the objectives of this program with technical assistance in certain specific areas from the other agencies. Furthermore, the present Undersecretary of Health has trained at the Development Academy of the Philippines and is now well versed and knowledgeable in the MBO (Management by Objectives) techniques and has had years of well-grounded action in research and control of communicable diseases, administration of health programs on a nationwide basis, and has stated his strong wish to implement direct integrated health services at all levels possible, but especially at the provincial and levels thereunder to include the Barangay. He, furthermore, has had all his regional directors trained at DAP and plans to do so with his provincial health officers and other capable, responsible health personnel. This can be accomplished by the consortium approach whose objective will be the integration at all levels to include the Barrio and Barangay levels. By this approach at each level of bureaucracy, the agencies and Department can conjoin their efforts with the Department of Health, with the ultimate objective of liquidating specific communicable diseases, including tuberculosis, the nutritional problems, the population problem, the lack of potable water and human waste disposal, as well as the straight line thinking approach of the various departments and agencies. The members of the consortium would be in continual session until the Bicol River Basin Development Program is a sound ongoing program capable of being sustained by the local people.

At the Barangay level, the integration would be possible through the Barangay Captain or leader and the Health Technician (to be established and trained). The functions of the Barangay technicians have been documented by the Department of Health in draft form, subject to adjustment by the consortium (composed of health personnel of the regional office, provincial health office and the Barangay Health Technician). The Barangay, the viable operating unit of the people, has much to offer in the field of health. In a sense, it is a present-day reflection of the self sufficient clan of ancient times. There is self-reliance, identifiable human resources, independence and responsibility which may not be easily seen by the more sophisticated segments of a society. Many centralized functions can well be carried out by Barangay people who have the confidence and understanding of their families and neighbors. The local staff with various degrees of training and some ad hoc or internal supervision can undertake many health procedures with few difficulties. These are within the fields of family planning, nutrition, sanitation, rodent and vermin control, water supplies and waste disposal, immunization and vaccination, acquisition control, storage and distribution of supplies and health materials, repair and maintenance of equipment, emergency first aid and assistance during disasters. It would be well to begin with visible activities such as immunization, vaccinations, development of potable water supplies (protected dug wells), renovation of wells not

functioning, and construction of water-sealed toilets in the individual homes. Later, the other health programs could be inserted, such as family planning, nutrition upgrading, health education and general communicable disease control, including tuberculosis. One of the major underground complaints surfacing in the Bicol region is that nothing visible is being undertaken affecting the Barangay residents in the Bicol River Basin Development Program area, while other international activities such as thermal energy development is progressing. The presence of too many people and cars have also been commented upon which seem unassociated with direct integrated health services to the Barangay people or the Bicol River Basin Development Program area.

A technique that may be useful may be the development of a Barangay Health Services Support Association in each Barangay. The Department of Health and its immediate designated action arm, the Provincial Health Office, as the producers of health services and the Barangay as users, need mutual and close continuing consultation to benefit the people of the Barangay. The most useful way to do this is to provide such consultation as the joining together of the Barangay people into a health support or cooperative association.

The Association can participate by consultation with and advising the health service technician on the health needs, the desires and expectations of the Barangay people. The Association can suggest, recommend, and carry out methods and means of satisfying these needs. The Association can then set priorities and call in health experts to provide minimal to optimal health services to the people. The Provincial Health Officer can supply such personnel, supplies, equipment, material, training of personnel, etc. after a specific plan has been developed by the Barangay association or cooperative. The plan will be developed by surveying all data and information available on the health problems of the Barangay and the setting up of priorities and the establishing of goals and time targets for accomplishment of these goals. In the developing of these goals, it is desirable to have consultation in depth between Barangay leaders, Barangay health technicians, members of the business community, owners of pharmacies or drug stores, government agencies, the church, etc. The Barangay people may identify specific information relating to the development of an adequate source of potable water, a sewerage and waste disposal design or system, water-sealed toilets, the utilities, needs and sources available, the status of plants, buildings and other physical resources for health housing, minimum to optimum staffing needs, fiscal and budget requirements, supplies, materials, and equipment needed, storage and warehousing, preventive maintenance resources and other pertinent assessed areas. To expedite action, specific documentation and evaluation of all information and data is needed so that it may be given to the health service support association for consultation and assessment with experts in each field. Specific plans of action need to be rapidly developed and put into effect.

To facilitate action, a Barangay technician needs to be recruited locally in each Barangay to be stationed in a centrally located health center with not less than the following functions:

1. To maintain mutual and close continuing consultation on health services and associated matters to the benefit of the Barangay residents.

2. Identification with the desires and expectations of the people of the Barangays.
3. Secure means and methods of carrying out usage of satisfying the above in (2).
4. Develop with Barangays and other sources, methods of funding and support of the health services activity.
5. Lead or assist the Barangay and other technicians to develop, renovate or repair:
 - a. an adequate source of potable water
 - b. a sewerage and waste disposal system
 - (1) latrines
 - (2) pits
 - (3) tanks
 - (4) water-sealed toilets
 - (5) others
 - c. help provide utility needs from whatever source
 - d. maintain, in cooperation with others, the quality of operation of the physical plants of the center.
 - e. cooperate in operation of the center
 - f. seek, with others, all sources of funds and in-kind needed to operate the center on a continuing basis
 - g. assist in obtaining supplies, materials and equipment for the center
 - h. see that the center is secured at all times
 - i. train or seek help in training local residents in preventive maintenance, dug wells, water-sealed toilets, communication, etc.
 - j. assist in setting up all types of health programs aiming at providing optimum health in the community.
 - k. other pertinent activities to help Barangay residents should be looked into.

The Barangay Health Technician may wish to see a more secure logistics system developed.

The objective may be considered to identify the elements necessary to establish a sound program and time sequence to be followed in a logistic operation capable of delivering on a continuing basis adequate direct health services to the Barangay health center and the residents. Logistics in general, is the procurement, maintenance, storage, warehousing and transporting of materials, facilities, personnel, and providing the necessary funds for operation. Material is generally regarded as equipment, apparatus and supplies used in providing health services to the Barangay residents. Transportation may be by ships, planes, trucks, trains, cars, motorcycles, bicycles, banca or foot, etc. Assistance in the field of logistics, especially in storage, warehousing procurement, security and transportation may be obtained from and by health personnel, other governmental personnel, bus companies, company trucks (San Miguel) etc., drug companies, armed forces, schools, rural health units, hospitals, health activities of all types, Department of Agriculture, Department of Social Welfare, Red Cross, regular commercial channels, regional health offices, provincial health offices, hospitals generally, pharmacies, Barangay residents, sari-sari stores, etc. The Barangay health technician with the help of Barangay residents, will assist in the decision on methods of purchase, procurement, storage, and distribution of supplies obtained locally.

The Provincial Health Officer should secure legislation, directives and orders governing purchase and acquisition of supplies, material and equipment. Changes will be necessary to abrogate and amend such legislation and directives to make possible a flexible but sound system of decentralized procurement and purchase. This will require examination and assessment of not less than the following methods of procurement and purchase: centralized vs. decentralized, regional, provincial, city, cooperatives, health and health support associations, open market purchases, purchases from pharmacies or drug companies on a fixed markup over costs, contracts with wholesalers, or sources such as manufacturers, super-market costs plus markup, from consortium of medical supply companies, purchases by Barangay cooperatives, etc.

A suggested method for integration of direct health services of the private sector and the Government of the Philippines is through the method of contracting the integrated direct health services with the private sector, including the private medical, nursing, dental and associated schools. Legislation and/or directives may be necessary to establish the following authority: The Government of the Philippines authorizes or directs the Secretary of Health or his designated representative at his discretion, to enter into a contract or contracts with qualified organized medical or health groups, health associations, health corporations, or any university, college or school, or with any appropriate agency or institution for provision of integrated health services to include health education, medical and veterinary education, dental education, nursing education, education of Barangay and other similar technicians ("will allow employment of Barangay Health Technicians on contract"), population control, direct primary, secondary and tertiary health services through the vehicles herein before named, and to expend under such contract(s) money set aside or appropriated by the GOP, including provision for potable water supplies, sanitation, communicable disease control, waste disposal and nutrition. To make this language broader in scope and more attractive,

the GOP may wish to make available under contracts existing government integrated health facilities, hospitals or institutions to potential health services contractors. Safeguards can be included. Responsibilities, authorities and penalties for failure to perform properly can be added.

FROM PILOT STUDY ON CHOLERA ERADICATION - BACOLOD CITY

from 1964 - 1968

SANITARY WASTE DISPOSAL -

A campaign was launched starting in the summer of 1970 to provide each household with a sanitary water-sealed toilet. The toilet bowls are given free by the Bacolod City Health Department through the Research Project while the drums are obtained also free by the Project from the District Engineer's Office. These are empty asphalt drums which are used as retaining walls for the toilet pits. The drum is placed in the pit with the lower end opened and resting on a bed of gravel. Only one drum is used per toilet, but where the householder can buy or secure another one, the two drums are laid side by side with a short connection in between.

The concrete bowls are of the squat type. Placement of the bowl is not directly on the top of the drum but rather off-set and connected to the latter by a cylindrical can about 8 inches long. No local vent is needed. The bowl is usually elevated slightly above the surrounding ground level so as to avoid flooding when it rains.

While the bowls and drums are given free, the householder contributes the labor and the housing, including roofing and walling. These are usually nipa or cononut leaf shingles that abound in the area. Construction is supervised by a sanitary inspector and sanitary engineer of the Research Project.

In the beginning, a communal toilet using the water sealed bowls was set up in the school for demonstration purposes. Six seats were provided - three for girls and three for the boys. Six asphalt drums were

used for the pit, but this was eventually replaced by a septic tank of concrete hollow blocks measuring 12 feet long by 3 feet wide and 4 feet deep.

Cost Estimates: The water-sealed bowls are made by the City Health Department. Skilled laborers are hired on a daily wage basis and the health department buys the materials. Actual construction is supervised by the Chief Sanitary Inspector. The expenses involved are as follows:

5 sacks cement at ₱4.80	₱24.00
1 cartload of washed sand..		5.00
6 laborers at ₱7 per day ..		<u>42.00</u>

TOTAL ₱70.00

With the above materials, 23 bowls could be made a day. The mixture used is 3 to 1 and each bowl is finished smoothly with cement. No reinforcements are needed. The unit price, therefore, comes to about ₱3.05 per water-sealed bowl. (At that time, the rate of exchange was ₱6.40 to US\$1.00, so each bowl costs about US \$0.48.)

The used asphalt drums are obtained free from the District Engineer's Office and hauled to the study site at a cost to the Project of ₱0.60 each. If the drums were bought at government price, it would cost ₱1.00 a piece. However, in the open market, the same drum may cost anywhere from ₱5.00 to ₱10.00 each.

For housing, one unit would need about 120 nipa shingles, each measuring 3 to 4 feet long, available locally at ₱0.14 each. The cost of the housing, therefore, would be approximately ₱16.80. However, a resourceful householder can save on expenses by using bamboos and coconut palms which abound in the place.

Altogether, the cost of putting up one unit of the water-sealed toilet ranges from ₱3.60 (if the drum and housing are not bought) to ₱21.50 (if the drum and materials are bought). Reckoned at per capita cost, considering that the number of household occupants in the study community averages 6.2, this will amount anywhere from ₱0.60 to ₱3.50 (US \$0.10 to \$0.50).

Life Span of Toilets - Being a coastal community, the soil in Punta Tagaytay is sandy and the percolation rate is very fast. However, the water table rises considerably during the rainy season. Even so, each toilet lasts at least 1½ to 2 years before it is filled up. If properly constructed, used and maintained, it could last even for up to 6 years. Once filled up, a new drum is needed, but the same bowl could be used again.

SAFE WATER SUPPLY

To provide the community with a safe source of adequate water suitable for drinking, the Research Project developed in September 1970 two low-cost, improved wells that are centrally located in the two sectors of the study community. These are essentially open, dug wells that are protected from contamination and its bacteriological safety is assured by a continuing process of chlorination. The chlorinating process has been simplified so that it could be maintained by responsible community members themselves.

Concrete culverts measuring 32 to 36 inches in diameter and one meter in length are used to line the well. These are placed one on top of the other and the joints sealed with water-proofing cement to prevent contamination from seepage of surrounding ground water. These are laid

in place by an ingenious method of digging inside the culvert in a vertical direction, so that as the pit deepens, the culvert slowly sinks. In Punta Taytay, four culverts were used for each well: one lines the well below the water level; two, from the water level to the ground level; and one projects above the ground surface. The depth of the water table, therefore, is only about 7 to 8 feet below the ground surface, while the well itself is about 3 to 4 feet deep. Beyond 20 feet the water obtainable is already too salty for drinking.

A concrete slab with provisions for drainage is built around the base of the well. A protective lid covers the opening and a can or pail attached to a bamboo lever by nylon rope is provided for drawing water from the well. (See attached plan.)

The materials for the wells were purchased by the Cholera Research Project but the labor was a counterpart contribution of the community. However, a mason was hired by the Project to do the finishing works.

The cost of construction of each well may be gleaned from the following estimates:

<u>BILL OF MATERIALS</u>	<u>UNIT COST</u>	<u>TOTAL PRICE</u>
4 pcs Culverts, concrete, 32" x 1 m.	₱ 36.00	₱144.00
2 kls. Polythylene rope #6	11.00	222.00
3 pcs Bamboo pole	3.00	9 .00
1 cu. m Sand washed	9.00	9.00
2 bags Cement	5.40	10.80
2 cu.m. Gravel	16.00	32.00
1 lb Sahara waterproofing cement	1.80	1.80
25 pcs Conc. hollow blocks 4" x 8" x 16"	0.33	8.25
1 pc Made-to-order cover, #26 ?G., GIs	35.00	35.00
1 pc Pail, 1 to 1½ gal. capacity	5.00	<u>5.00</u>
Cost of Materials		₱276.85
Cost of Labor of 1 Mason, contractual.		40.00
		<hr/>
TOTAL COST OF ONE WELL		₱316.85

The two wells constructed by the Project were meant as sources of drinking water only. Washing water are taken by the inhabitants from their own individual, pre-existing shallow dug wells. The exclusive use of drinking water from these two wells and from the other pump wells in the community has been one of the objectives of the health education campaign in this study.

A census of households and population using the wells was taken to estimate per capita costs. Well No. 1, in the northern sector, is used by 706 people in 107 households while Well No. 2 in the south is used by 137 people in 28 households. Less people use the latter because the pump well in the school grounds is nearby and many had gotten used to fetching their drinking water from that well.

It will be noted that only one-third of the total population avail of the 2 wells constructed by the Project. This is because the other two-thirds take their drinking water from the four other pre-existing pump wells. These are: the pump in the school grounds; one owned by the Barrio Captain; one erected by the government near the Health Center; and another by the company that owns the molasses storage tank.

The per capita cost of Well No. 1 is, therefore, ₱0.45 while that of Well No. 2 is ₱2.30. Taken together, the average per capita cost of the two wells is ₱0.75. (These quotations were obtained when the exchange rate was ₱6.50 to US \$1.00.) Certainly, if there were no other sources of drinking water, the number of users of the two wells would be much more and per capita cost would have been much lower. Theoretically, this could be as low as ₱0.25 for the whole study community.

The life span of the well is almost unlimited. Properly cared for, it could last 30 years. The expendable parts, however, have to be replaced from time to time. Thus, the bucket lasts only 6 months, the untreated bamboo pole only 3 years, and the cover, about 7 years.

CHLORINATION

To further safeguard the quality of the water from these two wells, chlorination is done. A Japanese-made plastic chlorinator containing 2 to 5 tablets of HTH and tied to a nylon string is lowered into the well for varying periods of time. The amount of chlorine that goes to the water is regulated by a screw-like mechanism in the chlorinator which increases or decreases the opening through which water passes into the chamber containing the chlorine tablets. Furthermore, the duration of immersion of the chlorinator into the well water and the time of the day when the immersion is made also helps maintain the chlorine residual at optimum levels when it is needed.

In order to document the better bacteriological quality of the water from these two wells, a controlled study was made utilizing the nearest open dug well as control. Parallel samples were taken from the improved wells and the control wells before chlorination and at various times after chlorination. The samples are then submitted for water analysis at the Project Laboratory. In this manner, the superior quality of the water from the improved wells was not only shown but also the correct duration and timing of chlorination was determined. The results are discussed in subsequent sections of this report.

CHLORINATION SCHEDULE

On the basis of the readings after chlorination and in relation to

the demand for the water, the following schedule for chlorination had been empirically set:

For well #1 - Using 2 tablets in the chlorinator, it is immersed for 5 to 7 minutes once a day only. This is done between 8:00 A.M. and 9:00 A.M. In this well, the peak demand is in the morning before 7:00 A.M. and at about 4:00-5:00 P.M.

For well #2 - Using 2 tablets in the chlorinator, immersion is done 3 times a day for 20 minutes each time. Immersion is done: first, before 7:00 A.M.; second, at 10:30 A.M. and third, between 4:00 and 5:00 P.M. For this well, the peak demands are between 8:00 and 10:00 A.M. and 4:00 to 5:00 P.M.

The cost estimates per capita for maintaining chlorination was made by relating the cost of chlorine used to the number of users. For Well No. 1, two tablets of HTH costing approximately ₱0.60 could last for 15 to 18 days. This would come up to a little less than ₱0.02 per capita per year. For Well No. 2, two tablets of HTH last from 8 to 10 days. The per capita cost per year is ₱0.18. Taken together, the two wells would entail approximately 4½ centavo per year for chlorination.

CONTROLLED STUDY ON CHLORINATION OF WELLS

The results of the bacteriological comparison of the water from the improved well serving as control are shown in the attached tables. For both improved wells, samplings were made on various dates. Period samples from the improved well and its corresponding control were taken before chlorination and then once again after 2 to 4 hours.

In Well No. 1, sampling on 43 different dates were taken. From the control well, all pre-chlorination samples except 4 had bacterial contents that were too numerous to count. All 43 samples were also highly positive in the confirmatory test for coliform organisms, some of which were found to be B. coli. Post-chlorination samples showed that same result.

The pre-chlorination samples from the improved well itself (Well No. 1) showed that 8 samples or about 20% of them contained no coliform organisms with samples having total bacterial counts within acceptable limits. After chlorination, all 43 samples were found to be negative for any coliform organisms. Besides, all samples except 5 had total colony counts of less than 100.

On the other hand, in Well No. 2, the parallel samples drawn from its control well showed bacterial contents too numerous to count and highly positive results for coliform organisms for all samples taken on 22 different dates. The water from Well No. 2 itself showed that of the 22 pre-chlorination samples, 3 had colony counts within tolerable limits and 3 were also negative for coliforms. However, after chlorination, the colony counts of each of the 22 samples were less than 100 while only one sample had detectable coliform organisms.

These findings apparently show that water from the improved wells fall within the standards set as to bacteriological quality for drinking water.