

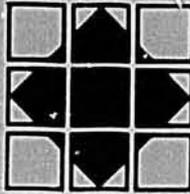
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SECOND  
ACTIVITY REPORT

INCREASED PRODUCTIVITY  
THROUGH BETTER HEALTH

OCTOBER, 1986 - JUNE 1987

Contract No. LAC-0018-C-6005-00  
Project No. 505-0018  
Belize, Central America



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PDAAW-139

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## ANNEXES

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Annex B - J. Defay/P. Leger Issues Paper

Annex C - Scope of work for the CD/HE Short-Term Consultant

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1. EXECUTIVE SUMMARY

The period from October 1, 1986 to June 30, 1987 has seen a high level of activity in the Increased Productivity Through Better Health Project (IPTBH).

Project vehicles arrived, most government positions important to the vector control and water supply and sanitation components of the project have been filled, and short-term consultants have provided valuable recommendations and training.

The project offices and administrative offices of key Ministry of Health (MOH) officials were consolidated in the newly constructed Butler hut complex in June. This change will facilitate coordination, planning, and communication between IPTBH and GOB staffs, a source of concern in implementation to date.

Well drilling, which began in February, has been set back by a series of equipment malfunctions and lack of spare parts. Latrine construction and the design/evaluation of rudimentary water systems have progressed well. The transfer of the Rural Water and Sanitation (RWS) component of the project from the Ministry of Health (MOH) to the Ministry of Natural Resources (MNR) and the appointment of a new National Coordinator for RWS are seen as positive changes.

Vector Control activities have proceeded as planned, with a number of operational recommendations from the short-term advisors being implemented. A Deputy Director has been appointed for the National Malaria Control Program (NMCP); the Deputy Director would probably be most effective if delegated more authority.

The Pragma Project Manager (PPM) and Project Technical Officer (PTO), from Pragma and MCD respectively, made a supervisory/support visit to the project in February. Their visit overlapped with the First Interim Evaluation of the project. The details of this visit are contained in the back-to-office report presented in Annex (A).

In May, the Mission Director invited the President of Pragma and the Director of MCD's International Division to meet with him in Belize City to review the Evaluation findings, and the observations and recommendations of the short-term consultants and the PPM and PTO supervisory/support visit. A copy of the issues paper for this meeting appears in Annex (B). Following this meeting and in view of delays in attaining objectives of the RWS, the Mission requested that two WASH consultants re-assess the design of the RWS component of IPTBH.

At the close of the reporting period the home offices of Pragma and MCD are assisting the advisors with procurement of well drilling and health education materials, a short-term consultancy in Health Education/Community Development is being arranged, and the report of the WASH consultants is awaited. Terms of reference for the CD/HE consultant are contained in Annex (C). This consultancy is tentatively scheduled for November 1987.

## 2. MALARIA CONTROL PROGRAM

Since the arrival of project vehicles in-country at the end of 1986, the major activities of the Malaria Control Program have been able to proceed in a more efficient manner.

### 2.1 Operations

Residual house spraying operations were carried out in two cycles in 1986 using DDT. The first cycle targeted 18,266 houses with a population of 75,929. With three spray squads, nine sprayers and a squad leader, 84% of the targeted houses and 88% of the targeted population were reached. However the second cycle was set back by rains and only 59% of the targeted number of houses could be sprayed.

The target for the first cycle of 1987 was 18,293 houses with a total population of 81,485. Localities that were not sprayed in the second cycle of 1986 were scheduled to be sprayed first in 1987. The first cycle was generally ahead of schedule due to lack of rain and was completed the end of June, with about 85% of the targeted number of houses being reached. The second cycle will start following a week training session in July/August.

As noted in the consultant's report discussed later in this report, spraying operations would benefit from better planning; in addition, better record keeping and increased communication between the Pragma field staff and the Health Services staff is recommended. The continued absence of a statistical clerk within the NMCP deters proficient data gathering, recording and dissemination.

The Malaria Control operations encountered some setbacks in several districts:

Corozol District - there were problems with both 75% and 100% DDT. Transmission occurred in two houses that were sprayed less than six months previously to detection. Through the spring, the number of positive cases continued to climb, showing the need for better entomological information in localities where persistent transmission was occurring. Spraying operations were generally satisfactory but spraying was not always stopping transmission.

Cayo District - after a *Plasmodium falciparum* (P.f.) outbreak here in October it was recommended that a mass blood survey be done in all of the P.f. positive localities to locate the asymptomatic parasitaemia and radically treat it.

Stann Creek District - there was another P.f. outbreak in Dangriga and again a mass blood survey was recommended.

Surveillance activities are carried out throughout the country. Active Case Detection (ACD) is done in a few localities, but presently the evaluators assist the Supernumeraries (case treatment personnel) in radical treatment of positive cases because of the heavy case load.

Efforts are being made to increase the number of Volunteer Collaborator (VC) posts throughout the country, and to expand the system that supports them. Presently approximately 60% of the positive slides come from the VCs. A number of training sessions for the VCs have been held. This training was done by a Health Talents International team. Pragma/MCD team members assisted the effort.

Some 20,859 slides were collected from all sources during 1986: 13,409 from PCD (64%) and 7,439 from ACD activities (36%). Some 2,709 positive cases were recorded: P.f. - 127 cases (5%), P.Vivax - 2,570 cases (95%), and Mixed - 12 cases (.5%). This data is from the Malaria Laboratory in Belize City and reflects the production from the lab. Slides were also read by the Mexican Malaria Control Program in Chetumal, Mexico. The total positive cases recorded by the National Malaria Control Program was 2,779, of which 136 (5%) were P. falciparum and mixed.

For the first quarter of 1987 (January - March) Malaria Laboratory results reported 4,074 slides collected, with 615 (15%) positive cases. Compared to the same period in 1986, this is a decrease of 10% in the number of slides collected and a 5% increase in positivity. The first three months of 1987 showed an 80% decrease from 1986 in P. falciparum cases. These results do not reflect slides read at the Mexican laboratory during the quarter.

The appointment of Mr. Hilbert Lenares as Deputy Director should improve the management of the malaria program as well as the morale of the malaria employees if he is given sufficient authority to run the program.

## 2.2 Short-Term Consultants

### 2.2.1 Mr. Edgar Smith - Malaria Surveillance Advisor

Mr. Smith was in Belize from January 12 to February 16, 1987, reviewing the surveillance activities of the Malaria Program. The consultant concluded that most of the problems with the NMCP involve administrative management and and

supervision rather than "technical" problems related to insecticides or drugs.

The following changes were recommended:

- Organizational changes to provide for more efficient administrative management and supervision: 1) establishing the position of Deputy Director to supervise the NMCP, since the Director has multiple responsibilities, and 2) providing a supervisor for each district, rather than one for two districts.
- The implementation of geographical reconnaissance and stratification: a preliminary stratification of all localities should be done and used as a basis for determining which areas should be sprayed, and the nature and frequency of surveillance efforts; maps showing the location of all houses in all localities should be made to improve efficiency of spraying and surveillance.
- An increased emphasis on Passive Case Detection (PCD) and discontinuance of most ACD: the current system of ACD is consistent with an eradication rather than a control program. With limited resources, a system focusing on PCD would be more cost-effective.
- The establishment of entomological services: a Peace Corps Volunteer entomologist should be recruited to provide services while a Belizian receives training. Without routine entomological studies, the vector could easily become resistant to DDT.

Overall, the consultant concluded that the Belize NMCP has a good organizational base with capable people and that the prospects for regaining control and even virtual eradication of indigenous malaria in Belize are excellent.

#### 2.2.2 Dr. Robert Yeager - Microscopist

Mr. Yeager was in-country from June 15 - 27, 1987, to retrain microscopists (please see 2.3.1 below).

### 2.3 Training

#### 2.3.1 In-Country Training

A Supervisors Training Seminar was held on January 5 for all program Supervisors and Mr. Edgar Smith gave a week long

surveillance workshop for Supervisors, Evaluators and Supernumeries in February.

Training of Voluntary Collaborators (V.C.) and nurses was conducted in the Village of Georgetown, Stann Creek District, on June 4, 1987, by Health Talents International. Chief of Party Merrill Wood gave a presentation and answered questions from the trainees.

Dr. Robert Yeager completed two training sessions in the last two weeks of June to retrain the microscopists. All of the microscopists showed a marked improvement on the post-examination over the pre-examination.

### 2.3.2 Participant Training

In December, the NMCP Chief of Operations, Rafael Guerra, and an Evaluator, Orlando Chan, completed a three month course in administrative and technical aspects of malaria control programs given by PAHO in Guatemala.

The two entomology aides who were hired on the recommendation of Mr. Smith will go to Mexico for training the third week of July.

## 2.4 Community Development/Health Education

The following villages have been the focus of Community Development activities related to the Malaria Control Program:

Belize District (Bermudian Landing, La Democracia, Rockstone Pond, Maskall, Crooked Tree, San Antonio, Corozalito, Lucky Strike, and Flowers Bank); Cayo District (Christo Ray, United Ville, Valley of Peace, Las Flores, Tea Kettle, Ontario, and Blackman Eddy); and Stann Creek District (Independence, Santa Rosa, Maya Mopan, San Roman, Hopkins, Silkgrass, Sittee River, Maya Center, and Red Bank).

The activities of the CD/HE Advisor have included:

- Conducting workshops: "Project Technologies and Health Education Workshop" was held December, and an "Appropriate Technology Workshop" was held in June.
- Preparing materials and assisting in conducting sessions for the February Surveillance Workshops.
- Forming Health Committees in project villages, attending Town Council/Health Committee meetings.

- Conducting Home Level Surveys in almost all of the above-mentioned villages.

In addition to the above community activities, production of health education materials was completed. These included:

- 350 "Malaria Symptoms" posters were produced; they will be used to assist VC's in recognizing the symptoms of malaria.
- A Malaria cartoon pamphlet was translated into Spanish and 1,500 copies were produced.
- Malaria education videos were produced.
- The CD/HE Advisor received slides from Pragma's home office on Diarrheal Disease, Ascariasis, and Malnutrition. Additional materials are on order.

## 2.5 Commodity Procurement

The Malaria Program has neither adequate storage space nor an adequate control system to properly disperse supplies. Construction of a Butler Hut at the King's Park Health Center has been completed. This new, much needed storage space will be a big help to the Malaria Program. However, there is still an inadequate inventory of commodities. At the end of June the IPTBH team was working with the Mission and GOB officials to facilitate improvements viz. developing an inventory system for the NMCP.

## 3. THE Aedes Aegypti Control Program

### 3.1 Operations

The Aedes Aegypti Control Program continues to be managed more efficiently than the National Malaria Control Program. And now that AACP program staff are located in the new Butler hut complex, there is greater contact between the Vector Control Advisor and the AACP Director.

The program has established three offices covering the following districts: Corozal, covering Corozal and Orange Walk Districts; Belize City, covering Belize Rural and Cayo Districts; and Dangriga, covering Stann Creek and Toledo Districts.

A District Supervisor is in charge of two Districts and each District is assigned two Aedes Inspectors - one who works in the District town and one who works in the rural localities. Since the purchase of additional motorbikes, transportation is no longer a problem. The District Supervisors and Rural Inspectors have motorbikes and all other Inspectors have bicycles to facilitate their work.

Additionally, each of the three Aedes district offices has three pickups with ultra low volume mist machines (ULV) for adulticiding. Spraymen with four gallon sprayers do larviciding of positive water sources that cannot be drained.

The Inspectors do house to house surveys for Aedes Aegypti larva and provide information to the householders on the methods used to control the mosquitoes and reduce breeding sites. House to house surveys have been completed in all districts except for two where there were personnel shortages.

Overall, the project Vector Control Advisor would like to see an improvement in the record keeping system and in supervision at the district level in order to improve the quality of AA control operations at the district level.

### 3.2 Short-term Consultants

#### 3.2.1 Mr. Glenn Stokes - Aedes Aegypti Advisor

Mr. Stokes was in Belize from January 12 - February 9, 1987, to review the management and operations of the Aedes Aegypti Control Program. He developed relevant recommendations with regard to ways to improve field operations in larviciding, ULV spraying, adult and larval collection, ovitrapping, and bio-assay testing.

Additional recommendations were:

- A 5-year training plan with an outline for in-house training, short-term consultant training, and out-of-country training should be prepared.
- An improved recording and reporting system, with new reporting forms, large scale maps, inspection of public property and open lots, return visits to houses unattended on the first visit, and stenciling numbers on all houses.

- Accurate records of all insecticides supplies should be kept, and preventive maintenance on all equipment must be practiced - if equipment is constantly breaking down, the program will be threatened.
- Public information and education is indispensable and a program using both mass media and print media should be used.
- The AACP needs a strong entomological component and could possibly share services with the NMCP.

Overall, the consultant concluded that the AACP has the personnel, equipment, transport, and chemical capabilities to achieve an excellent control program, thereby attaining project objectives.

### 3.3 Training

#### 3.3.1 In-Country Training

Glenn Stokes, the AACP short-term T.A., gave a seminar on January 30 at the Medical Laboratory on the topics of *Aedes albopictus*, premise inspection, and ovitrapping. It was attended by *Aedes Aegypti* Inspectors and Supervisors from Belize City.

#### 3.3.2 Participant Training

Two AACP staff attended a six week (from April 6 - May 15) course at the University of South Carolina in "Epidemiology and Control of Malaria and other Vector Borne Diseases".

### 3.4 Community Development/Health Education

The CD/HE advisor conducted an *Aedes Aegypti* Health Education Workshop in December. 500 copies of the "Motivation through Communication" paper written for the workshop were produced for Hecopab and other agencies.

The CD/HE Advisor worked with the AACP Director to write radio announcements and news articles to be used to notify the population of use of the ULV machines for adulticiding. They also developed a check-list for identifying sources of mosquito breeding to be used as a training aid in homes and schools.

### 3.5 Commodity Procurement

The transport, spray equipment, microscopes, and insecticides are all in country. Additional sprayers (4 gallon) and hand held ULV machines will be procured.

## 4. WATER SUPPLY AND SANITATION PROGRAM

The transfer of the Rural Water and Sanitation (RWS) Program from the Ministry of Health to the Ministry of Natural Resources (MNR) became effective on April 1. This action had been pending since June of 1986 and the delay caused some problems in implementing project activities.

### 4.1 Operations

Through most of 1986, the major activities of the Water Supply and Sanitation component were delayed due to the limitation of transportation and the non-availability of counterparts. Both of these problems have been addressed in 1987: the majority of project vehicles have arrived in-country and in April a new national counterpart to the RWS office was appointed. The new counterpart, Mr. Roland Rivers, is more accessible than his predecessor and carries out his tasks in a very professional manner.

#### 4.1.2 Latrine Construction

Since the last reporting period, much has been accomplished. The fabrication of slabs, risers, and collars and the excavation of pits have been completed in the villages of La Democracia, Belize Rural District; Las Flores, Cayo District; and Georgetown, Stann Creek District. La Democracia was the first to successfully complete this phase of construction thanks to a very effective community participation program. Latrine construction in these villages is entering its last phase - building the above pits and shelters.

Slab and riser construction and digging of pits is now in process in Bermudian Landing, Rural Belize District, and in Silkgrass, Stann Creek District. Construction is also scheduled to begin in Unitedville, Cayo District, pending the completion of a Plan of Action.

Topographic levelling was completed in Georgeville and San Antonio villages of Cayo District and in Hopkins in Stann

Creek District in February. These villages are scheduled for Rudimentary Water Systems.

A reporting system which will account for all construction work has been devised. However some districts are not fully in compliance with the system. It is expected that it will take more time before the system is fully operational.

#### 4.1.3 Well Drilling

Drilling activities began in January with well siting in Bermudian Landing and Corozalito; in February the drilling of experimental wells was undertaken in San Antonio and Las Flores (Cayo District) and in Silkgrass and Hopkins (Stann Creek District). Wells scheduled for completion in June could not be completed due to a shortage of steel casing in the country.

Two alternate water systems are being studied for their feasibility: spring development in Blackman Eddy and Ontario, Cayo district, and the possibility of capturing fresh river water in Silkgrass, Stann Creek district.

Two additional village agreements for Water and Sanitation have been signed: one in Unitedville, Cayo District, and one in Maya Mopan, Stann Creek District.

#### 4.2 Short-term Consultants

##### 4.2.1 Mr. Richard Bourgoin - Drilling Training Advisor

Mr. Bourgoin was in-country from February 8 to April 11 to train local personnel in water drilling techniques and to observe and evaluate drilling operations. The consultant found that drilling operations were encountering problems due to: 1) the absence of a centralized drilling office with the authority to plan, coordinate, and supervise drilling operations, 2) drilling rig equipment that is inappropriate for the hydrogeological conditions of the project area, and 3) a chronic shortage of spare parts and support equipment.

The consultant recommended that drilling equipment be upgraded and prepared a list of tools and equipment that should be procured in order to keep the drilling rigs adequately maintained and provided with appropriate support equipment.

Most importantly, Mr. Bourgoin stressed that without an improvement in organizational structure and management, new equipment and better rig maintenance would not improve

drilling operations. He thus recommended that a central office of Drilling Operations be created to plan, coordinate, and supervise operations, and to manage inventory systems. This office would be administratively autonomous from the MOH/MNR and directed by two supervisors, one hydrologist and one geologist.

#### 4.2.2 Ms. Patsy Allen - Water Quality Laboratory Advisor

Ms. Allen was in-country from February 11 to March 19 to assist in establishing a Water Quality Laboratory and a water quality monitoring system that will collect samples and test all wells for water quality.

The consultant conducted a thorough inventory of lab equipment and supplies, prepared procurement list; for additional supplies, trained the water quality lab technician, performed an analysis of water samples obtained from rural sites, and introduced a water quality monitoring system to District Public Health Inspectors of the MOH.

The analysis of water samples showed that a majority of wells in Belize, Cayo, and Stann Creek Districts have unacceptable levels of hardness, conductivity, iron content, etc., raising the question of whether or not these wells should be rehabilitated.

The following recommendations were made:

- An additional person should be trained in the methods and procedures of the water quality lab, so that the program is not dependent on one person (Ms. Beverly Clare).
- Further microbiological studies should be undertaken to identify specific disease causing organisms in the local water systems.
- Preliminary results from water testing suggested that many of the wells need to be properly sealed and disinfected. A yearly disinfection program was recommended.
- The water sampling and analysis program should be evaluated after one year of operation to determine which tests are useful, which should be carried out more frequently, etc.

Ms. Allen's overall finding was that the establishment of close operational ties between the MNR and the water lab can bring about a vast improvement in the potable water supply in rural Belize.

#### 4.2.3 Mr. Joseph Haratani and Mr. Ralph Preble - WASH Consultants

At the request of the Mission, the two consultants from the Water and Sanitation for Health (WASH) project came to Belize for two weeks at the end of June to re-assess the design of the water supply and sanitation component of the project. Their report is unavailable as of this writing, but indications from a Washington debriefing attended by Pragma and MCD home office representatives are that the consultants will recommend reductions in project outputs viz. well drilling and/or an extension of the project.

### 4.3 Training

#### 4.3.1 Local Training

A workshop on project implementation was held in November in Dangriga. Training sessions on topographic levelling were conducted for all District Coordinators in Stann Creek, Cayo, and Belize Rural Districts.

The Drilling Training Advisor, Mr. Bourgoin, gave a two day workshop in February on Drilling Operations for all drillers in Belize. He also provided field training at several drilling sites during his February to April stay in Belize.

Patsy Allen held a workshop on the Water Sampling and Analysis Program for District Public Health Inspectors (DPHI's) in March. All DPHI's attended this workshop and each received a potable water testing kit capable of testing the following: ph, iron, free chlorine and hardness.

#### 4.3.2 Participant Training

The former National Coordinator for the Water and Sanitation Program, Mr. Sylburn Arthurs, was in the Dominican Republic in November on an Observation Tour for the Water Quality program. He completed his training in December with a week at the Environmental Protection Agency Regional Water Quality Lab in Annapolis, MD.

### 4.4 Community Development/Health Education

In January, Community Participation workshops were conducted by the CD/HE Advisor in La Democracia and Bermudian Landing. In these two villages and Valley of Peace the "Prescription

for Health" film was shown in schools and personal hygiene and the use of the latrine were discussed.

Over 200 people attended Water and Sanitation health Education activities throughout February and March in Stann Creek District. The activities included a session on proper use and care of the latrine and a workshop for village health workers.

Training workshops for Water and Sanitation Health Workers were held in Belmopan in March. The workshops were conducted in collaboration with the Enfants Refugies du Monde project.

As with the Malaria Control component of the project, the CD/HE Advisor's primary activities in support of the WS/S component have included attending village meetings, meeting with village health workers, conducting village assessments, making observation visits to project sites, developing training and educational materials, and giving presentations.

Such activities are being carried out in Belize District (Rockstone Pond, Maskall, San Antonio, Corozalito, Lucky Strike, and Flowers Bank); Cayo District (Christo Ray, United Ville, Valley of Peace, Tea Kettle, Ontario, and Blackman Eddy); and Stann Creek District (Independence, Santa Rosa, Maya Mopan, San Roman, Hopkins, Sittee River, Maya Center, and Red Bank).

Other activities of the CD/HE advisor for this reporting period include:

- Assisting the Water and Sanitation Health Committee in preparing educational pamphlets that can be used by agencies involved in rural water and sanitation projects. The pamphlets are entitled "Healthy Use of Handpump Water" and "Healthy Use of the Latrine".
- Translation of Village Health Committee information and project latrine agreements into Spanish.

#### 4.5 Commodity Procurement

Most commodities ordered have arrived in country. However, WASA is experiencing problems similar to those of the Vector Control Program viz. the lack of a storage inventory and distribution system. Additional lists of commodities have been sent to the Mission for procurement.

At the request of the Drilling Rig Instructor, a steel drilling mud tank was constructed for the project at a cost of \$5,000 Bz dollars.

## 5. VEHICLE MAINTENANCE

### 5.1 Operations

By the end of the year, 17 new project vehicles had arrived in-country after much delay. The Vehicle Maintenance Advisor (VMA) proceeded to register, to undertake pre-delivery servicing, and to distribute the vehicles to the appropriate services. A shipment of spare parts, tools, and equipment for the new vehicles and the maintenance workshop arrived in December, however this material had to remain in boxes due to a lack of storage space.

Procuring spare parts for MOH vehicles and getting funds for them is an on-going problem. Three of the four Korean ambulances were out of commission for six months waiting for parts. When parts are unavailable in neighboring countries, they must be shipped from the U.S. The VMA frequently travels to Chetumal, Mexico, to purchase spare parts for the Datsuns.

ULV misting machines were installed on three of the new vehicles. The VMA plans to service all the new vehicles at least once per thousand miles, although not having a proper garage makes this difficult. He will also visit the field once per month to inspect and service vehicles in outlying districts.

In January, an architect was contracted to prepare a plan for construction of a garage. The VMA held meetings with the Deputy Minister of Health and the Hospital Administrator to discuss the construction of the garage. Planning is now in its final stages and construction will begin as soon as the approval of the Permanent Secretary is given. Job descriptions for counterparts and helpers were submitted and two students from Belize Technical College will be recruited to work at the garage. The VMA continues to use the garage at the Belize City Hospital, pending construction of the permanent garage.

For the Water and Sanitation component, the VMA has been assisting with repairs on the rotary drilling rig in Punta Gorda, Bermudian Landing, Cayo, and Dangriga. Numerous problems have occurred with the drilling equipment, including

tires inappropriate for the rural roads, improper bits and inadequate tools. Details of these problems are described in Richard Bourgoin's report.

## 5.2 Training

### 5.2.1 Local Training

The VMA has been conducting training on Vehicle Care and Maintenance at the temporary garage on a daily basis. He also accompanied Mr. Bourgoin on field trips to assist with the training of the drilling teams and to evaluate the operation of the rig and crew.

### 5.2.2 Participant Training

The VMA attended a two day training course in Virginia given by Ford on Electrical Fuel Injection Systems.

## 6. MAJOR PROBLEMS ENCOUNTERED

### 6.1 Vector Control

#### 6.1.1 Organization

Vector Control activities are still hampered by inadequate coordination and decision-making due to the frequent unavailability of the NMCP Director and insufficient delegation of authority to the recently appointed Deputy Director. This has delayed action viz. certain recommendations of the short-term advisors and has affected staff morale. The June move of the IPTBH team and GOB NMCP/AACP administrators into the Butler Hut complex will hopefully improve coordination and decision making.

Entomologist and entomology lab services are necessary to conduct a vector control program based on reliable vector data. While two entomology aids have been appointed, there is still a dire need for a qualified entomologist, as recommended by the short-term NMCP and AACP advisors. This is especially true in a control program, in contrast to an eradication program, where the assistance of an entomologist is needed in order to target resources and design activities for maximum benefit.

### 6.1.2 Supplies and Equipment

Insufficient and inadequate storage facilities have caused deterioration of DDT stocks and have hindered the development of a proper inventory system for project supplies and equipment. At the close of the reporting period, construction of a Butler hut to be used for storage has almost been completed; currently, additional funds are required to complete the work. The Butler hut is located at the King's Park Health Center, not far from the project headquarters.

## 6.2 Water Supply and Sanitation

### 6.2.1 Organizational

The delay from June, 1986, to April, 1987, in the transfer of RWS operations from MOH to MNR prolonged the transition period and many details regarding planning, supervision, communications, and reporting are still being clarified. Under the direction of Mrs. Eleanor Hall, the MNR appears poised to make significant progress in RWS operations. A Chief of Health Education within MNR is not yet appointed. However, the IPTBH CD/HE Advisor helped draft a job description and a candidate has been identified.

The pitfalls of well drilling support the view that a long-term Drilling Rig Advisor would be an asset to the project in assisting the WS/S Advisor and RWS officers in the MNR. The WS/S Advisor is not a drilling expert; moreover he would not have the time to provide the supervision necessary for projected drilling operations.

### 6.2.2 Supplies and Equipment

Problems related to WS/S supplies and equipment have, in the view of the contractor, been the greatest problem the project has experienced during this reporting period.

The lack of hydrogeological studies in project design or their attainment through short-term consulting in the early stages of project implementation has resulted in drilling targets which appear unrealistic and the procurement of equipment which is not the best for the conditions. These concerns were not a major focus of the First Interim Evaluation.

In contrast, the as yet unpublished findings of the WASH team of Haratani and Preble seem to support the assertions of the contractor and the Drilling Rig Training Advisor that

technical adjustments in supplies and drilling rig equipment are warranted. Similarly, adjustments in WS/S targets seem advisable in the absence of a project extension. The recommendations of the WASH consultants will soon be presented to the Mission, and it is anticipated that decisions fundamental to the success of the WS/S component will be forthcoming.

### 6.3 Vehicle Maintenance

#### 6.3.1 Organizational

The construction of a new garage on the grounds of the Belize City Hospital has been delayed. Plans have only recently been presented to the MOH Permanent Secretary for his review and no target date is set for construction. Meanwhile, the VMA has no secure tool storage space at the garage and the mechanics are only partially protected from the weather.

#### 6.3.2 Supplies and Equipment

Two shipments of snap-on tools have been received, however they cannot be fully utilized until a more secure garage facility is available.

Since the start of drilling operations in February the VMA has also become involved in drilling rig repairs. This has brought to light the need for improved procurement, receipt, storage and distribution of project commodities. The completion of new storage facilities and meetings which have begun to create an inventory system will help solve this problem.

## 7. LIAISON ACTIVITIES

### 7.1 USAID Mission, Belize

Both the IPTBH field team and the Pragma and MCD home offices have had considerable contact with the Mission during the reporting period. The field team has almost daily contact with the Health Project Officer at the Mission. Quarterly Project Review Meetings are being held on a regular basis and the Chief of Party attends the regular Mission staff meeting.

Richard Killian, Pragma Project Manager, and Joseph Carter, Project Technical Officer, made a supervisory/support visit to the project February 10 - 24, 1987. This visit entailed meetings with the Health Project Officer, the General Development Officer, the Mission Controller, and the Mission Director. A variety of substantive issues, including those raised by the short-term consultants and the First Interim Evaluation were discussed frankly in these meetings.

In May, the Mission Director invited the President of Pragma and the Director of MCD's International Division to meet with him in Belize to discuss the status of the project. Consensus was reached on actions to be taken to address project issues identified by consultants, evaluators, GOB officials, and Pragma/MCD field and home office staff.

## 7.2 Pragma/MCD

The field team has regular contact with the Pragma/MCD home offices. The contractor's original project implementation plan programmed home office staff "to make field visits at least every six months to review progress, identify problem areas, and seek appropriate solutions in collaboration with team members, GOB counterparts, and USAID/Belize City personnel." The reduction of this interval from every six months to once a year is not, in the contractor's view, in the best interest of project implementation. Killian and Carter found that supervisory and teamwork issues are best identified and addressed with field visits and that a year is too long between visits. The field visit interval was discussed by Killian and Carter with the Mission Director.

## 7.3 GOB Counterparts

Positive changes have occurred viz. field team liaison with GOB counterparts. The appointment of a Deputy Director for the NMCP and a new National Coordinator for RWS will afford the Pragma/MCD advisors have sought to build effective working relations with counterparts.

## 7.4 Other International Organizations

7.4.1 Project Staff continues working with Health Talents International, Project Concern International, Pan American Health Organization and others to coordinate operations.

7.4.2 A Water and Sanitation Committee was reactivated in February. It consists of Health Educators from Pragma, Hecopab, Care, and the Canada-Belize water and sanitation project.

7.4.3 The CD/HE Advisor has been working with the Director of "Amigos de las Americas" and has recruited 30 volunteers to construct latrines in Belize Rural District. She has also been meeting with the Cocoa Project Development Advisor to discuss IPTBH project strategies and activities for Community Development.

7.4.4 Pragma/MCD home office staff have attended the Washington debriefings of 1) the team that conducted the First Interim Evaluation of IPTBH, 2) the WASH team which conducted the Midterm Evaluation of the CARE Water and Sanitation Project, and 3) WASH consultants Haratani and Preble who were requested by the Mission to reassess the design of the WS/S component of IPTBH. These debriefings have occasioned lively discussions on all WS/S activities in Belize and given Pragma/MCD an opportunity to share first-hand observations with AID/Washington and WASH officials.

## 8. PLANS FOR JULY - DECEMBER 1987

### 8.1 General/Vector Control

The IPTBH Project has received a bounty of technical advice from several short-term consultants who came to Belize during the October to June reporting period. A number of the operational recommendations have already been incorporated into GOB vector control activities.

The second half of 1987 will be a period of consolidating organizational changes that were made during the first half of the year (e.g. appointment and training of Ministry and district level counterparts, appointment of NMCP Deputy Director, transfer of RWS functions from MOH to MNR). It is anticipated that greater progress will be made in implementing the recommendations of long and short-term technical advisors as this consolidation takes place.

### 8.2 Water Supply and Sanitation

The Contractor expects to resolve a number of the supply and equipment problems which have hindered 1987 efforts-to-date.

The WS/S Advisor is working with the technical backstop staff from Pragma/MCD home offices to have more technical advice on supply and equipment purchase, especially spare parts and casing. A start has been made on establishing an effective inventory control system for project commodities.

The report of the WASH consultants will be presented to the Mission and will contain options for the future of the WS/S component of IPTBH. A long-term drilling advisor, the purchase of a rotary drilling rig, and better coordinated drilling operations through the MNR are among the improvements which could put the project back on track during this period.

As positive wells are drilled the water quality monitoring system now in place will be able to provide field and laboratory testing of samples.

The significant accomplishments in latrine construction and health education/community development will be continued during the second half of 1987.

### 8.3 Vehicle Maintenance

Given that the VMA has achieved a measure of success without proper spare parts, equipment, and facilities, the progress is excellent as plans are being finalized for construction of a new central garage. Arrangements are also being made for garage facilities outside of Belize City to repair vehicles in the field.

New counterparts and helpers are being recruited and the new facilities will allow for storage and fuller utilization of spare parts and tools already in-country.

ANNEX A

Back-to-Office Report of J. Carter and R. Killian

March 30, 1987

TO: Project File

FROM: Richard Killian, Pragma  
Joseph Carter, MCD

SUBJECT: Back-to-Office Report - Increased Productivity Through Better Health Project, Belize. Richard Killian/Joseph Carter Supervisory/Support Visit of February 10 - 24, 1987

1. INTRODUCTION

- 1.0.1 The visit was undertaken in accordance with the Pragma/MCD implementation plan which programs home office staff "to make field visits at least every six months to review progress, identify problem areas, and seek appropriate solutions in collaboration with team members, GOB counterparts, and USAID/Belize personnel." Permission for the visit was requested of Mr. Sam Dowding, HPM for USAID/Belize.
- 1.0.2 The Project Retreat which took place January 30 and 31, 1986 resulted in a reduction in the frequency of supervisory/support visits from semi-annually by home office staff to annually. Therefore this was the first Pragma/MCD home office staff visit to the IPTBH project since January - February, 1986. Pragma/MCD hope the AID Evaluation team will recommend semi-annual supervisory/support visits as field team staff deem them to be very supportive.
- 1.0.3 The visit was scheduled to overlap with the February 16- March 5, 1987 visit of the team from AID conducting the first interim evaluation of the project. The statement of work for the evaluation is included as Annex A.

2. MISSION PURPOSE

- 2.0.1 Messrs. Killian, the Pragma Project Manager (PPM), and Carter, the Project Technical Officer (PTO), obtained Mission approval prior to the supervisory/support visit, and at the request of the Mission Health Project Manager (HPM), Mr. Killian submitted the Scope of Work included as Annex B. As this was Mr. Killian's first personal contact with the team and first visit to Belize, the Scope of Work includes introductory visits to USAID/GOB/MOH officials and to the offices of other organizations, such as UNICEF.

2.0.2 As stated in 1.0.1, the major purpose of the supervisory/support visit was to review progress on the project, to identify problems encountered during implementation and to seek solutions to the problems so as to mitigate against desultory consequences. To accomplish this, the PPM and PTO set out to review project activities and to obtain the perspectives of the team, GOB counterparts and USAID staff. Findings were analyzed and serve as the bases for proposing corrective actions.

2.0.3 A further goal of the visit was to address certain contract management administrative issues, particularly those related to the timely processing of project vouchers.

2.0.4 As both Pragma and MCD had short-term consultants in Belize during the course of the supervisory/support visit the PPM and PTO planned to work closely with these individuals and team members with a view towards achieving the maximum benefit from their consultancies. Consultants fielded during this period included:  
Glenn Stokes - Aedes Aegypti Surveillance Advisor  
Edgar Smith - Malaria Surveillance Advisor  
Patsy Allen - Water Quality Lab Training Advisor  
Richard Bourgoin - Drilling Rig Instructor.

### 3. MISSION ACTIVITIES

#### 3.1 Technical and Administrative

3.1.1 The supervisory/support team arrived in Belize at the end of the workday on Tuesday, February 10, 1987. They met informally with Mr. Edgar Smith, the short-term Malaria Surveillance Advisor (MSA), to review his findings and what he planned to discuss at his debriefing meeting the next morning with Mr. Douglas Fairweather, Permanent Secretary of the Ministry of Health (MOH); Mr. Frances Westby, Administrator of the National Malaria Control Program (NMCP); Mr. Rafael Guerra, Director of Operations for the NMCP; and Mr. Sam Dowding, USAID/Belize HPM.

3.1.2 Wednesday, February 11 the team and COP Merrill Wood met briefly with Sam Dowding and Mary Ellen Tanamly at the USAID/Belize offices. Mr. Killian was introduced and the upcoming project first interim evaluation and findings of the MSA were discussed.

3.1.3

Messrs. Killian and Carter attended the MSA's debriefing session. The following is a summary of his major findings and recommendations:

(i) The NMCP, as presently being implemented, is an eradication program, rather than a control program as called for in the project paper. The project and GOB have neither the resources, nor the need (based on available epidemiological and entomological data) to conduct an eradication program.

(ii) The MSA recommends that available epidemiological records from the past 3-5 years be analyzed in conjunction with other available data to expedite the implementation of stratification. Stratification will allow areas where spraying is not indicated to be removed from spraying and thus reduce the negative public reaction that sometimes results from spraying. DDT is used for residual spraying in Belize.

(iii) Active Case Detection (ACD) should be eliminated in spray areas and replaced with semi-annual malarionetric surveys; in non-spray areas, ACD should be discontinued as a monthly operation to be replaced with twice yearly surveys. The Passive Case Detection (PCD) system should be strengthened by striving to reach the target number of voluntary collaborators (VC) and improving the selection and monitoring of VCs. The PCD system is presently identifying 70% of the positive slides.

(iv) Entomological services are essential for further progress in controlling malaria (and dengue) in Belize and no such services presently exist. Until a Belizean can receive training leading to an entomological degree, the services of a Peace Corps entomologist could fill the void. Two NMCP staff have received short-term training and one of these individuals could be appointed as an entomology technician. There was discussion regarding possible consultants to assist the NMCP staff who have had short-term training to set up entomology services. (In a subsequent meeting between the IPTBH team and the AID evaluation team, COP Wood

indicated that PAHO will support the salaries of three (3) entomology assistants.)

(v) The house-card system and use of maps for geographical reconnaissance and surveillance need to be more fully implemented and the importance of the system emphasized to NMCP staff. As supervision is essential to the surveillance process it is recommended that there be one supervisor per district, instead of per two districts as is the present situation.

(vi) The MSA recommends the creation of a Deputy Director position for the NMCP. Lack of supervision and lack of delegated authority to field staff are problems with the NMCP.

(vii) There are problems with the means of storage, and consequently with the potency, of DDT used in the NMCP. A team from Mexico was to be in Belize during the visit of the supervisory/support team to test the quality/potency of the DDT being stored at the Customs Warehouse. These tests are expected to show deterioration in the DDT due to inadequate storage facilities. The PS from the MOH, Mr. Fairweather, asked several questions of the MSA and was generally receptive to the findings and recommendations.

(viii) In spite of revisions there are still problems with the forms in the NMCP reporting system, which were developed prior to IPTBH project implementation by Computer Data Systems Inc. (CDSI). Further revisions of the forms are needed. The PPM plans to contact CDSI in Rockville, MD to explore the possibility of a further consultancy by CDSI. Mr. Carter, the PTO, inquired as to the procedure for acceptance of consultant reports and made suggestions apropos of the steps required to implement stratification activities which were incorporated into the final report.

3.1.4 Following the MSA's debriefing, the PPM and PTO inspected the Butler huts being constructed to house the IPTBH team and many MOH staff. The

structures were progressing satisfactorily and are expected to be occupied by mid-May 1987. The team also toured the new Water Quality Lab which had been set up under the direction of Mr. Harry Philippeaux, the IPTBH WS/S advisor. The facility is located upstairs in the national medical lab building (adjacent to the Butler huts) and is quite adequate in terms of space, equipment and supplies. The short-term Water Quality Lab advisor, Mrs. Patsy Allen, during her consultancy reviewed the contents of the lab and made recommendations for additions/deletions. The Lab will be used to test samples from new wells being drilled and samples from existing wells. Heretofore no water quality monitoring capability for rural water supplies existed.

3.1.5 On Thursday morning, February 12, Messrs. Killian and Carter met with the IPTBH team to review progress and identify areas where effort should be focused during the two-week supervisory/support visit. The reporting mechanisms used by the project team were reviewed. Discussion focused on the status of the first year work plans begun at the Caye Chapel Project Retreat which were apparently never officially promulgated by the MOH. It was noted that in the future, the TA team would use a format for workplans developed by USAID/Belize. The lack of completed workplans, combined with the lack of counterparts, vehicles and other commodities were hindrances during the first year of the project. The PPM and PTO stressed to the project team that progress had been made during year one and they should be prepared to describe this progress to the AID evaluation team by referring to the detailed Life of Project (LOP) Workplans included in the Activity Report for Jan-Sept 1986. The importance of developing workplans for 1987 was emphasized to the project team and the PPM and PTO offered assistance in this process. Arrangements were made for a follow up meeting with the project team on Saturday, February 14 to review progress made on the preparation of workplans for 1987.

In response to enquiries made by the PPM and PTO pertaining to the first semi-annual report which was submitted to USAID, the team indicated that no feedback had yet been provided; it was decided to postpone preparation of the next report until the end of March 1987.

3.1.6 A range of Administrative issues affecting the TA team were then addressed with most matters being readily resolved. However it was noted that some points raised by the team members would necessitate further attention. Ray Robertson specifically requested that action be taken apropos of:

- a revised SOW for the VMA to include a possible extension
- a training course in the U.S. in the area of the advanced vehicle electronic systems used on the Ford project vehicles
- separate maintenance allowance

Similarly H. Philippeaux requested that information pertaining to his eligibility for educational allowance benefits be provided. The PPM and PTO pointed out that some of these issues would require the formulation of official requests to the USAID contracting officer directly; it was further pointed out that issues pertaining to extensions of any sort would have to follow recommendations to that effect from the evaluation team, the GOB, or USAID.

3.1.7 Site visits were made on February 12 by the PPM and PTO with TA and MOH personnel. Accompanied by Harry Philippeaux, Patsy Allen and Beverly Claire (Belizean water quality technician), they visited the National Veterinary Lab with a view towards assessing the lab's ability to support the water quality lab if the need ever presented itself. The findings of this visit were reported to Mr. Fred Smith, the Senior Public Health Inspector. During the afternoon, the team traveled to the project villages of La Democracie and Las Flores to observe the progress of the latrine construction. Village construction teams were actively engaged in the construction process and genuine enthusiasm for the project was evidenced by village residents.

3.1.8 Preliminary observations of the Drilling Rig Training Advisor and Water Quality Advisor. Following a briefing by the Water Quality Lab Advisor, P. Allen and the Drilling Rig Advisor, R. Bourgoin on the evening of February 12th, it became clear to the PPM and PTO that certain critical issues related to the drilling component of the project warranted the attention of the USAID Project Officer, Sam Dowding. A meeting was

scheduled for the 13th of February to discuss the issues which follow.

3.1.9

The initial water quality test results of Ms. Allen indicated that a majority of the wells in the Belize, Cayo and Stann Creek districts exceeded U.S. standards for acceptability for an array of variables to include hardness, conductivity, iron content, etc. As a result of the poor water quality produced by these wells, they have long been abandoned by the consuming public. The operational question begged by this observation is: should wells that are not being utilized benefit from the well rehabilitation activities programmed by the project, when these activities will not result in improved water quality? A technical nexus for debating this question was established by the findings of R. Bourgoin who observed that improved water quality could be attainable in Belize only if wells were dug to the second aquifer. Obviously if the current capacity of the drilling equipment and the experience of the drilling teams would preclude achieving depths usually associated with the second aquifer viz. 160-300 ft., serious implications for the project would obtain - particularly with regard to project outputs related to newly constructed wells (and those qualitatively rehabilitated).

3.1.10

In the meeting of Friday the 13th which took place at USAID, R. Bourgoin and H. Philippeaux summarized as follows:

1) the cable tool rigs being used by the IPTBH project are slow and may not be capable of drilling to second aquifers, which is necessary in some cases to obtain acceptable water quality. It was unclear what position the GOB may have taken regarding well depth. Concern was expressed about the feasibility of drilling the 500 wells called for in the project using cable tool rigs.

2) the project calls for 250 wells to be rehabilitated, however many of these wells have been abandoned because of poor water quality. Since treating the water is not feasible, it would appear that rather than rehabilitate wells abandoned due to poor quality water, additional new wells may have to be drilled.

3) the terms of availability of the rotary drilling rig used by the UNICEF water project in the southern districts need to be clarified in order to develop realistic drilling schedules in the project districts of Belize, Stann Creek and Cayo.

4) Additional spare parts are needed for the six cable tool rigs of the MONR and an inventory system should be established for all drilling rig parts. Options for accomplishing the latter task were discussed.

5) a flow pump is urgently need to measure the flow of water from new wells and to determine pressure adequacy. Mr. Carter subsequently obtained price quotes through his home office.

3.1.11 Following Bourgoin's presentation, the PTO raised the issue of the potential impact of those findings on achieving project objectives i.e. 250 new wells and 250 rehabilitated wells. The position of the Project Officer (Dowding) was that it would be premature to initiate any call for major adjustments in project objectives prior to the completion of the drilling rig consultancy. The PPM and PTO agreed with this position adding that it would be advisable for the evaluation team engineer to meet with Bourgoin and Philippeaux to further discuss the issues raised during the meeting.

3.1.12 Administrative issues pertaining to the processing of IPTBH vouchers were initially addressed on the afternoon of the 13th. Contact was made with Dowding and the mission controller, M. Tanamly to ascertain the current status of vouchers submitted during the previous four months. It was agreed that the office of the controller would pursue the matter. It was pointed out to the Pragma/MCD team that recent changes in the venue of processing vouchers from Washington to Mexico City had resulted in bottlenecks that were currently in the process of being alleviated.

3.1.13 Changes in the vouchering format used by the contractor were suggested by the USAID Project Officer as a possible means for achieving reductions in vouchering processing time within the mission. The Pragma/MCD team agreed to make an effort to accommodate this request.

- 3.1.14 A working group meeting was convened on Saturday February 14. The purpose of this meeting was to address what were recognized as deficiencies in the coordination of workplan development among the TA advisors. There was a consensus that specific attention was required to further develop the workplan of the Health Education/Community Development advisor (HE/CD) in a manner that systematically integrated this advisor's 1987 workplan with those of the WS/S and Vector Control advisors. Killian and Carter made an effort to provide the CD/HE with some technical guidelines pertaining to workplan preparation.
- 3.1.15 During the week of March 16 Killian and Carter continued to address outstanding technical and administrative issues. With a view towards redressing the ongoing inventory problem, particularly that of the WS/S component, the PPM and PTO visited the MOH Customs Broker (located at the Belize City Hospital). The Customs Broker, Mr. Smith had in his possession the shipping documents for the India Mark II handpumps and the accompanying tools which were currently in storage at the customs warehouse. Copies of these documents were obtained and then used to make a preliminary inventory of the items in the warehouse. All pumps and tools described in the shipping documents appeared to be present in the warehouse. However neither the Customs Broker nor the office of the National Water Coordinator could provide a copy of the shipping documents or current inventory lists for the project drilling rig, accompanying spare parts, or tools and related material stored at Orange Walk. This underscored the fact that there are no acceptable inventory systems within the MOH project sub-sectors; it is an area that must be addressed.
- 3.1.16 A site visit was made to the vehicle maintenance facility located at the Belize City Hospital complex. The vehicle maintenance advisor Ray Robertson pointed out some of the major shortcomings of the facility which included the fact that, except for a small utility shed, the structure is unenclosed and therefore unsecured. The roof is in such a deplorable state that when it rains the floor of the garage becomes sodden. Mr. Robertson must be commended for working under extremely adverse conditions that preclude his even storing tools at the workplace. Plans exist for a new facility to be constructed on a site

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adjacent to the present structure, however a construction date has not been set.

3.1.17 Site visits were also made to Bermudian Landing in Belize Rural District and to San Antonio in Cayo District. In Bermudian Landing the PPM and PTO participated in a ceremony observing the initiation of project well drilling operations in the District. There was a very high level of community participation evidenced at this inaugural ceremony, an observation that attests to the effectiveness of the WS/S and CD/HE advisors in mobilizing village support. Unfortunately a day after drilling began, a clutch plate on the drilling rig broke. The unavailability of a replacement plate in-country reinforced the observation that an inventory control system for project-related commodities was necessary. It was noted that resolution of the inventory system problem would require addressing personnel, storage facility and area-of-responsibility issues. (These issues were aired with the evaluation team whose members indicated that it would be noted in their evaluation report.)

3.1.18 Meetings continued to be held both formally and informally with GOB officials involved in project related activities. Mr. Hilbert Lenares, Director of the Aedes Aegypti Control Program met with the PPM and PTO on February 20th to discuss operational and organizational issues. Mr. Lenares was of the opinion that the project had made an invaluable contribution to AACP operations. He noted that the visit of the short-term AA Surveillance consultant G. Stokes recruited by Pragma/MCD had been very constructive (in fact Stokes' consultancy was extended in order to permit the writing of AACP operations manual). He further indicated that he enjoyed a good working relationship with the COP M. Wood and was confident that most AACP project objectives would be attained. The AACP Director concurred with the suggestion that a short-term consultant be recruited to assist the HE/CD advisor developing education materials and strategies for community development.

3.1.19 Because of conflicting schedules it was not possible for the PPM and PTO to meet with Dr. Vanzie apropos of the recommendations to recruit a Deputy Director of the NMCP. However in informal discussions with the Permanent Secretary Mr.

Fairweather, it was suggested that Dr. Vanzie was supportive of the idea. If in fact a Deputy Director is appointed, it should greatly improve the day to day management of the NMCP and provide the COP with greater access to a full-time counterpart in the MOH.

### 3.2 Project Evaluation

3.2.1 The PPM and PTO first met formally with the evaluation team on February 16, subsequently there were informal sessions during which project matters were discussed. During the initial meeting, several topics were tabled by the PPM and PTO, among the most significant were:

- (i) period of performance - since the Pragma/MCD contract has been reduced from 48 to 39 months, adjustments to project output targets and/or the contract timeframe would seem in order; during the Caye Chapel workshop in Jan. 1986, the GOB, USAID and Pragma/MCD agreed that this issue would be re-considered following the first project evaluation.
- (ii) Shift in WS/S activities - the impact of the recent transfer of WS/S activities from within the MOH to the Ministry of Natural Resources will influence the IPTBH project; the extent of that influence and its nature viz. positive/negative warranted the consideration of the evaluation team.
- (iii) Economic Support Funds (ESF) - the inability of the MOH to readily access ESF funds precipitated certain delays in project implementation; in addition to curtailing the recruitment of MOH staff at the lower operational levels, the lack of ESF funds has retarded the construction component of the project. No precise starting date has been established for the MOH vehicle maintenance facility nor is it clear that storage and administrative facilities will be constructed/rehabilitated at the peripher.
- (iv) Counterpart personnel - in addition to the lower level personnel who could not be recruited because of financial constraints, the MOH has not been in a position to hire a full time entomologist who could serve both the NMCP and AACP; for this reason the

possibility of recruiting a Peace Corps entomologist has been proposed.

- (v) Water quality and well construction objectives - the preliminary findings of the water quality lab and drilling advisors indicated that improved water quality could only be achieved by deeper drilling - a fact that has serious implications for the well construction/rehabilitation objectives of the IPTBH project.
- (vi) Inventory system - the design and implementation of inventory systems for MOH programs and the MNR is a prerequisite to improving the operational efficiency of both the vector control and WS/S activities, the evaluation team was apprised of the existing deficiencies and suggested interventions were proposed.

3.2.2 During informal sessions with the evaluation team, issues pertaining to project backstopping were addressed to include the perceived need to increase the frequency of supervision missions from one per year to two. Hopefully semi-annual visits would afford the PPM and PTO the opportunity to identify and resolve problems prior to their becoming entrenched. The reporting system now used by the IPTBH project was also discussed; it was pointed out that this system was in total compliance with the contract (the trip reports and quarterly reports now prepared for internal use are sent to USAID as a courtesy).

### 3.3 Wrap-up Meetings

3.3.1 Sam Dowding (HPM), Mohamed Tanamly (Controller), Lucia Keegan (Voucher Examiner) at USAID/Belize. The team met with these individuals to follow-up earlier discussions regarding the status of Pragma/MCD vouchers going back to October 1986. Mr. Tanamly indicated that cheques had been prepared in Mexico City for the October and November vouchers, however the diskette containing the December and January vouchers had been misplaced and would have to be resent. Mr. Tanamly assured the team that the delays have been primarily attributable to USAID procedural changes and should not recur.

3.3.2 In reference to garage construction, Mr. Dowding stated that the GOB is responsible for preparing construction plans as a condition precedent for the IPTBH project. Even if construction funds are budgeted for FY '88 the activity may still not be accomplished if plans aren't completed. In 1986 a new MOU for ESF was signed, earmarking Belize \$2.7 million for the LOP of IPTBH. Local construction funds are included in this amount. Thus far, the communications necessary between the MOH and the Ministry of Finance for ESF funds to be released have not taken place.

3.3.3 Neboysa Brashich, Mission Director, USAID/Belize. The PPM and PTO, accompanied by Sam Dowding, had a very frank and comprehensive discussion with Mr. Brashich regarding the status of IPTBH, describing their observations, actions and recommendations. Mr. Brashich welcomed the sharing of information and reiterated his support for Pragma/MCD's efforts.

The reductions in LOP from 48 to 39 months and in frequency of supervisory/support visits from semi-annually to annually were mentioned to Mr. Brashich. The team reported that even with telex, telephone and mail communication, greater interaction and information sharing between the home offices and field office is necessary than is afforded by one supervisory/support visit per year.

The PPM and PTO also made reference to the issue of conditions precedent not met by the GOB, an issue which was previously raised in a meeting with HPM Sam Dowding. The HPM had suggested that IPTBH funding might be withheld from the contractor as a result of unmet conditions precedent. The Pragma/MCD position was that the contractor is not responsible for conditions precedent and project funds should not be withheld from the contractor on grounds of unmet conditions precedent.

#### 4. Recommendations

4.0.1 Based on the final round of meetings which occurred between the IPTBH team and home office staff, a series of recommendations were developed:

- (i) COP Wood announced the initiation of IPTBH team meetings each Monday morning at 8:30 a.m. The

purpose is to provide a regular, formal opportunity for team members to share information, coordinate activities and address issues of mutual concern.

- (ii) IPTBH Quarterly Reports, which have heretofore been distributed only to the Pragma/MCD home offices, will now be reviewed and bound at the home office and distributed to USAID/Belize.
- (iii) The Vector Control Advisor, and the WS/S advisor would collaborate with the HE/CD advisor to more systematically coordinate the preparation of workplans.
- (iv) Terms of reference will be prepared for a short-term consultant to assist the CD/HE advisor in the preparation of operational protocols and education materials.
- (v) An attempt will be made to render the project quarterly review meetings more effective by allocating team members more time to review their activities during these meetings.
- (vi) The home office would continue to facilitate the procurement of project materials by assisting USAID in obtaining price quotations; this will be particularly helpful to the VMA.
- (vii) All advisors would continue in their efforts to function as members of a team and not individual consultants.
- (viii) The IPTBH team would support the need to establish inventory systems within the MOH and MNR to both manage project commodities and to enhance the operational capacity of the MOH and MNR.

## 5. Conclusions

5.0.1 The supervisory/support visit was very timely and, despite a heavy schedule, did permit the PPM and PTO to address the problem areas hampering project implementation. There is an almost inestimable benefit to be derived from introducing new personalities into a situation where the ongoing interpersonal dynamic has hardened. By bringing an objectivity to bear on the problems which the long term team members had themselves identified, the supervisory team was hopefully able to achieve a certain breakthrough that will permit enhanced coordination among team members.

- 5.0.2 Recognition and acceptance of the need to collaborate more extensively in preparing annual workplans was perhaps one of the more valuable contributions of the supervisory team.
- 5.0.3 The timing of the supervisory/support visit was almost optimal. It coincided with the work of the short-term malaria surveillance advisor as well as the water quality lab and drilling rig instructors. It also overlapped with the visit of the AID evaluation team, thus allowing the PPM and PTO to assist the project team in preparing for the evaluation and to work with the AID evaluators in focusing their effort.
- 5.0.4 Problems related to inventory/procurement, garage construction and delegation of authority require actions on the part of the GOB. The attention given these problems by the supervisory/support team and, hopefully, by the upcoming evaluation report should contribute to solutions.
- 5.0.5 In summary, after being slowed by a lack of materials, vehicles and counterparts in year one, the IPTBH project is poised for a year of solid progress toward reaching its goals. Counterparts have been appointed and vacant positions filled, materials and vehicles have arrived and field activities are off to a good start. The project team is well-regarded and the project enjoys support from the GOB and the USAID Mission. Outstanding issues still remain but at least they have now been identified and there exists a commitment to resolve them.

ANNEX B

J. Defay/P. Leger Issues Paper

June 11, 1987

TO: PRAGMA/MCD BELIZE STAFF

FROM: J. Defay, P.R. Leger

SUBJ: Proposed Plan to Resolve Key Issues Presented During meeting à USAID/Belize Between all Project Parties in May 1987.

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As promised, we had agreed to provide the team with sample indicators for resolving major problems discussed during the May 27 meeting with GOB and USAID/Belize. In our trip outcome memo dated 6/17/87, we listed the key issues which were raised at that meeting and discussed by all parties, as well as the understanding which was reached by all vis-a-vis their resolution. We therefore propose to list the problems in each one of the five areas, propose some sample actions which need to be taken in order to resolve the problems, and provide clear targets which can enable all concerned to monitor progress.

#### PRINCIPAL OBJECTIVE

Our principal objective is that all problems presented herein are either solved or adequately addressed by April, 1988.

#### PROPOSED ACTIONS TO MAJOR ISSUES

Project Planning, Budgeting, and Programming

##### PROJECT PLANNING AREA:

Objective: To develop an effective process for the timely preparation of Annual Workplans.

Problem expressed: There is presently no established process for the timely preparation of Project workplans. The criticism voiced was that the 1987/1988 workplan was prepared as a last minute resort, and that the PRAGMA/MCD team workplan was different from that received by USAID from the GOB.

##### Rationale for resolving the problem:

Project Annual Workplan preparation should follow a process whereas the implementation components will be able to provide to the Ministries of Health and Natural Resources their proposed activity plans for the following year and identify the

resources which will be needed to effectively implement the proposed activities.

A process for reviewing and approving the activity plans will need to put in place.

Proposed Actions:

- 1) The T.A. Team will design a process for preparing annual workplans. This process will include:
  - o A review of Project progress by the T.A. team and their counterparts.
  - o Formulation of achievable objectives and activities for the following Project year.
  - o Estimation of resources needed to accomplish plan.
- 2) The T.A. Team will also propose a schedule for plan preparation as well as specify responsible parties for each planning tasks. It will also propose an effective review process leading to plan approval and adoption by the GOB.
- 3) The contractor will conduct at least one seminar on the subject of Project Workplan Preparation where the approved process is to be presented to those who will have been identified of having responsibility in the implementation of the process.

Targets:

Presentation by the PRAGMA/MCD team of the proposed workplan preparation process to the GOB and USAID: July 15, 1987

Review and adoption of the proposed process by GOB and USAID: July 31, 1987

Organization of workshop on workplan preparation for appropriate project staff: September 87

Presentation by field team of FY 88/89 Workplan to GOB: January 1, 87

Approval of workplan by GOB:

PROJECT BUDGETING AREA:

Objective: To ensure that a representative budget for approved field activities is appropriated to the Project annually.

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Problem expressed: There is presently no clear defined format and process for preparation of Project budgets.

Proposed Actions:

- 1) The Contractor is to prepare a budgeting process for the Project which will be submitted to the GOB and USAID for approval.
- 2) The Contractor will introduce budgeting as a part of operations programming for all Project components.
- 3) The Contractor will organize a formal Project workshop on budgeting for Project counterparts and others as appropriate.
- 4) As part of the Project's M.I.S., the Contractor will develop a Project Financial Management data file which will be useful for future Project management decisions.

Targets:

Presentation of a Project Budget Development Plan related to project annual workplans by:	July 31, 1987
Preparation of Project Budgeting as a component of Workplan preparation workshop by:	September 1987
Establishment of computerized financial data management system for the Project by:	January 1988
Preparation of Project FY 88/89 budget by:	February 1988

PROGRAMMING AREA

Objective: Improve Project implementation through effective activity programming.

Problem expressed: Programming for the performance of major Project activities have not been adequately programmed in order to ensure effectiveness and efficiency of interventions.

Proposed Actions:

- 1) The Contractor will prepare a guide to be used by appropriate Project staff on activity programming.
- 2) The Contractor will develop programming as a part of its proposed workshop on planning and budgeting.

- 3) All members of the Contractor's team will provide on the job training to appropriate Project personnel on activity programming.

Targets:

Contractor will prepare a guide on activity programming Project personnel by:

September 1, 1987

The workshop on planning, programming and budgeting is to be conducted by:

September 1987

ANNEX C

Scope of Work for the CD/HE Short-Term Consultant

STATEMENT OF WORK OF THE CONSULTANT FOR REVIEWING THE COMMUNITY DEVELOPMENT/COMMUNITY PARTICIPATION/HEALTH EDUCATION (CD/CP/HE) ACTIVITIES FOR THE WATER AND SANITATION PROGRAM. BELIZE C.A,

OBJECTIVES:

The Consultant shall review, evaluate, recommend and assist with improvements for strengthening the CD/CP/HE activities.

SCOPE OF WORK:

1. Review and advise on how community participation could be more effectively promoted and utilized.
2. Review and advise on planning and organization of the present CD/CP/HE activities including but not limited to the Village Profile, Home-level survey, tabulating survey results, introducing the project to the village, General Village meetings.
3. Review and advise on the strategies for user participation in Independence village.
4. Review and advise on the strategies for user participation in a Garifuna, Mayan and Creole Village.
5. Develop an indicator system for measuring the level of success for CD/CP/HE.
6. Develop a management tracking system for activities conducted in the villages.
7. Do observation field visits to accomplish the above stated tasks.

REQUIRED REPORT:

At the end of the contract, the consultant will leave in draft the final report to USAID Mission, Pragma and the Ministry of Health. After 30 days s/he must send to Pragma, six final copies for distribution.

LEVEL OF EFFORT:

4-6 person weeks.

2.

EDUCATIONAL REQUIREMENT:

The consultant must have a Masters Degree in Community Development, Health Education, Public Health, Anthropology or Medical Anthropology. A PHD with Bi-lingual English-Spanish capabilities is preferred.

EXPERIENCE:

It is necessary that the consultant has at least five years overseas development experience in community level CD/HE Activities. Familiarity with Latin America is important but not essential.

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