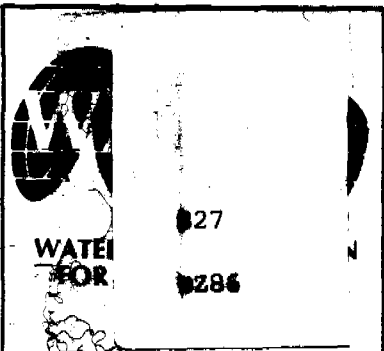


CARE-BELIZE WATER SUPPLY AND SANITATION BASELINE SURVEY



Operated by
CDM and Associates

Sponsored by the U.S. Agency
for International Development

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WASH FIELD REPORT NO. 147

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Prepared for
the USAID Mission to Belize
Activity No. 117

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CARE-BELIZE WATER SUPPLY AND SANITATION
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Prepared for the USAID Mission to Belize
under Request Memorandum No. 117

by

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827 8286

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September 1985

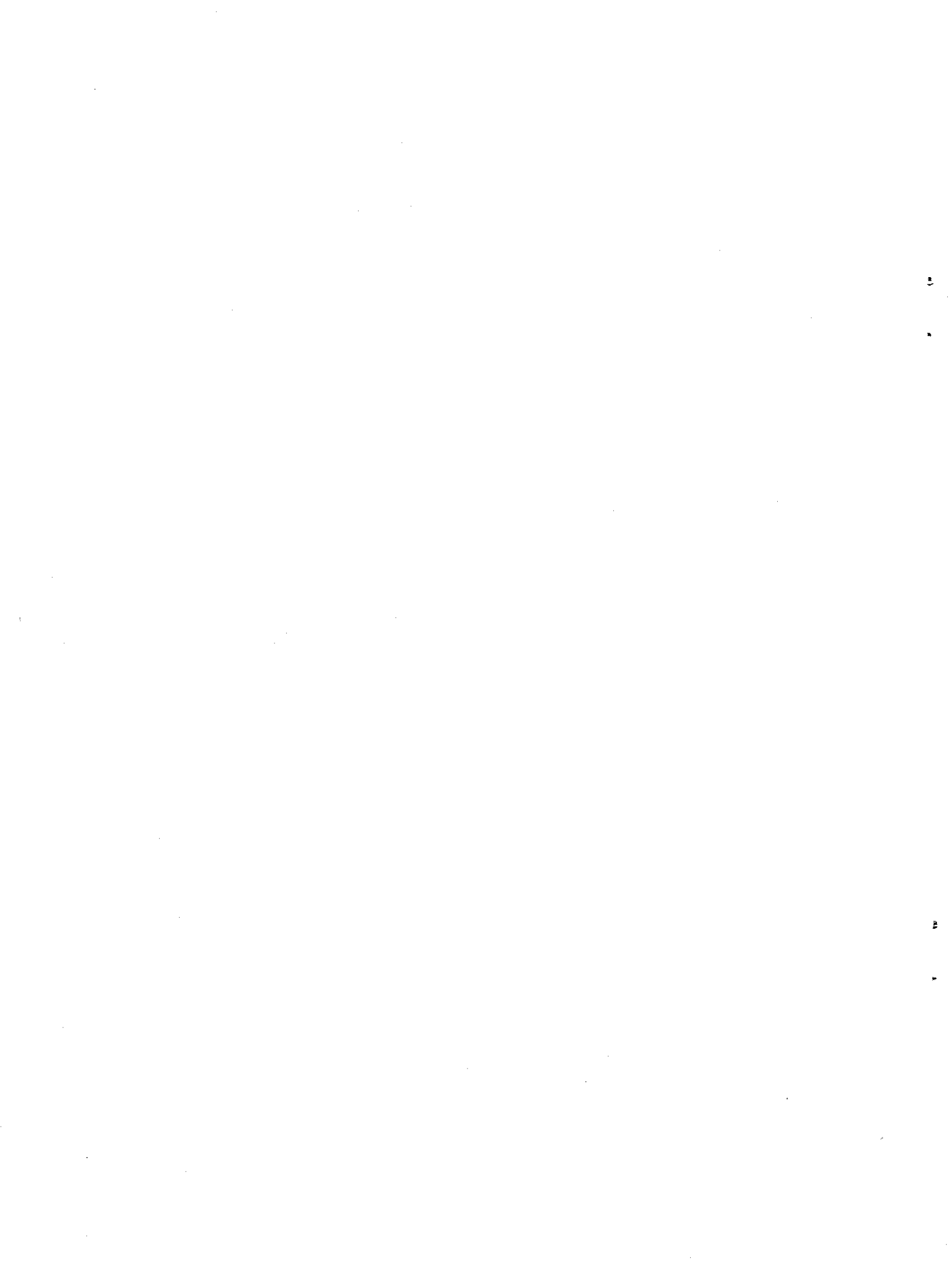
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ACRONYMS

lcd	Liters per capita per day
MOH	Ministry of Health
O&M	Operations and maintenance
REAP	Relevant Education for Agriculture Production
RWS	Rudimentary Water System
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VLWS	Village-Level Water and Sanitation Project
WASH	Water and Sanitation for Health Project
WHO	World Health Organization



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While in Belize, many people assisted in making the most out of this consultant's time in-country. First and foremost are the staff at CARE-Belize (Doug Clark, Estilito Loria, Howard Kolb, Ravey Smith, Silvano Guerrero and Rafael Novelo) and the Office of the Principal Public Health Inspector of the Ministry of Health (Fred Smith and Sylburn Arthurs). USAID/Belize staff played a very important coordinating role which has enhanced the utility of the household survey and village water and sanitation profile formats throughout Belize. Fortunately, open communication between the CARE, USAID and UNICEF water and sanitation projects has been emphasized from the beginning and the work of this consultant benefitted from the cooperative atmosphere. It is hoped that such cooperation will continue throughout the implementation of all three projects.

In the United States, WASH (Jim Jordan and Ray Isely) and CARE-New York staff (Rudi Horner) assisted by making helpful comments on many drafts of both the survey and final report. Bill Davidson, an anthropologist, helped to orient the WASH consultant about the vagaries of working in Belize.



EXECUTIVE SUMMARY

From January through June 1985, a consultant sponsored by the Water and Sanitation for Health (WASH) Project made three trips to Belize to work with CARE-Belize on the design and implementation of a baseline household water and sanitation survey. This assignment was based on a request from the USAID Mission in Belize and authorized by AID's Office of Health in Washington. The WASH consultant worked with CARE, the U.S. Agency for International Development (USAID), Ministry of Health (MOH) and UNICEF staff in designing the household water and sanitation survey. At this time the survey is being used only in two districts (Corozal and Orange Walk) where CARE is implementing the Village-Level Water and Sanitation (VLWS) project. Ultimately, the survey will be used throughout Belize on all rural water and sanitation projects. To date, it has also been utilized in the Toledo and Stann Creek Districts with only slight modifications.

Initially the assignment was to design and implement the baseline household survey. However, in response to suggestions from the MOH, CARE and USAID, the scope of work was expanded to include assistance in developing a system for selecting and ranking villages to be involved in the water and sanitation programs. This work included:

- refining village selection criteria with project staff;
- designing and implementing village water and sanitation profiles in 58 villages; and
- developing scoring sheets and a process for analysis of the village profiles by CARE and MOH staff for selecting 16 project villages in Corozal and Orange Walk districts.

Upon completion of these activities, a baseline household survey was designed and implementation begun in two project villages, although initially it was expected that the WASH consultant would implement the survey for all 16 CARE project villages. Based on the need to work in a more systematic and consistent process with project villages, a new approach was determined. This included training project staff in all aspects of survey design, enumeration and analysis, and establishing a process whereby village residents were involved in all phases of the survey and profile activities. Emphasis was placed on making sure that local residents understood how the project was being implemented, how decisions were to be made, and what village involvement in decision making could be expected. Villagers were also directly involved in survey design (through pretesting), in survey enumeration (working as part of a two-person team with CARE staff), and in use of the survey results for designing a local water and sanitation program. Ultimately, this approach would mean that labor-intensive methods of survey tabulation and analysis rather than computers could be used.

The baseline survey and village water and sanitation profile were designed with all seven districts of Belize in mind. Also, a system for project monitoring and evaluation utilizing the household survey form or a more abbreviated household sanitary survey form was suggested. Revised indicators for project progress were also provided.

Chapter 1

INTRODUCTION

As originally described in the Village-Level Water and Sanitation (VLWS) Project proposal presented to the U.S. Agency for International Development (USAID) in 1984, the Water and Sanitation for Health (WASH) Project was requested to assist CARE-Belize in undertaking a series of village-level surveys to obtain information regarding:

- Environmental health knowledge -- How great is local awareness of the connection between clean water, proper excreta disposal and good health?
- Water use and sanitation attitudes -- What is water valued for? What sources of water are best for which purposes? Are there cultural beliefs related to excreta disposal or personal hygiene? What is the importance of ill health, especially in children?
- Water usage and sanitation practices -- What are current water sources? What is water used for and in what quantities? How is excreta disposed of? What are the major problems connected with meeting daily household water and sanitation needs? What are the seasonal variations?

The scope of work prepared by WASH requested that a baseline survey specialist develop and execute a survey to gather information on the current attitudes and practices concerning water usage and methods of excreta disposal in rural communities in the Orange Walk and Corozal districts of Belize. The survey would identify sources and quantities of water used in these communities. The following were accomplished:

- review of project documentation and discussion with CARE, the Government of Belize (GOB) and USAID, as appropriate, to obtain a clear idea of project goals and objectives;
- review of data collected by USAID vis-a-vis socioeconomic conditions in villages involved in the rural roads project (for Orange Walk and Corozal only);
- review of data collected by USAID vis-a-vis nationwide inventory of handpumps and latrines (for Orange Walk and Corozal only);
- development of scope of work and budget for initial baseline survey;
- development of baseline survey instruments including the village profile to cover the data needed for ongoing monitoring and final evaluation;
- recruitment and training of field personnel for data collection;
- pretesting and revision of survey instrument;

- execution of baseline survey in one village;
- design of information feedback system for collecting the data necessary for ongoing monitoring;
- analysis of data from the one village and preparation of report, including financial accounting for expenses incurred for survey; and
- training of CARE's two district coordinators to conduct further baseline and follow-up surveys.

Work on this project was begun in January 1985 with three trips made to Belize between February and June 1985. During the first trip (February 1985), work was principally with the VLWS CARE project coordinator (at that time, Sylvano Guerrero) and with the CARE public health education specialist (Douglas Clark). This team also received input and guidance from other staff at CARE, MOH, USAID, Peace Corps and UNICEF (see Appendix A for a list of contacts). This first trip focused on reviewing relevant documents, becoming familiar with the project areas, providing water and sanitation project implementation advice, and producing a village water and sanitation profile form and a draft baseline household-level survey.

In the time between the first and second trips, CARE staff, after circulating the form to other organizations involved in water supply and sanitation, visited all 58 villages in Corozal and Orange Walk districts and completed a village water and sanitation profile of each village. MOH representatives accompanied the CARE staff on visits to 10 of the 58 villages. At the same time, the preliminary household survey was circulated for comments among the staff at CARE, Peace Corps, UNICEF, MOH and USAID, as well as AID/Washington and the WASH office.

The second trip began on March 13, 1985, and lasted two weeks. Activities included:

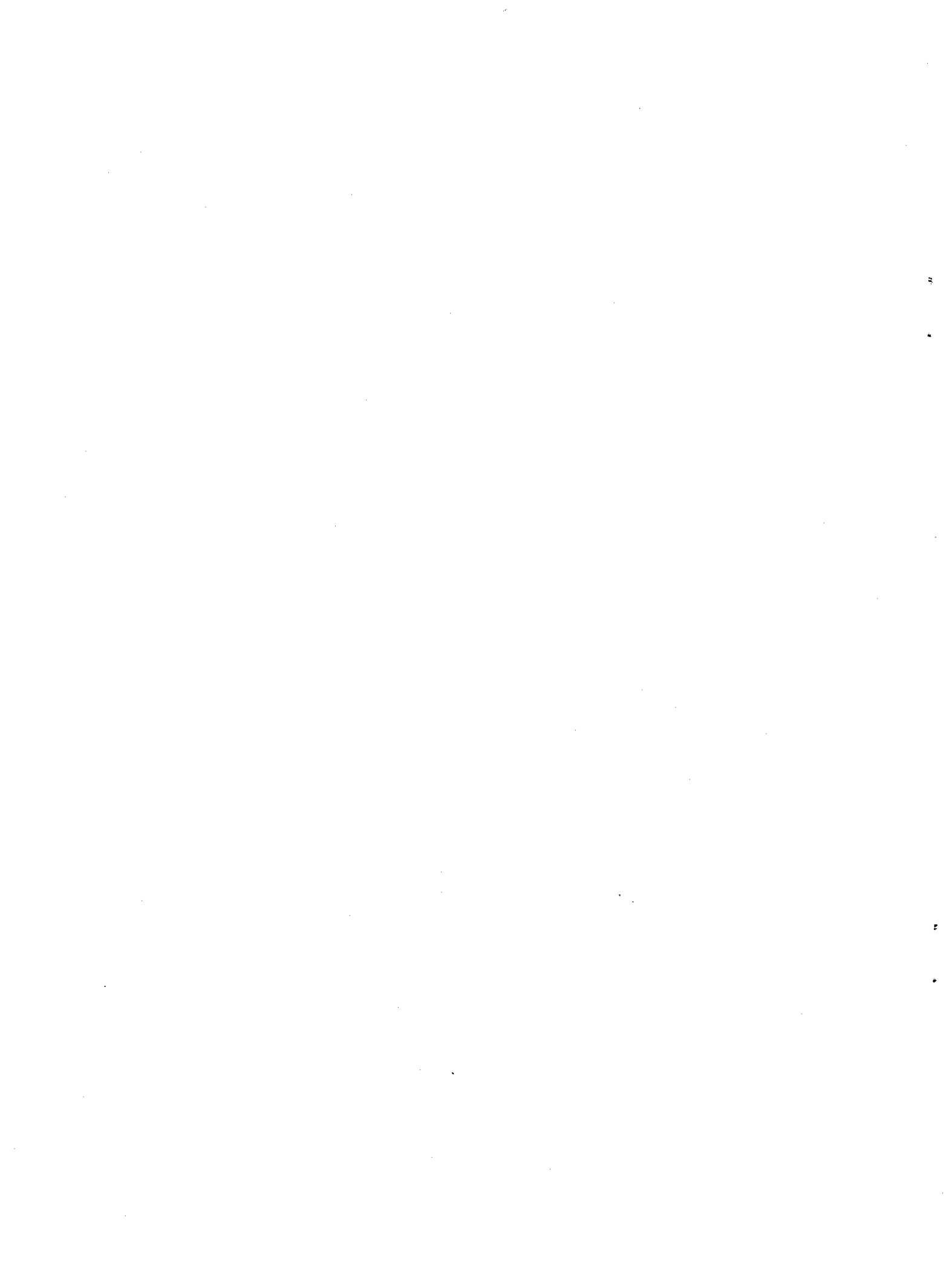
1. selection by CARE and MOH staff of the villages in each district where the CARE project will focus, using the village water and sanitation profile completed by CARE and MOH staff;
2. finalizing and pretesting the household survey form;
3. training CARE staff in the implementation of the household survey;
4. discussing with USAID, UNICEF and MOH staff the progress of the CARE project to date, survey methodologies, the village selection process, and intended activities.

In the time between the second and third trips, CARE staff, with assistance from local villagers, implemented the baseline household survey in the first project village, Buena Vista. Villagers worked in a team fashion with CARE staff visiting each household and completing the survey. One hundred percent of the households in the village were covered.

The third trip, from April 18 to May 8, 1985, included tabulation and analysis of the survey data from Buena Vista, further training of CARE and MOH staff,

and communication of general program recommendations to CARE-Belize as to how the survey data would be used to design projects in the villages. Staff orientation for work on similar baseline studies for the UNICEF and USAID water and sanitation projects with the MOH was also provided.

In reference to the scope of work, it is important to note that it was decided not to attempt completion of the household survey in all villages at this time. To do so would be difficult logistically, would place a great burden on the already overextended CARE-Belize technical and support staff, and would not allow enough time for the project to put in sufficient "groundwork" (presurvey orientation, public meetings, forming water and sanitation committees, etc.) in each village. Rather, emphasis was placed on indepth training of CARE and MOH staff such that they will be able to implement all aspects of the survey work in the future.



Chapter 2

PROJECT BACKGROUND

2.1 General Description

The CARE Village-Level Water and Sanitation (VLWS) Project is a three-year project focusing on roughly 1,600 households in Corozal and Orange Walk districts in northern Belize. The water supply component of the project will include activities such as the development and rehabilitation of 160 tubewells and the installation of 160 (1 per 10 families by UNICEF standards) Mark II handpumps (made in India). The Mark II handpump has been chosen by the MOH as the standard handpump for all new government-funded projects. There is also a possibility that the project may assist some villages in the installation of small, centralized potable water systems, or rudimentary water systems (RWS). The sanitation component of the project plans to construct and/or rehabilitate 1,600 latrines (1 per family).

The overall project places a strong emphasis on health education for all age groups including both formal school-based programs and nonformal, community-based education. The strong project emphases on health education and community "self-help" distinguish it from past efforts by the GOB in the water and sanitation sector which usually donated to the village all the necessary materials, technical assistance and operations and maintenance resources. The village profile was designed to help project staff select villages for water supply installations, while the household survey was designed to provide baseline and follow-up data on selected villages.

2.2 Project Staffing

CARE project staff working full-time on the project include:

1. a project coordinator from Belize who resides in Belize City;
2. a health education adviser from the United States who resides in Corozal, but will work in both districts;
3. a water and sanitation engineering adviser from the United States who resides in Orange Walk, but will work in both districts;
4. a Belizian coordinator for Orange Walk district (resident of the district); and
5. a Belizian coordinator for Corozal district (resident of the district).

On the MOH side, the chief public health inspector, stationed in Belize City, will provide central-level support and guidance to the project. MOH has also designated a special water and sanitation project coordinator who is also a public health inspector and is based in Belize City. This coordinator is to work with all three of the MOH's current rural water and sanitation projects which are being supported by CARE, UNICEF and USAID. In the field, each

district public health inspector will work with CARE on all aspects of project implementation. Finally, the MOH will have a health education specialist at the national level who will work with the CARE health education specialist.

Chapter 3

THE VLWS PROJECT APPROACH AND ACTIVITIES

3.1 VLWS Project Approach

As outlined above, the CARE project is expected to provide potable water and improved sanitation facilities for 1,600 households in Corozal and Orange Walk districts. Following are the project activities that are expected to result in improved water and sanitation conditions in each project village:

1. Implementation of a village water and sanitation profile for all villages in the Corozal and Orange Walk districts by CARE and MOH staff, with assistance from villagers, Relevant Education for Agricultural Production (REAP) district councils and district health teams;
2. Using the village water and sanitation profile, selection of project villages by MOH, USAID/Belize and CARE-Belize, based on specified selection criteria (discussed in Section 3.3);
3. After selection of villages, conduct of general village meetings in each project village to fully explain the project purpose, the CARE and MOH contributions envisioned, and the expected input from the villages; and
4. Implementation of a baseline household survey of water and sanitation conditions for project design, monitoring and evaluation purposes. The baseline survey focuses not only on technical aspects of water and sanitation (e.g., latrine conditions, water quality, etc.), but also community development and socioeconomic conditions in each village.

The CARE/MOH project is one of three new rural water and sanitation projects currently underway in Belize. The other projects are being implemented by the MOH with assistance from UNICEF (in Toledo district) and USAID (in rural Belize district, Stann Creek, and Cayo districts). In each case, it is possible that baseline surveys similar to this one will be conducted. Hence, an attempt has been made to coordinate the design of the CARE village profile and baseline household survey with the other organizations. As mentioned previously, in the time between the first and second trips, the village water and sanitation profile and the draft baseline household survey were circulated among the different organizations for their comments. It is hoped that the CARE village profile and household survey can be used either wholly or in part by project staff in other districts.

The MOH/CARE project represents the first comprehensive and systematic effort to improve water and sanitation conditions in Corozal and Orange Walk districts. The project also deviates sharply from past water and sanitation efforts in Belize in which the GOB has directed local water and sanitation projects and provided almost all labor and materials. In contrast, this project (as well as the USAID and UNICEF projects with MOH) places immense importance on community participation. In this context, this means that for the

first time villagers will be asked to cover most long-term operation and maintenance costs as well as a substantial portion of the capital costs (materials and labor) for installing improved water and sanitation systems. MOH and CARE will provide the villages with assistance for setting up operations and maintenance (O&M) programs including local mechanisms for funding long-term needs such as spare parts, mechanics, etc. Both CARE and MOH (as well as USAID and UNICEF) believe that the villages can, and should bear the costs of long-term O&M. With this in mind, CARE, UNICEF, MOH and USAID are now working together to establish a set of national policies that should clarify what participation means in terms of water and sanitation. For example, a policy is to be established which will clarify exactly what village contributions (labor and materials) are expected during a latrine construction program. The new CARE, UNICEF and USAID projects all plan to request maximum village contributions, going beyond previous efforts in which everything was usually donated to the village. It is hoped that this new philosophy will apply to all water and sanitation projects, including the installation of latrines, handpumps, and rudimentary water systems (RWSs) (see Section 3.3).

It was decided that Belizian district health officers, project coordinators and local residents would serve as survey enumerators. This serves a number of purposes. It enables new project staff (i.e., the newly hired CARE district coordinators) to become familiar with each village. It also means that longer-term concerns such as community participation and counterpart training are given the proper emphasis from the very beginning of the project. If adequately involved in developing the survey, local enumerators can ensure that questions are asked in an appropriate way and that important issues are addressed. Also, during survey implementation their knowledge of local customs, people, and water and sanitation practices can help to ensure that survey responses are realistic. At the same time, they can provide informal comments, often the most important part of a survey. Obviously, this kind of input is invaluable.

The involvement of nontechnical (from either a social science or water and sanitation perspective) enumerators creates special conditions for survey design and implementation. Care must be taken to ensure that the enumerators' perspectives do not impinge on the objectivity of the survey. To some extent this cannot be avoided; one can only attempt to minimize it. The nontechnical background of the enumerators also means that they must be given substantive training before formal survey work begins. Finally, it is very important that ample supervision take place during survey implementation. Past survey work in Belize (see Appendix B, the Goode/MOH/USAID water and sanitation survey) has demonstrated the importance of making sure that surveys are completed in sufficient detail, that writing is clear (especially numbers), and that village residents are given sufficient explanation of the purpose of such surveys.

3.2 Village Water and Sanitation Profile

A village water and sanitation profile (presented in Appendix C) was completed for all 58 villages in the Corozal and Orange Walk districts. This was accomplished through site visits to each village and collection of data from a variety of other information sources outside the village. The site visits were conducted primarily by the CARE-Belize VLWS project coordinator and the

CARE-Belize VLWS health education adviser. The district public health inspectors from the two districts were present for 10 out of the 58 site visits.

Consideration was given to having villagers themselves fill out the village water and sanitation profile. However, given that village selection is a major purpose of this form, it was felt that objectivity and accuracy would be compromised. Such a process would be difficult to defend to other government staff as well as other district residents. In addition, a substantial amount of project staff time would be required to orient each village on how to complete the form -- time that could be better spent on the baseline household survey and subsequent field activities.

A typical site visit lasted three to four hours. Prior to the site visit, a letter was sent to the village council chairman explaining the purpose of the visit (see example of letter in Appendix D). The site visit usually included meeting with the village council and teachers, and a quick reconnaissance of the village to observe water and sanitation conditions.

Outside the village, CARE also met a number of times with the executive committees of the REAP district council for each of the two districts. The REAP councils are made up of representatives from schools which have been cooperating with the CARE REAP project over the past 10 years. Because the REAP program has proven so successful, the VLWS has attempted to work with the REAP councils from the beginning of the project. Their recommendations on project villages -- as well as background information on all villages -- were sought, and the VLWS project plans to work in a number of villages where there are "REAP schools."

During the process of completing the village water and sanitation profiles, CARE staff also discussed the technical feasibility of working in candidate villages with various representatives from the MOH, including public health staff from Belize City, the handpump maintenance crew, and the drilling team in the region. These discussions included issues such as road access, the existence of shallow bedrock, an extremely deep water table, or a history of wells with unsuitable drinking water.

3.3 Selection of Project Villages

The 16 VLWS project villages were selected from 31 villages in Corozal district and 27 in Orange Walk, using the village water and sanitation profile. Using data from the profile as guidelines, selection criteria were agreed upon and a preliminary ranking of villages established. (The ranking sheet presented in Appendix E provided structure for selection criteria discussions. It should be emphasized that the ranking sheet was used primarily as a discussion focus; rankings changed significantly based on comments from MOH staff.) The preliminary ranking was then presented to MOH staff and discussed in two four-hour meetings. Another meeting was held with MOH, USAID, and UNICEF staff to review the selection process and the villages selected. Final written approval is now being requested of the CARE director, MOH/Belize City and USAID/Belize.

As discussed in the original CARE proposal, the project will focus on one suitable village from each district in Year 1, three suitable villages from each district in Year 2, and four villages from each district in Year 3. Villages are now being selected. The three-year schedule for working in the selected villages is now being resolved in discussions between the MOH and CARE-Belize. CARE and MOH are now in the process of notifying the villages of their decisions. The REAP district council and the district health team will also be notified.

During the selection process, the criteria for selection were the subject of considerable discussion. The original criteria included in the project proposal approved and signed by CARE, USAID and the MOH were as follows:

- population between 100 and 250 families;
- all-weather access road;
- existence of community infrastructures, both physical (school and/or clinic) and organizational (village council, REAP council, national or international service organizations), or a past history of commitment to community-based projects;
- long distance to present water supply;
- history of repeated and/or frequent incidence of water-or excreta-related diseases; and
- poorly functioning existing water supply for the village.

These original selection criteria present one major problem. The VLWS project is to utilize India Mark II handpumps and focus on villages with a population between "100 and 250 families." Given that families average about six people in Corozal and Orange Walk districts, this would mean villages of between 600 and 1,500 residents. This directly conflicts with the MOH standard (based on WHO and UNICEF standards) that any village over 250 residents should be considered a candidate for a "rudimentary water system" (RWS -- a basic centralized running water system using a deep well, a large pump that is usually gasoline- or diesel-driven, and providing piped water to most of the houses in a village), not handpumps. Under MOH standards, handpumps should be used only in villages with under 250 inhabitants. In addition, during the implementation of the village water and sanitation profiles, it became clear that in Orange Walk district (and parts of Corozal district) there is limited interest in the installation of handpumps and great need for assistance in the rehabilitation of RWSs.

Given the above, the option of expanding the VLWS project to allow work with villages on RWSs (or other technology options such as spring capping) as well as handpumps is now being reviewed. Specifically, the MOH, USAID and CARE are discussing revisions to the CARE project documentation to permit greater project flexibility. At the same time, MOH, USAID, UNICEF and CARE are working

together to develop a broader MOH policy regarding government, donor and village resource contributions to water and sanitation projects.¹

In Corozal district, the project will work, using handpumps, in a number of villages that are larger than the 250-inhabitant MOH standard. This was agreed upon because MOH felt that it was unlikely that the candidate villages would be able to build an RWS in the near future. In Orange Walk district, the project will attempt to work with villages that need handpumps but also where the rehabilitation of RWSs is feasible and cost-effective.

3.4 Village Meetings

Once villages are selected, project staff will hold meetings in each village with the village council, the general public, local school officials, and other relevant local organizations to fully explain the project. The agenda for these meetings is planned to eventually cover the following:

- the purpose of the project and the activities to follow;
- an explanation of the resources requested of the village and those contributed by CARE and MOH;
- confirmation of the village's interest in the project;
- formation of a village water and sanitation committee;
- identification of possible local enumerators for survey work; and
- a question-and-answer period.

As mentioned above, the agenda for the meeting includes a discussion of the need for a village water and sanitation committee. It may prove that the existing village council is the appropriate body to ensure that the project moves along. In either case, it should be made clear in this village meeting that the residents of the village are committing themselves to, at a minimum, an intense one-year water and sanitation program as well as a longer-term program that includes pump maintenance and health education.

Also, a short review of the purpose and plan for implementing the household-level water and sanitation survey will take place. This includes a discussion of the need for two to four volunteer local enumerators in each village to

¹Because of the changes outlined above, and the limited resources of the CARE project (and in fact of both the UNICEF and USAID projects), the need for a consultant to assist in developing alternative financing strategies for the installation of rural water systems was discussed. Having such a consultant come in would help provide greater flexibility to the CARE project and also assist the GOB at a crucial time for water and sanitation project development policy. Accordingly, a scope of work for such a short-term consultant who would provide services to the MOH and all three water and sanitation projects was developed.

assist CARE and MOH staff in implementing the household-level water and sanitation survey. A specific emphasis has been placed on recruiting women for this work. There are three reasons for this. First, most of the CARE and MOH staff are males. Second, female presence on the survey teams may help village women to be more forthcoming during the household interviews. Third, and perhaps most important, women have key roles in the household relating to water and sanitation practices.

3.5 Baseline Household Survey

The baseline household survey (presented in Appendix F) is important for three main reasons:

1. It documents, on a household-specific level, baseline water and sanitation conditions. This information will be used to design a comprehensive water and sanitation program. However, it is also extremely important for project monitoring and evaluation.
2. It will increase each family's familiarity with the goals and objectives of the project. Those who were reticent at the village meeting are more likely to speak up on a one-on-one basis.
3. It provides an excellent opportunity for project staff to establish a rapport with villagers, increase the staff's understanding of conditions in each household, and carry out health education discussions with individuals and families.

Criticism of past surveys implemented in Belize has reflected poorly on the use of surveys in general. The criticism has focused primarily on the perception that surveys require exorbitant amounts of time. Other criticisms have pointed to the absence of local input into survey design and implementation, and the impression on the part of the villagers that they are receiving little in return for all the time spent answering questions. These criticisms have been taken into consideration during the implementation of this survey. However, no matter how a survey is conducted, one criticism that will not disappear is that they require substantial amounts of time. In response to this criticism, it should be said that in this case, probably the greatest benefits of the survey work will be the establishment of a rapport between project staff and villagers, and the value of the survey for health education purposes. Certainly the survey work has other important purposes, but in this case it has served as a method of enhancing community participation in the water and sanitation activities.

At the time of the last visit by the WASH consultant, CARE staff had been trained and had also trained local residents as survey enumerators. It was difficult to get as much MOH (public health inspector) participation as was hoped for in the survey implementation because of manpower shortages in the ministry. It is hoped that as new inspectors are added to the MOH (this is planned and actually included in this year's budget), this can be corrected.

CARE staff have completed the baseline household survey in one project village (Buena Vista in Corozal district). The survey was being implemented in another project village (San Antonio in Orange Walk district) by two two-person teams,

each composed of a village resident and a project staff member from CARE or MOH. Typically, the time required to complete the survey in one household has ranged from a half hour to two hours, depending on the respondents' level of interest. At this rate, completing the data collection in a village of 100 families will normally require approximately 10 days if two teams work full-time. The survey serves to impart indepth knowledge of water supply and sanitation conditions in the village. Even if the survey were not conducted, some type of visit should ultimately take place for every household. At this time the project staff feel that the survey is a good vehicle for these visits.

If the enthusiasm for 100 percent sampling recedes, a dual approach should be taken. At a minimum, the household survey should be used during visits to 25 percent of the households in each village. The sample should be stratified by general income level and should ensure coverage of all sections of each village. If this approach is taken, a shorter water and sanitation inspection form could be used when visiting the other households. This shortened survey form is necessary to provide some household record of water and sanitation conditions. Appendix G includes a possible option for this form. If implemented in this fashion, future monitoring and evaluation activities could utilize either the household survey or the water and sanitation inspection survey as baseline data for comparison purposes.

3.6 Household Survey Tabulation and Analysis

During the consultant's third trip, a great deal of time was spent on tabulation and analysis of the household surveys completed in the village of Buena Vista. A survey tabulation worksheet was developed (presented in Appendix H) to simplify the tabulation process. Because of the relative emphasis on working with the villages, and the limited need for a "statistically" valid survey, simple summary tabulations of the survey data were recommended. The survey tabulation worksheet provides a structure for accomplishing this.

Therefore, it is suggested that CARE and MOH should not expend large amounts of time subjecting the survey data to statistical tests. Their time is better spent for project design, monitoring and evaluation purposes.

Nonetheless, a strong emphasis should be placed on ensuring that questionnaires are filled out appropriately, that survey enumerators maintain objectivity, and that tabulations are done carefully in order to minimize error. For the future, it is recommended that:

- The CARE-Belize project coordinator should work primarily with the project health educator in coordinating tabulation of each village survey. The project coordinator's strong background in mathematics will prove most useful.
- After completion of the survey field work in each village, a two-day survey tabulation and analysis workshop, cochaired by the project coordinator and the health educator, should be held. Each workshop should focus on one village. MOH staff and possibly members of the village water and sanitation committee should be present during this meeting to gain a greater understanding of the survey work as well as

assist in defining the project approach for each village. Staff from other organizations (e.g., UNICEF, USAID, and other GOB ministries) could also be invited to some sessions, not as participants but for orientation purposes. The number attending the meeting as participants should probably not exceed 8 or 10.

- After completion of the survey tabulation and analysis, a meeting should be held with each respective village to present the findings of the survey and explain how the findings will help to define the direction of the project.

As the survey is divided into five sections, the tabulations for each section should first be analyzed separately, with an individual responsible for each section. The CARE project coordinator and health educator, with assistance from the MOH principal public health inspector, should decide on responsibility for each section of the analysis. The analysis of each section should then be presented at the group meeting mentioned above. A project approach should be discussed and agreed upon at that meeting and then presented at a village meeting for discussion and confirmation.

3.7 Monitoring and Evaluation

As specified in the original project document, the baseline household survey (or the proposed water and sanitation inspection form) provides a departure point for monitoring and evaluation activities. In this section, revised progress indicators and a proposed system are provided for conducting future monitoring and evaluation activities.

Goals and Indicators

The original project proposal (CARE, August 1984, pp. 23-25) includes eight proposed intermediate project goals (it is suggested that these should be final, not intermediate project goals) with progress indicators and means of verification. The following is a review of the progress indicators for each project goal, along with suggested revisions to these indicators and a statement showing the rationale for each change. The means of verification will be a comparison of project baseline data to data gathered at a later date. For the comparison data, a stratified random sample should be conducted in those villages worked in to date. It is recommended that the water and sanitation inspection form also be used as the instrument for post-baseline data collection at the household level. Indicators Number 7 and Number 17 (below) must be assessed at the village level. Indicator Number 16 must be assessed at the national level through discussions with MOH and other GOB units. Progress in each village should in fact be assessed at least once per year using the 25 percent stratified random sample combined with the water and sanitation inspection form for the remaining households.

GOAL #1 -- PROVISION OF ADEQUATE WATER SUPPLY

Original Indicator

1. Installation of 160 wells with a capacity of 30 liters per capita per day (lcd).

Proposed Indicator

1. Installation or rehabilitation of wells, water systems, or springs with a capacity of 30 lcd for 1,600 families.

Rationale for Change -- Through water and sanitation profiles already conducted, it is clear that wells are not the only answer. Rather, in some cases, springs may be developed, and/or a centralized water system might be constructed with assistance from CARE.

Original Indicator

2. Percent of families who use the water source.

Proposed Indicator

2. At least 50 percent of households use a newly constructed, protected or rehabilitated water source.

Rationale for Change -- Households (vs. families) are a more appropriate unit for monitoring and evaluation. Add rehabilitation and protection as two cost-efficient alternatives for improving water supply conditions, especially in the two northern districts.

Original Indicator

3. Families (or individuals or communities) using the new water supply have increased water usage by ___ percent; or, ___ percent of all families are using an average of 30 lcd.

Proposed Indicator

3. Households using new water sources have increased water consumption up to or exceeding 30 lcd and/or a 75 percent reduction in water shortages per village has occurred.

Rationale for Change -- Terms are more specific, the problem of water shortages is acknowledged, and project's plans for addressing them are outlined.

GOAL #2 -- PROVISION OF A SAFE WATER SUPPLY

Original Indicator

4. Provision of water meeting MOH quality standards, or provision of water ___ percent better (approximately defined) than preproject conditions.

Proposed Indicator

4. Seventy percent of the households receive water from tested and newly rehabilitated or constructed water sources.

Rationale for Change -- There is no baseline of water quality conditions in the villages, and a water-testing program for each household could be expensive (USAID is exploring the option of funding such a water-testing program for all of Belize). Any sources developed or rehabilitated by the

project will be tested -- as such, the assumption will be made that the new source is an improvement.

GOAL #3 -- PROVISION OF A RELIABLE WATER SUPPLY

Original Indicator

Proposed Indicator

- | | |
|--|--|
| 5. Water systems are completed and function at least ___ days per month. | 5. Incidence of water shortages or supply disruption is reduced at least 50 percent. |
|--|--|

Rationale for Change -- In these districts, it is important to compare changes in shortages or supply disruption.

GOAL #4 -- PROVISION OF AN ACCESSIBLE WATER SUPPLY

Original Indicator

Proposed Indicator

- | | |
|--|----------------------------|
| 6. Decrease time spent in collecting water by ___ percent (either total time or time per trip. | 6. Same, using 25 percent. |
|--|----------------------------|

GOAL #5 -- DEVELOPMENT AND INSTITUTIONALIZATION OF COMMUNITY SYSTEMS TO SUPPORT AND MAINTAIN NEW WATER SUPPLY

Original Indicator

Proposed Indicator

- | | |
|---|---|
| 7. A village system that handles billing and payments for water use and maintenance, and oversees proper use of the supply. | 7. Same, except insert " <u>that efficiently or more efficiently handles</u> ". |
|---|---|

Rationale for Change -- There may be existing systems in some villages that can be managed more efficiently. Efficient in this case might be defined as easy to implement, not too time-consuming, and accurate from an accounting standpoint.

GOAL #6 -- PROVISION OF AN ACCEPTABLE EXCRETA DISPOSAL SYSTEM

Original Indicator

Proposed Indicator

- | | |
|---|---|
| 8. Ownership-- ___ percent increase in families who have latrines. | 8. Over 60 percent coverage of households having an improved latrine situation compared with baseline condition ranking (good/mediocre/poor). |
| 9. Utilization-- ___ percent of families use the new latrines properly. | 9. (See indicator below) |

- | | |
|--|--|
| 10. Maintenance--__ percent of latrines are maintained properly. | 10. Seventy percent of latrines in the village are clean and clearly used. |
|--|--|

Rationale for Change -- Measuring Number 9 is very difficult and is better combined with Number 10. Proper use means cleanliness in combination with regular use.

GOAL #7 -- IMPROVED KNOWLEDGE, ATTITUDES AND BEHAVIOR REGARDING NEW WATER SUPPLY AND SANITATION SYSTEMS

<u>Original Indicator</u>	<u>Proposed Indicator</u>
11. Knowledge--__ percent of households understand the linkages between clean water supply, proper excreta disposal and good health.	11. Eliminate
12. Attitudes--__ percent of households believe that improved water supply and sanitation are important.	12. Eliminate
13. Behavior--__ percent of households use water exclusively from the newly constructed or rehabilitated source.	13. Seventy percent of households use water from the newly constructed or rehabilitated water source.
14. Behavior--__ percent of households transport and store water in clean containers.	14. Same, except add "clean <u>covered</u> container kept <u>off the ground.</u> "
15. Behavior--__ percent of households observe acceptable personal hygiene practices.	15. Eliminate

Rationale for Changes -- Goals 11 and 12 are very difficult to evaluate. In this case, behavioral changes should be used to evaluate success, and these changes are covered in other indicators. Number 13 is redundant. Number 14's changes reflect more specific conditions that need to be measured. For Number 15, there is a question as to whether the project is to be held responsible for personal hygiene in the evaluation of the project. Unless the project places a much greater and more specific emphasis on personal hygiene (it is there as a very minor element at present), this should not be measured during monitoring or evaluation exercises.

GOAL #8 -- INCREASE THE HEALTH EDUCATION CAPACITY OF THE GOB

Original Indicator

Proposed Indicator

16. Adequate number of new staff in the MOH capable of developing appropriate health education activities.

16. Increase in number of MOH staff trained in and promoting health education related to water and sanitation.

Rationale for Change -- It is hoped that the project can demonstrate the value of health education for achieving water and sanitation objectives which will result in changes in staffing. Also, it is important that all MOH staff receive training in this area.

Original Indicator

Proposed Indicator

17. Acquisition (purchase, adaptation and development) of relevant health education materials for use in village water supply and sanitation projects.

17. All schools within two districts have received both materials and training in health education as relevant to water and sanitation.

Rationale for Change -- While it is important that the project develop and use these materials, it is also necessary that, in the future, teachers have access to and familiarity with these materials.

Chapter 4

CONCLUSIONS

The different tools for data collection (profiles and surveys) have provided CARE-Belize, the Ministry of Health (MOH), and villages in the Corozal and Orangetown districts with new information on water and sanitation conditions. Ultimately, the data gathered during the surveys and profiles will be used by CARE-Belize, MOH personnel and village residents to design practical near-term water and sanitation programs.

A number of issues became clear after the surveys were completed in one village and profiles done for all the villages in the Corozal and Orangetown districts. A brief discussion of each important issue follows.

First, sanitary conditions in almost all the villages are uniformly quite poor. In contrast, water supply conditions vary widely, and there is no uniformity in terms of the type or degree of water problems or the technological solution(s) to them.

Second, in relation to water supply issues, the lack of a single type of problem means that many villages in these districts do not regard handpumps as the most effective solution to their problems. This conflicts with the emphasis of the CARE-Belize project design on handpumps. Hence, some readjustment must occur and flexibility must be included to enable the consideration of spring-capping and rudimentary village or neighborhood water supply systems, using a central well and piped connections.

Third, the CARE-Belize project (and in fact, all water and sanitation programs in Belize) needs to carefully consider the financing of water and sanitation programs in both the near- and long-term. The issue of local participation in system financing, construction, operation and maintenance needs to be addressed on a consistent basis, if wide adoption of improved water supply and sanitation practices is to be expected. To date, this issue has not received enough attention. A major problem has been created by past program efforts which have donated almost all of the materials and money for all phases of water and sanitation project development to the villages.

Fourth, a unique opportunity exists in Belize to coordinate water supply and sanitation programs throughout the country on a national level. As a result, it will be possible to conduct a coordinated assessment or evaluation of the functioning of the water and sanitation programs.

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- World Health Organization, Minimum Evaluation Procedure (MEP) for Water Supply and Sanitation Projects, February 1981.

APPENDIX A
List of Contacts

LIST OF CONTACTS

David Acosta--Corozal REAP District Council vice-chairman
Silburn Arthurs--GOB national coordinator for water and sanitation
Neboycha Brashich--USAID/Belize mission director
Troy Briceno--Corozal Town teacher
Antonio Casas--PAHO programme coordinator
Douglas Clark--CARE/Belize health education specialist
Denny Cutler--Peace Corps volunteer, Corozal
Sam Dowding--USAID/Belize project officer
Harry Duesbury--San Andres Rotary Club representative
Constantine Enriquez--Orange Walk District education officer
Richard Feachem--ODA water and sanitation consultant to UNICEF and GOB
Godswill Flores--project coordinator, MOH/UNICEF Toledo District Water and Sanitation project
Narciso Gamboa--(former) Concepcion Village Council chairman (Corozal)
Santiago Garcia--Orange Walk District REAP council chairman
Lee Gelb--CARE/Belize nutritionist
David Gibson--GOB permanent secretary, MOH
Sylvano Guerrero--former CARE/Belize VLWS project coordinator
Howard Kolb--CARE/Belize water and sanitation engineer
George LeBard--Peace Corps volunteer, San Lazaro, Orange Walk
Bert Linares--GOB/MOH deputy chief public health inspector
Martin Lino--GOB/MOH Aedes inspector for Orange Walk District
Estilito Loria--CARE/Belize VLWS Orange Walk District coordinator
Juliet Mason--Peace Corps volunteer, Hopkins, Stann Creek
Rafael Novelo--CARE/Belize VLWS Orange Walk District coordinator
Arterrio Paredes--Orange Walk District REAP council vice chairman
Cecilio Pech--Orange Walk District REAP Council assistant treasurer
Randolph Pitts--CARE/Belize executive secretary
Graham Prokopitz--UNICEF water and sanitation adviser
Everaldo Puck--Corzal Catholic public school representative
Francisco Puck--Corozal District REAP Council chairman
Maria Rankine--GOB/MOH health educator
Orvin Rancharan--Corozal District REAP Council assistant secretary
Judi Raymond--Peace Corps volunteer, Corozal
Dorothy Rozga--UNICEF/Belize liaison officer
Harold Sillcox--CARE/Belize director
Fred Smith--GOB/MOH principal public health inspector
Ravey Smith--CARE/Belize VLWS Corozal District coordinator
Mary Stewart--MOH/VSO health educator
Mary Ellen Tanamly--USAID/Belize health projects officer
Richard Wilk--USAID/Belize sociologist/anthropologist
Paul Williams--GOB/MOH Corozal District public health inspector

APPENDIX B

Usefulness of the Goode/MOH/USAID Water and Sanitation Survey
for CorozaI and Orange Walk Districts

Usefulness of the Goode/MOH/USAID Water and Sanitation Survey for Corozal and Orange Walk Districts

During the first trip of this consultancy, a review was made of the available water and sanitation, and community development, studies which have been conducted in Belize. One of the most recent studies is the nationwide water and sanitation survey conducted by Scott Goode and MOH public health inspectors with funding from USAID/Belize. The WASH consultant presents here a short review of that survey, keeping in mind that only the Corozal and Orange Walk sections of the survey are the basis of discussion.

The Goode survey is most useful for finding out the status of handpumps in the two districts. Handpumps were located in 29 out of the 58 villages in the two districts and a total of 122 individual handpump status assessments made (their condition, use and how valuable as perceived by the villagers). As such, the sample provided is adequate for analyzing the types of pumps used, relative proportions of functional versus non-functional pumps, why pumps break down, and what the specific villages might need for improving water supply conditions. It should be pointed out that the major purpose for the survey was to get a "snapshot" of handpump status in the country. Clearly, it does provide this.

There are however some weaknesses of the work which undermine the reliability of the surveys, particularly in these two districts. Surveys are often not filled out completely, obviously important questions not answered and numbers not written clearly. The possibility of error looms quite large. In fact, after completing the village water and sanitation profiles, CARE staff and the WASH consultant found that many handpumps were missed in survey. The survey is also not very useful from a sanitation viewpoint. The separate sanitation form is only completed for 6 out of the total 58 villages (2 in Corozal and 4 in Orange Walk) in the two districts and the percentage sample in each village (an average of 8 per village clustered around the handpumps, a total of 45 households) is so low as to make it close to insignificant. Again, the sanitation surveys are plagued by the same problems of not being filled out completely, poorly written numbers, etc.

In conclusion, for the purposes of the design and implementation of the CARE/MOH survey, and those in the other districts, there are a number of important lessons made clear:

1. When local enumerators (in most cases this is recommended) are used, ample time needs to be spent in training the enumerators to make sure they understand why the survey is being done, the need for complete information and such details as clear handwriting. This should be complemented during survey implementation by accompanying the enumerators on the job and working with them to ensure that a good job is done. If left alone, without supervision or guidance, the reliability of the survey work may be called into question.

2. Considerable thought should be given to making sure that sample sizes are large enough. In this case, since the sanitation survey element received a lower priority and the sampling was so limited, it would have been better to not do it at all and use the available resources to improve the detail and coverage of the water supply survey. This means that sufficient survey "pre-testing" take place in order to understand how long each survey takes, and what is realistic for survey coverage.

A final positive note on the Goode/USAID/MOH survey; the sanitary survey and handpump forms provided a good basis from which to begin designing the household water and sanitation survey that is presented in this report.

APPENDIX C

Village Water and Sanitation Profile Form

Village Water and Sanitation Profile

DISTRICT _____ VILLAGE _____

Purpose: To establish an information base that will indicate the severity of water and sanitation problems in each village. The profile is best used for deciding which villages within a district should receive the highest priority for water and sanitation projects. This profile is designed to be completed by either members of the district health team or water and sanitation project staff from organizations such as the Ministry of Health, UNICEF and CARE. If the profile is to be completed primarily by members of a community or village, this work should be supervised and/or reviewed in order to ensure the relative objectivity and accuracy of the data.

Instructions: The information for this profile should be gathered from every available and reliable source, but particularly from Ministry of Health, village council and school officials and through a visit to the village being reviewed. Another important source of information for some villages in Belize is the "Goode" handpump and latrine survey implemented in 1984 for USAID. Every question should be marked in some way. If no answer is available or the question is not appropriate, please mark the space with N/A. The form is not designed to be used verbatim; restructure questions when appropriate.

VILLAGE WATER AND SANITATION PROFILE

1. What is the population of this village? _____
2. How many separate households are there in the village? _____
3. How far is it from this village to the district center?
_____ miles or hours (circle one)
by road, water, foot, air (circle one).
4. Briefly describe the access conditions to this village; that is, what difficulties are encountered in coming to the village on the roads or on the water or by air?

5. Does this village have a telephone or radio? No _____ Yes _____
If yes, what is the number? _____ Where is it located? _____
6. How would you compare this village with other villages in the same district? (describe in terms of general levels of income and well-being)
very poor _____
poor _____
average _____
better than average _____

With other villages in the country?
very poor _____
poor _____
average _____
better than average _____

7. What is the main economic activity in this village? _____

8. What is the village council chairman's (or alcalde's) name? _____

9. How many members are there in the village council? _____

10. How would you describe the activities of the council? not active _____
active _____
very active _____

11. Does the village have a community center for meetings? No _____ Yes _____
If yes, what place is used? _____

12. a. Does this village have any of the following schools?
Primary: No _____ Yes _____ Number of students _____
Secondary: No _____ Yes _____ Number of students _____
Other: No _____ Yes _____ Number of students _____

b. Are any of the schools involved in the REAP program? No _____ Yes _____

c. If yes, how would you describe the REAP program?
formal _____ not active _____
informal _____ active _____
very active _____

HEALTH INFORMATION

13. a. Does this village have a health clinic? Yes _____ No _____
If no, which hospital or hospitals are used by the villagers? _____

b. Is the village visited by a visiting nurse? Yes _____ No _____
a mobile health worker? Yes _____ No _____
a community health worker? Yes _____ No _____

14. Since the villages are mainly under 1,000 population, rates per 1,000 may be less meaningful than asking:

b. How many persons became ill with these diseases in 1984?

1. _____
2. _____
3. _____

c. How many persons died from these diseases in 1984?

1. _____
2. _____
3. _____

d. How many babies under one year of age died during 1984? _____
How many babies were born during 1984? _____

WATER SYSTEM INFORMATION

15. What is the typical depth from the water table to the surface? _____ feet

16. Does this village have the following water systems?

a. Rudimentary water system: Yes _____ No _____
If yes, is it functioning? Yes _____ No _____
What percentage of households does it serve? _____ %.
Describe any seasonal variations: _____

b. Handpumps in village: Yes _____ No _____
If yes, how many are functioning? _____
How many are not functioning? _____
What percentage of households do they serve? _____ %
What is the average distance from pump to household? _____ feet
Describe any seasonal variations: _____

c. Open wells: Yes _____ No _____
If yes, how many are there in the village? _____
What percentage of households do they serve? _____ %
What is the average distance from well to house? _____ feet
Describe any seasonal variations: _____

d. Other water sources: Yes _____ No _____
River: Yes _____ No _____
If yes, what percentage of households are served? _____ %
What is the average distance from river to house? _____ feet
Spring: Yes _____ No _____
If yes, what percentage of households are served? _____ %
What is the average distance from river to house? _____ feet
VATs: Yes _____ No _____
If yes, what percentage of households are served? _____ %
Is there a community VAT? Yes _____ No _____

17. For all water sources:

a. Are there serious water shortages for:
drinking water for humans Yes _____ No _____
drinking water for animals Yes _____ No _____
bathing Yes _____ No _____
washing clothes/dishes Yes _____ No _____
gardens Yes _____ No _____

Briefly describe these shortages, especially seasonal variations (i.e., months per year of shortages) _____

b. Are there serious water quality problems? Yes _____ No _____
(Briefly describe the most serious) _____

c. Have there been major water system construction and/or operations and maintenance problems? Yes _____ No _____ (Briefly describe these problems)

d. Have borehole wells been drilled in this village before? Yes _____ No _____
(Briefly describe the process) _____

SANITATION INFORMATION

18. How many households have the following excreta disposal systems:

- Number with: Pit latrine _____
Improved pit latrine (with slab) _____
Bucket system _____
Aqua-privy _____
Flush toilet _____
Other _____

(Describe general latrine conditions, after visiting village) _____

19. Are there construction problems associated with installation of the excreta disposal system? Yes _____ No _____ If yes, describe _____

20. What construction materials are available locally for a water and sanitation program? sand _____ cement _____ gravel _____ hand tools _____ reinforcing iron _____ pipe _____ other (e.g., bamboo, etc.) _____

COMMUNITY INVOLVEMENT

21. Has there been past or current village experience in water and sanitation projects: Yes _____ No _____ If yes, briefly describe: _____

22. Has the village had experience with self-help projects? Yes _____ No _____
If yes, has this proven successful _____ or unsuccessful _____. (Describe the type of project, village organizations involved, such as community health workers, Rotary, Lions, 4H, women's, schools, soccer, etc., the role of women and the outcome) _____

23. Are there volunteers working in the village (e.g., Health Talent International, malaria collaborators, Peace Corps, VSO, church group, Amigos de las Americas, etc.): Yes _____ No _____ If yes, describe activities _____

24. Would the village be interested in committing itself to a one year, at a minimum, intensive water and sanitation program? Yes _____ No _____ If yes, would the village:

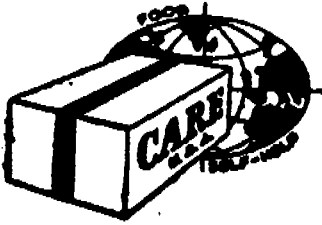
- a. provide survey enumerators? Yes _____ No _____
- b. agree to a long-term handpump maintenance program? Yes _____ No _____
- c. agree to a long-term health education program? Yes _____ No _____
- d. agree to provide, to the extent they are available, local resources such as sand _____, cement _____, labor _____, or other _____?
- e. sign an agreement? Yes _____ No _____

25. Other important comments, particularly those which clarify the need, likelihood of project success or failure, or technical feasibility: _____

NOTES

APPENDIX D

**Sample Letter to Village Councils Regarding Implementation
of the Village Water and Sanitation Profiles**



CARE

P. O. Box 612
BELIZE CITY, BELIZE
TELEPHONES: 44384
44868

CABLE: 'CAREBEL'
BELIZE

February 11, 1985

Dear

I am enclosing a draft household water and sanitation survey that I would like to have you review and return to me as soon as possible. The draft survey was prepared by Richard Donovan, a consultant to CARE from the Water and Sanitation for Health (WASH) project at USAID in Washington, D.C. during the first two weeks in February.

It is possible that this survey may be proposed by the government of Belize's Ministry of Health as a standard format for baseline village water and sanitation surveys. As such, I request that you indicate:

- o questions that are awkward, missing or not valuable in the survey;
- o ways in which the survey could be improved to make it more appropriate for your (or your project's) region of Belize;
- o or any other questions or issues you wish to raise regarding the format, usefulness or strengths/weaknesses of the draft survey.

CARE will be using a revised version of this household survey for the Village Level Water and Sanitation project in Corozal and Orange Walk districts. In this case, CARE, with Mr. Donovan's assistance, will be training villagers as well as Ministry of Health staff to implement the survey. This will take place over the next two to three months.

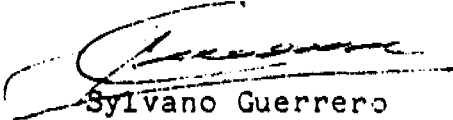
Discussions have already been held with officials from USAID, MOH, Peace Corps and UNICEF to begin the process of making this survey useful to all the entities involved. Your input would be another valuable step in this process.

Please make any notations you want to directly on the draft questionnaire and send it to me here at CARE in Belize City by the fourth of March, 1985. At this time it is planned that Mr. Donovan will return to Belize on or about March 13 to revise the survey and discuss it with all entities which are interested. At that time he will also work with CARE in selecting and training enumerators and beginning the household survey work in CARE project villages.

For your information, I am also enclosing a copy of the village water and sanitation profile form which is being used by CARE staff (with assistance from village residents, district health teams and REAP councils) to collect data on each village in Corozal and Orange Walk districts so that a decision can be made as to which villages the CARE project will focus on during the next three years.

If you have any questions or comments, please call me on the telephone. I look forward to getting your comments.

Sincerely,



Sylvano Guerrero
Project Coordinator
Village Level Water and Sanitation Project

APPENDIX E

Ranking Sheet for Village Water and Sanitation Profiles

Village Selection Scoring Sheet for CARE Village Level Water and Sanitation Project

District _____ Village Name _____

Stage #1

	<u>High</u>	<u>Medium</u>	<u>Low</u>
Seriousness of water quality problems	___	___	___
Seriousness of water quantity problems	___	___	___
History of high disease incidence	___	___	___
Likelihood of RWS "hookup"	___	___	___
Functional ability of existing water system	___	___	___
Technical feasibility for future programs	___	___	___

Stage #2

	<u>High</u>	<u>Medium</u>	<u>Low</u>
Progressiveness of village	___	___	___
Demonstrated interest of village in project	___	___	___
Proximity to other potential proj. villages	___	___	___
Match of village needs and tech. chosen	___	___	___

Stage #3

	<u>Yes</u>	<u>No</u>
Existing REAP program	___	___
All weather accessibility	___	___
Appropriate size according to criteria	___	___

APPENDIX F
Household-Level Water and Sanitation Survey

DISTRICT _____ VILLAGE _____ HOUSE # _____

FAMILY NAME _____ PERSON(S) INTERVIEWED _____

DATE COMPLETED _____ ENUMERATOR(S) _____

Household Level Water and Sanitation Survey

Purpose: This survey has three purposes: 1) to document water supply and sanitary conditions at each household in rural villages; 2) to increase the familiarity of village residents with the goals, objectives and procedures of this project; and, 3) to introduce project staff to the village residents. The information gathered during this survey will be used to design, implement, monitor and evaluate a village-level water and sanitation program. The program will emphasize community participation. For this reason questions are included which discuss local institutions.

Instructions: In order to make this survey useful, the survey form must be carefully and completely filled out. If a question is inappropriate or not possible to answer, please write N/A. It is important that everything is written in legible form, especially numbers. Whenever necessary, change the wording of a question so that the person being interviewed understands it better or if the question seems awkward to you. Please write with black ink.

GENERAL

1. Are you aware of the water and sanitation program that is starting in this village? Yes__ No__ If yes, where did you hear about it?

(Make sure to explain the purpose of the survey and the project)

2. Do you know the district public health inspector from the Ministry of Health? Yes__ No__ (The role of the DPHI in the project should be explained.)

3. How many people (specify, ___ families) are there in this household?

<u>Children under 5</u>		<u>5-14</u>		<u>Adults</u>		<u>TOTAL</u>
M	F	M	F	M	F	

Totals _____ _____ _____ _____

4. How long have you lived here? _____ months/years (circle one) and is this your permanent (e.g. owned) or temporary (rented) home (circle one)?

WATER SUPPLY

5. Where do you get your water? (If nearby, ask to see the water source)

	<u>Source(describe)</u>	<u>Distance</u>
a)Drinking (dry season)	_____	_____
b)Drinking (wet season)	_____	_____
c)Cooking	_____	_____
d)Bathing	_____	_____
e)Washing clothes/dishes	_____	_____
f)Garden/Animals	_____	_____

g)If a hand dug well, does it have a cover on it now? Yes__ No__

If rudimentary water system or handpump is the answer for any of the above, please ask the following questions:

h)How frequently do water system breakdowns occur? (Check one)
Never__ Monthly__ Weekly__ Daily__ Other_____

i)On average, how many days per month is the water system broken down? _____days

j)Who fixes the water system when there are breakdowns? _____
and, who fixed the water system the last time it broke down?
_____. Also, typically how long do you have to wait until someone fixes it? _____(specify in days)

k)If RWS, how much do you pay each month for water service? _____

6. Do you have safe drinking water? Yes__ No__

7. Do you boil, filter or otherwise purify (circle one) your drinking water? Yes__ No__ Describe _____

8. Has the water ever been tested to determine whether it is safe to drink? Yes__ No__ If yes, by who and when? _____

9. Who collects the water?	<u>Usually</u>	<u>Sometimes</u>	<u>Never</u>
Children	_____	_____	_____
Women	_____	_____	_____
Men	_____	_____	_____

10. What do you use to collect or store the water in? _____
 Where is it kept? _____
 Do you think it is sanitary? Yes ___ No ___ Don't know ___ Not Sure ___
 Does it have a cover? Yes ___ No ___ (Make sure to see the container)
11. How much water do you use each day?
 _____ buckets for drinking = ___ gal.
 _____ buckets for laundry = ___ gal.
 (Measure or estimate the volume in each bucket) _____ buckets for dishwashing = ___ gal.
 _____ buckets for bathing = ___ gal.
 _____ buckets for garden = ___ gal.
 _____ buckets for animals = ___ gal.
 _____ buckets for other uses = ___ gal.
 TOTAL GALLONS/DAY = _____
12. How many times a day do you go to get water (for all needs)? _____
 How much time do you spend on each trip? _____ minutes. (Enumerator should calculate the total number of minutes per day _____.)
13. What water supply problems do you have?
 never enough water ___ iron taste ___
 sometimes not enough water ___ salty ___
 unhealthy drinking water ___ silty ___
 water system doesn't work ___ sulfur smell ___
 water too expensive ___ too "hard" ___
 water too far away ___
 other ___ explain _____
14. Are there times when there is not enough water? Yes ___ No ___
 When? _____ Why? _____

15. What is needed to help solve your water problems?
 repair handpump ___
 obtain new handpump ___
 dig a deeper well ___
 dig a new well ___
 fix community water system ___
 extend water lines of existing community water system ___
 new community water system ___
 other _____
 explain _____

SANITATION

16. Do you own or share a latrine? own ___
 own/share ___
 share/don't own ___
 no ___

If no or share/don't own, ask the following:

a) what do you use for excreta disposal?

bush community facility
 school facility neighbor's latrine
 other, specify _____

b) would you prefer your own latrine? Yes___ No___

Why/Why not? _____

If yes, request to see the latrine and ask the following:

c) what type? trench latrine___
 bucket latrine___
 wood floor pit latrine___
 concrete slab latrine___
 aqua privy___
 flush toilet with septic tank___

d) do you think it is a sanitary latrine? yes___ no___
 not sure___ I don't know___

e) how many people use it? ___ individuals ___ families

f) who cleans it? ___ children ___ men ___ women

g) what problems do you have with it?

slab or structure unstable
 flies and/or mosquitoes
 odor
 snakes
 flooding at times
 difficult for children to use
 too far away
 no privacy
 splashes on body
 other, specify _____

h) how far is the latrine from the nearest well or other water source? ___ feet

i) mark one, the latrine is: level with___ uphill___
 downhill___ from the well or other water source.

j) how would you improve your latrine? ___ clean it
 ___ new slab
 ___ dig new hole
 ___ other

explain _____

k) NOT A QUESTION: after viewing the latrine with the household member, mark the following:

latrine slab condition is good__ OK__ bad__
 latrine appears to be used__ not used__ other_____
 latrine interior is clean__ not clean__
 latrine pit is full__ half-full__ empty__
 latrine exterior is good__ mediocre__ bad__
 note any other specifics: _____

GENERAL LATRINE CONDITION IS GOOD__ MEDIOCRE__ BAD__

17. What do you do with trash? _____

HEALTH EDUCATION

18. What diseases/sicknesses does your family get most often?
 cough/cold__ diarrhea__ worms__ fever__ scabies__ lice__
 other_____

19. What causes these diseases? _____

20. Are any caused by poor water and sanitation? Yes__ No__
 If yes, which ones and how? _____

21. Where did you learn about the causes of these diseases?
 school__ health workers__
 place of work__ family__
 church__ books__
 other_____

22. Where do you go for medical care? _____

23. Do you (circle one) have or listen to a radio? Yes__ No__

24. Do you (circle one) have or watch a television? Yes__ No__

25. Do you read the newspaper? Yes__ No__ If yes, which one(s)?

COMMUNITY ORGANIZATION

26. Whose responsibility is it to improve the village's and your water supply conditions? Specify_____Why? _____

27. Are you interested in participating in a latrine and sanitation improvement program? Yes__ No__ Why/Why not? _____

28. What things could you contribute to improving water supply and sanitation conditions in the village? labor___ money___ sand___ cement___ wood for forming___ reinforcing steel/wire___ construction skills___ other___ (explain and be specific, especially about the type of labor or skills being offered) _____

29. What assistance do you need from outside the village that would help you to improve your water and sanitation facilities? technical advice___ other___ explain _____

30. What organization(s) are you (or your family) involved with? _____

31. Which organization(s) in the village is the most active? _____
Why? _____

32. Should the village have a village water and sanitation program? Yes___ No___ If yes, which organization in the village should it work with and why? _____

NOTES

APPENDIX G

Water and Sanitation Inspection Form

Water and Sanitation Inspection Form

Purpose: To document water supply and sanitary conditions at the household level in rural villages.

Instructions: In order to be useful, the entire form must be filled out. Please write in black ink and neatly. Questions may be changed in order to make sure that village resident understands better.

DISTRICT _____ VILLAGE _____ HOUSE # _____

FAMILY NAME _____ PERSON(S) INTERVIEWED _____

DATE COMPLETED _____ INSPECTOR(S) _____

1. How many people (specify, ___ families) are there in this household?

<u>Children under 5</u>		<u>5-14</u>		<u>Adults</u>		<u>TOTAL</u>
M	F	M	F	M	F	
_____	_____	_____	_____	_____	_____	_____
Totals						

2. How long have you lived here? _____ months/years (circle one)

3. Is this your permanent (e.g. owned) or temporary (rented) home (circle one)?

4. Where do you get your water? (If nearby, ask to see the water source)

	<u>Source(describe)</u>	<u>Distance</u>
a)Drinking (dry season)	_____	_____
b)Drinking (wet season)	_____	_____
c)Cooking	_____	_____
d)Bathing	_____	_____
e)Washing clothes/dishes	_____	_____
f)Garden/Animals	_____	_____

g)If a hand dug well, does it have a cover on it? Yes___ No___

h)Describe general conditions of the water source (paying attention to recent changes in condition including cleanliness, protection from the elements, etc.): _____

5. When was the water last tested? _____ By whom? _____

6. What do you use to collect or store the water in? _____

Is it kept off the ground? Yes__ No__

Is it clean? Yes __ No __ OK but needs improvement__

Does it have a cover? Yes__ No__ (Make sure to see the container)

7. How much water do you use each day?

(Measure or estimate the
volume in each bucket)

___buckets for drinking = ___ gal.

___buckets for laundry = ___ gal.

___buckets for dishwashing = ___ gal.

___buckets for bathing = ___ gal.

___buckets for garden = ___ gal.

___buckets for animals = ___ gal.

___buckets for other uses = ___ gal.

TOTAL GALLONS/DAY = _____

8. During the last year, have you experienced a water shortage? Yes __

No __ If yes, when and for how long? _____

9. What water supply problems do you have?

never enough water__

iron taste__

sometimes not enough water__

salty__

unhealthy drinking water__

silty__

water system doesn't work__

sulfur smell__

water too expensive__

too "hard"__

water too far away__

other__ explain_____

10. Do you own or share a latrine? own _____

own/share _____

share/don't own__(whose?_____)

no _____

If no latrine is used, ask the following:

a)what do you use for excreta disposal?

___bush

___other, specify below

If a latrine is owned by respondent, ask the following:

b)what type?

trench latrine__

bucket latrine__

wood floor pit latrine__

concrete slab latrine__

aqua privy__

flush toilet with septic tank__

c)how far is the latrine from the nearest well or other

water source? ___feet

d) mark one, the latrine is: level with___ uphill___
downhill___ from the well or other water source.

e) after viewing the latrine with the household member, mark
the following:

latrine slab condition is good___ OK___ bad___
latrine appears to be used___ not used___ other_____
latrine interior is clean___ not clean___
latrine pit is full___ half-full___ empty___
latrine exterior is good___ mediocre ___ bad___
note any other specifics: _____

GENERAL LATRINE CONDITION IS GOOD___ MEDIOCRE___ BAD___

11. What do you do with trash? _____



APPENDIX H

Household Survey Tabulation Worksheet



HOUSEHOLD SURVEY TABULATION WORKSHEET

GENERAL INFORMATION

(1) Are you (village resident) aware of the water and sanitation program?
no _____ total ____
no answer _____ total ____
_____ Total Responses ____

If yes, where from?
village council member _____ total ____
neighbor _____ total ____
REAP participant _____ total ____
village meeting _____ total ____
MOH/project personnel _____ total ____
no answer _____ total ____
N/A _____ total ____
_____ Total Responses ____

(2) Are you familiar with the district public health inspector?
yes _____ total ____
no _____ total ____
no answer _____ total ____
_____ Total Responses ____

(3) Population of the village:

of families _____ Total ____
females under 5 _____ total ____
males under 5 _____ total ____
females 5-14 _____ total ____
males 5-14 _____ total ____
females over 14 _____ total ____
males over 14 _____ total ____

Total Village Population _____

(4) How long has the village member lived here?
0-6 months _____ total ____
7-12 months _____ total ____
13 - 24 months _____ total ____
over 24 months _____ total ____
no answer _____ total ____
_____ Total Responses ____

(4 cont.) Are these permanent or temporary quarters?

permanent _____	total _____
temporary/rented _____	total _____
unsure _____	total _____
no answer _____	total _____
_____	Total Responses _____

WATER SUPPLY INFORMATION

(5) Water Source (use scrap paper for totalling)

	<u>Well</u>	<u>VAT</u>	<u>Handpump</u>	<u>Other</u>	<u>No Ans.</u>	<u>Total</u>
a. Drinking (dry season) _____	_____	_____	_____	_____	_____	_____
b. Drinking (wet season) _____	_____	_____	_____	_____	_____	_____
c. Cooking _____	_____	_____	_____	_____	_____	_____
d. Bathing _____	_____	_____	_____	_____	_____	_____
e. Washing clothes/dishes _____	_____	_____	_____	_____	_____	_____
f. Garden/Animals _____	_____	_____	_____	_____	_____	_____

distance to drinking water is:

0 - 50 feet _____	total _____
50 - 100 feet _____	total _____
100 - 500 feet _____	total _____
500 feet plus _____	total _____
no answer _____	total _____
_____	Total Responses _____

(5g) Does hand dug well have a cover?

yes _____	total _____
no _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(5h) Frequency of water system breakdowns:

never _____	total _____
monthly _____	total _____
weekly _____	total _____
daily _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(5i) Days per month of water system breakdown

1-3 days _____	total _____
4-7 days _____	total _____
8-14 days _____	total _____
14-28 days _____	total _____
over 28 _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(5j) Who fixes the water system during breakdowns?

residents _____	total _____
GOB _____	total _____
village maintenance team _____	total _____
no answer _____	total _____
N/A _____	total _____
_____ Total Responses _____	

Who fixed the water system the last time it broke down?

residents _____	total _____
GOB _____	total _____
village maintenance team _____	total _____
no answer _____	total _____
N/A _____	total _____
_____ Total Responses _____	

(5k) RWS cost per month for water service?

\$ _____	total _____
\$ _____	total _____
\$ _____	total _____
no answer _____	total _____
N/A _____	total _____
_____ Total Responses _____	

(6) Do you have healthy drinking water?

yes _____	total _____
no _____	total _____
don't know _____	total _____
not answered _____	total _____
_____ Total Responses _____	

(7) Drinking water treatment:

boil _____	total _____
filter _____	total _____
purify, not specified _____	total _____
don't purify _____	total _____
not answered _____	total _____
_____ Total Responses _____	

(8) Has the water ever been tested to determine whether it is safe to drink?

yes _____	total _____
no _____	total _____
no answer _____	total _____
_____ Total Responses _____	

If yes, by who and when? (write in who tested and in what year)

_____	total _____
_____	total _____
_____ Total Responses _____	

(9) Who collects the water?

	<u>Usually</u>	<u>Sometimes</u>	<u>Never</u>
Children _____	_____	_____	_____
Women _____	_____	_____	_____
Men _____	_____	_____	_____

(10) What do you use to store the water in and does it have a cover?

closed container _____	total _____
open container _____	total _____
container, not specified _____	total _____
other _____	total _____
no answer _____	total _____
_____	Total Responses _____

Where is the water container kept?

on the floor _____	total _____
up/off the floor _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

Is it sanitary?

yes _____	total _____
no _____	total _____
don't know _____	total _____
N/A _____	total _____
no answer _____	Total Responses _____

(11) water use each day (use scrap paper)

Drinking	Average/family _____	Average/person _____
Other	Average/family _____	Average/person _____
Total	Average/family _____	Average/person _____

(12) How many times a day do you go to get water (for all needs)? _____

1-3 _____	total _____
4-6 _____	total _____
7-10 _____	total _____
over 10 _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(12 cont.) Time/day getting water for all needs

1-15 minutes _____	total _____
15-30 minutes _____	total _____
over 30 minutes _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(13) What water supply problems do you have?

none (if marked, skip #14)	_____	total	_____
never enough water	_____	total	_____
sometimes not enough water	_____	total	_____
unhealthy drinking water	_____	total	_____
water system doesn't work	_____	total	_____
water too expensive	_____	total	_____
water too far away	_____	total	_____
iron taste	_____	total	_____
salty	_____	total	_____
silty	_____	total	_____
sulfur smell	_____	total	_____
too "hard"	_____	total	_____
other	_____	total	_____
no answer	_____	total	_____
	_____	Total Responses	_____

(14) Are there times when there is not enough water?

yes	_____	total	_____
no	_____	total	_____
no answer	_____	total	_____
	_____	Total Responses	_____

(15) What is needed to help solve your water problems?

repair handpump	_____	total	_____
obtain new handpump	_____	total	_____
dig a deeper well	_____	total	_____
dig a new well	_____	total	_____
fix community water system	_____	total	_____
extend existing community water system	_____	total	_____
new community water system	_____	total	_____
no answer	_____	total	_____
N/A	_____	total	_____
	_____	Total Responses	_____

SANITATION INFORMATION

(16) Latrine Status

own	_____	total	_____
own/but share	_____	total	_____
don't own/but share	_____	total	_____
no latrine	_____	total	_____
no answer	_____	total	_____
	_____	Total Responses	_____

IF NO LATRINE.

(16a) Facility used is:

bush _____	total _____
community facility _____	total _____
school facility _____	total _____
other _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16b) Would you prefer a (or your own) latrine?

yes _____	total _____
no _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16c) What latrine type?

trench latrine _____	total _____
bucket latrine _____	total _____
wood floor pit latrine _____	total _____
concrete slab latrine _____	total _____
aqua privy _____	total _____
flush toilet with septic tank _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16d) Is it a sanitary latrine?

yes _____	total _____
no _____	total _____
not sure/don't know _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16e) People using latrine

only 1 family _____	total _____
more than 1 family _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16f) Who cleans latrine?

children _____	total _____
women _____	total _____
men _____	total _____
no one _____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	

(16g) What problems do you have with latrine?

none	total	_____
slab or structure unstable	total	_____
flies and/or mosquitoes	total	_____
cockroaches	total	_____
odor	total	_____
snakes	total	_____
rats	total	_____
flooding at times	total	_____
difficult for children to use	total	_____
too far away	total	_____
no privacy	total	_____
splashes on body	total	_____
"cave ins"	total	_____
no answer	total	_____
N/A	total	_____
	Total Responses	_____

(16h) Distance of the latrine from nearest well or other water source

0-20 feet	total	_____
21-45 feet	total	_____
46-70 feet	total	_____
71-99 feet	total	_____
100+ feet	total	_____
no answer	total	_____
N/A	total	_____
	Total Responses	_____

(16i) Latrine location

level with water source	total	_____
uphill from water source	total	_____
downhill from water source	total	_____
no answer	total	_____
N/A	total	_____
	Total Responses	_____

(16j) How would you improve your latrine?

nothing needed	total	_____
new latrine	total	_____
clean it	total	_____
new slab	total	_____
new riser	total	_____
dig new hole	total	_____
new house	total	_____
no answer	total	_____
N/A	total	_____
	Total Responses	_____

(16k) Latrine condition

1. latrine slab condition is:

good _____	total _____
OK _____	total _____
bad _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

2. latrine appears to be:

used _____	total _____
not used _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

3. latrine interior is:

clean _____	total _____
not clean _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

4. latrine pit is:

full _____	total _____
half-full _____	total _____
empty _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

5. latrine exterior condition is:

good _____	total _____
mediocre _____	total _____
bad _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

6. GENERAL LATRINE CONDITION IS:

GOOD _____	TOTAL _____
MEDIOCRE _____	TOTAL _____
BAD _____	TOTAL _____
NO ANSWER _____	TOTAL _____
N/A _____	TOTAL _____
_____	TOTAL RESPONSES _____

(17) What is done with trash?

burn _____	total _____
put in pit _____	total _____
truck away _____	total _____
throw in bush _____	total _____
no answer _____	total _____
_____	Total Responses _____

HEALTH EDUCATION INFORMATION

(18) What diseases/sicknesses does your family get most often?

cough/cold _____	total _____
diarrhea _____	total _____
worms _____	total _____
fever _____	total _____
scabies _____	total _____
lice _____	total _____
malaria _____	total _____
none _____	total _____
no answer _____	total _____
_____	Total Responses _____

(19) What causes these diseases? (write in the cause)

bad water _____	total _____
bad food _____	total _____
mosquitoes _____	total _____
poor sanitation _____	total _____
_____	total _____
_____	total _____
don't know _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

(20) Are any of the above diseases caused by poor water and sanitation?

yes _____	total _____
no _____	total _____
not sure _____	total _____
don't know _____	total _____
no answer _____	total _____
N/A _____	total _____
_____	Total Responses _____

If yes, which ones and how?

cough/cold _____	total _____
diarrhea _____	total _____
worms _____	total _____
fever _____	total _____
malaria _____	total _____
scabies _____	total _____
lice _____	total _____
don't know _____	total _____
N/A _____	total _____
_____	Total Responses _____

(21) Where did you learn about the causes of these diseases?

school	_____	total	_____
health workers	_____	total	_____
place of work	_____	total	_____
family	_____	total	_____
church	_____	total	_____
books	_____	total	_____
other	_____	total	_____
don't know	_____	total	_____
no answer	_____	total	_____
N/A	_____	total	_____
		Total Responses	_____

(22) Where do you go for medical care?

district medical center	_____	total	_____
mobile health team	_____	total	_____
village doctor	_____	total	_____
private doctor outside village	_____	total	_____
local nurse	_____	total	_____
no answer	_____	total	_____
		Total Responses	_____

(23) Do you have or listen to a radio?

have	_____	total	_____
listen to	_____	total	_____
no	_____	total	_____
no answer	_____	total	_____
		Total Responses	_____

(24) Do you have or watch a television?

have	_____	total	_____
listen to	_____	total	_____
no	_____	total	_____
no answer	_____	total	_____
		Total Responses	_____

(25) Do you read the newspaper?

yes	_____	total	_____
no	_____	total	_____
no answer	_____	total	_____
		Total Responses	_____

Which one? (write in the name)

Amandala	_____	total	_____
Beacon	_____	total	_____
Belize Times	_____	total	_____
New Belize	_____	total	_____
Reporter	_____	total	_____
Sunday Times	_____	total	_____
no answer	_____	total	_____
N/A	_____	total	_____
		Total Responses	_____

COMMUNITY ORGANIZATION INFORMATION

(26) Whose responsibility is it for improving water supply conditions?
 individual resident's _____ total ____
 608 _____ total ____
 village council's _____ total ____
 other _____ total ____
 no answer _____ total ____
 _____ Total Responses ____

(27) Are you interested in participating in a latrine and sanitation improvement program?
 yes _____ total ____
 no _____ total ____
 not sure _____ total ____
 no answer _____ total ____
 _____ Total Responses ____

(28) What things could you contribute to improving water supply and sanitation conditions in the village?
 labor _____ total ____
 money _____ total ____
 sand _____ total ____
 cement _____ total ____
 wood for forming _____ total ____
 reinforcing steel/wire _____ total ____
 construction skills _____ total ____
 use of truck _____ total ____
 tools _____ total ____
 nothing _____ total ____
 no commitment at this time _____ total ____
 no answer _____ total ____
 N/A _____ total ____
 _____ Total Responses ____

(29) What assistance do you need from outside the village that would help you to improve your water and sanitation facilities?
 technical assistance _____ total ____
 materials _____ total ____
 education _____ total ____
 nothing _____ total ____
 no answer _____ total ____
 N/A _____ total ____
 _____ Total Responses ____

(30) What organization(s) are you (or your family) involved with?
 (write in the organization)
 village council _____ total ____
 _____ total ____
 _____ total ____
 none _____ total ____
 no answer _____ total ____
 _____ Total Responses ____

(31) Which organization(s) in the village is the most active? (write in)

village council _____	total _____
_____	total _____
don't know _____	total _____
none _____	total _____
no answer _____	total _____
Total Responses _____	

(32) Should the village have a village water and sanitation program?

yes _____	total _____
no _____	total _____
not sure/don't know _____	total _____
don't care _____	total _____
no answer _____	total _____
Total Responses _____	

If yes, which organization in the village should be worked with?

Village Council _____	total _____
Alcalde _____	total _____
_____	total _____
no answer _____	total _____
N/A _____	total _____
Total Responses _____	