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SOCIOECONOMIC RESEARCH OF HOUSEHOLD SANITATION AND GUIDELINES FOR PROGRAM PLANNERS

WASH FIELD REPORT NO. 262

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Prepared for
the Office of Health,
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CONTENTS

CONTENTS (continued)

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Barbara Pillsbury, Ph.D., a medical anthropologist and consultant with many years experience in the U.S. Agency for International Development, and May Yacoob, Ph.D., medical anthropologist and Associate Director for Environmental Health for the WASH Project, drew up the research guidelines and prepared the summary of the special study that comprise the present report. John Mason, Ph.D., a development anthropologist-planner with experience as a United Nations social planner and consultant to USAID in urban and village planning research, developed the multi-level planning analysis framework. He wrote Chapter 4 which discusses how intersectoral planning research can be conducted, using the example of two WASH activities in Djibouti. Diane Bendahmane ably wove together the various contributions, editing, summarizing, reorganizing, and writing to bring a common thread to the paper.

EXECUTIVE SUMMARY

In 1986, the Water and Sanitation for Health (WASH) Project carried out a special study project to assess the specific ways in which social, cultural, and economic factors influence the management of children's excreta within domestic settings. A primary objective of the activity was to demonstrate how an analysis of cultural factors regarding personal hygiene and household sanitation practices can be used to improve behaviors and enhance the success of child survival programs and the long-term impact of water and sanitation programs.

Three tasks were undertaken as part of the special study. The first was to conduct a review of existing literature on cross-cultural similarities and differences in the management of children's fecal matter. A bibliography of the works reviewed was compiled. The second task was to develop a sound conceptual framework for studying the problem of childhood defecation within the complexities of both rural and urban communities. This framework was based on the existing theoretical and practical literature. Then, after polling a number of institutions and agencies in various countries to determine if there was sufficient interest, the third task, a field study of the handling of children's excreta, was undertaken. The field study was viewed as a test of the conceptual framework developed earlier.

The study was conducted in Kenya in collaboration with AMREF, the African Medical and Research Foundation, based in Nairobi. Karen Shelley, Ph.D., medical anthropologist from the University of North Carolina, and David Omambia, senior field research officer of AMREF, were responsible for carrying out the study, which is available in its entirety as WASH Working Paper No. 47, "Enhancing Child Survival Through Improved Household Sanitation."

The present report contains a summary of the AMREF study, but it also includes something new: a set of guidelines for conducting a research study such as the one carried out in Kenya. The purpose of the guidelines, which are based on the special study, is to assist health educators wishing to understand local beliefs and practices so that they can design sensible and effective hygiene education programs. The report goes beyond important data collection questions to those of interpretation and application by the planners who use the data. It also includes the presentation of an analytic framework and guidelines for programmatic use of socioeconomic research findings by health education and community water and sanitation planners.

Chapter 1

INTRODUCTION

These guidelines are written for supervisors of field level staff with responsibility of training extension agents in the collection of data for hygiene education programs in water supply and sanitation projects. The focus is on data collection at the household level and the design of a program based on the findings. Materials for this document are the products of an urban and a rural water and sanitation field experience. This chapter, which is based on research conducted in rural Kenya and in urban Djibouti, describes the sociocultural context of programs for low-income household management of young children's excreta and emphasizes the importance of baseline research on household practices for planners and managers of hygiene education projects.

1.1 The Problem: Fecal Pollution by Young Children

Problems concerning the defecation of children aged one to four are of growing concern to personnel responsible for water and sanitation and child survival projects. It is now recognized that children in that age group may be among the greatest contributors to environmental pollution and ill health. This is so for several reasons. These children have an increased number of pathogenic ingestions and also a tendency to deposit their feces indiscriminately around domestic settings where they may bring health problems for other household members. Furthermore, in contrast to the rather strict attitudes commonly held about adult feces, children's feces are considered innocuous in many societies.

Young children are also the household members who suffer most from acute diarrhea attributed to unhygienic excreta disposal practices. A wide range of diseases transmitted by the fecal-oral route contributes to continuing high rates of infant and child mortality throughout the developing world.

Success in reducing the incidence of diarrheal disease among young children depends largely on the ability of parents and other caretakers to handle water, food, and shelter in improved ways that reduce the risks of infection. By keeping household water clean, ensuring its use for personal hygiene, and by safely disposing of human excrement, all members of a household can help protect the health of its young children. However, in poor households in developing countries, hygienic handling and prompt sanitary disposal of young children's feces is often a very difficult task. This is especially so when the household has no latrine or when there is no convenient supply of water for handwashing or when children are afraid of latrines.

Normally household members, specifically women and children, are responsible for sanitation of the home environment, preparing food, and caring for children. A key goal of hygiene education programs is to improve household child-care strategies. What parents and other caretakers communicate to children about

personal hygiene, including latrine use, has an immense impact on--and can greatly improve--the health of toddlers and young children in the household.

1.2 The Sociocultural Context of Household Sanitation

Children's defecation behavior and household sanitation practices are both strongly influenced by cultural beliefs. Integrated sets of social relationships and cultural ideologies underlie the traditional customs and habits that shape household routines. The behavior of men, women, and children who carry out these routines is influenced by cultural and social norms, religious ideologies, and their understanding of what makes for good health.

Many social customs and habitual behaviors directly influence health risks to the young and the chances of exposure to disease; other practices promote defenses against physiological threats to health. Among populations in developing countries, some of these customs and practices are deliberate attempts to safeguard children and other members of the household. Other social practices, however, act as intrinsic regulators and indirectly shape the risks of infection to household members and chances of environmental contamination. For example, religious cleansing before prayers might also coincide with food preparation. This behavior can be identified, shown how it is useful and thus strengthened. An example of detrimental behavior is the use of dogs in some communities for anal cleansing or for cleaning up fecal matter.

Women and older children are usually most directly involved in managing household hygiene. Each day they make decisions about how to dispose of the excreta of young children. They decide whether to collect and bury excrement from toddlers' clothing or diapers, whether to throw feces into a nearby garden or yard surrounding the house, or whether to leave feces lying in the yard where a toddler has defecated. These decisions are influenced by the availability and convenience of water, by competing demands on the mother's time, and by cultural traditions and beliefs.

1.3 The Importance of Household Baseline Research to Project Planners and Implementors

Hygiene educators understand the transmission routes that spread infections. However, understanding disease transmission is no guarantee of behavioral change. Ways must be found to teach others to break or minimize recurring cycles of infection. Child survival depends not just on access to clean water and sanitary facilities, but also on the extent to which community members successfully incorporate into their daily household routines essential, and often fundamental, changes in behavior.

Project staff who want to introduce a project component on how to handle and dispose of children's excreta safely should start by collecting information on the current practices of the intended beneficiaries. At both the community and household level, local people already have extensive strategies for safeguarding the health of their children. These strategies may or may not include ideas

about appropriate methods of disposing of toddlers' feces. Also, these strategies may or may not be based on a sound, scientific basis.

To plan formal and non-formal teaching or training sessions, health and hygiene educators need to develop a better understanding of the many ways socioeconomic factors influence the behavior of child caretakers. Even for health educators who are themselves members of the local community, the observational and information gathering tasks presented in this report are very important. Knowledge of existing practices is the starting point for the development of a sound hygiene education strategy.

Unfortunately, although planners apparently are aware of the importance of cultural factors in shaping health behavior and although they appreciate the pay-offs of incorporating cultural information into project plans, progress has been slow in turning this awareness into action. Especially among projects that seek to improve child survival, there is a need to clarify and integrate knowledge about the ways in which culture influences the risk of disease from environmental contamination. Increasingly, this lack of information is being recognized. In response, USAID sponsored major study on behavioral issues of child survival.

The necessary information about current practices can be acquired through a baseline study of behavior at the household level. Such a study need not be a large survey. It can be carried out on a small scale in collaboration with local social scientists or appropriately trained health workers in the project country. Extension agents can be easily trained in conducting such surveys. It involves several simple planning tasks and a series of household observations and interviews carried out by field assistants--preferably women--who are from the ethnic groups of the communities. Once the necessary arrangements and plans have been made, the study can be conducted in a rather short time--approximately three weeks.

The household baseline study might also be described as a "community study," "field assessment," "ethnographic study," "anthropological study," "sociocultural study," or "formative research." What is key, however, is that the study is conducted, not just anywhere in the community, but within households. Its purpose is to acquire knowledge about baseline conditions rather than to evaluate or assess the effectiveness of a project intervention.

This type of field assessment, focusing on women and children in household settings, reveals the existing strategies that mothers and other caregivers are already using in the care and teaching of children as it relates to hygiene. These existing strategies then become the building blocks for planning and teaching new methods of fecal waste disposal.

1.4 Organization of This Report

Chapter 2 briefly describes case studies that were carried out in Kenya by AMREF. Chapter 3 contains guidelines for baseline field assessments of household hygiene. Naturally, project managers and health educators will have to adapt these guidelines to their own circumstances and local project settings,

but the essential structure is given here. Chapter 4 outlines an approach to planning research and application of household-level data by planners.

Chapter 2

A CASE IN POINT: THE KENYA STUDY

This chapter describes a household study of the handling and disposal of children's feces carried out in 1986 in two regions of Kwale District in Kenya. It was implemented by the African Medical and Research Foundation (AMREF) with the assistance of the Water and Sanitation for Health (WASH) Project. The goal of the study was to demonstrate how knowledge of cultural models that influence personal hygiene and human waste disposal practices can be incorporated into educational programs designed to strengthen the outcomes of intervention programs. The complete study is available as WASH Working Paper No. 47, "Enhancing Child Survival Through Improved Household Sanitation."

2.1 How the Study Was Carried Out

In general the study followed the steps outlined in the previous chapter. Some important details about particular aspects are summarized below.

2.1.1 Selection of the Sample to Be Surveyed

Kwale District was selected for the following reasons:

- There was a high incidence in the district of gastrointestinal complaints and diarrheal diseases among young children.
- Latrines had been introduced to residents of Kwale through earlier health programs, and many households were known to have pit-type latrines.
- Previous health surveys in the region, however, indicated considerable variation in ongoing practices of latrine use and maintenance.
- A large number of technical assistance projects was being carried out in the area, and their personnel and local agencies were interested in the study.

The study was carried out in two regions of Kwale District, Muhaka and Mwapala. In these regions the population is divided into two main ethnic groups, the WaDigo (or Digo) and the WaKamba (or Kamba). The hub of Muhaka region is the village center of Muhaka, where people are primarily Digo. The hub of Mwapala region is the village center of the same name, where people are primarily Kamba. Three hundred randomly selected households were selected for the study, 150 from each of the two regions.

Communities with diverse cultural and religious beliefs were selected so that differences and similarities in child care and excreta disposal practices could

be analyzed. Several cultures are represented in Kwale District. Current practices stem from indigenous African beliefs, beliefs originating in Islam, and still other beliefs associated with Christianity. A large proportion of the population is Muslim.

2.1.2 Recruiting and Training Field Assistants

Local primary school teachers and public health technicians helped identify people in their communities who might make effective field assistants. Community leaders agreed that young people who had recently attended secondary schools in the area or who were currently enrolled in university were likely to be the most effective interviewers.

The following criteria were used to select field assistants:

- fluency in the most widely-spoken local languages,
- completion of secondary school and preferably some university training,
- kinship and residential affiliation with members of the respective local areas, and
- personableness and congeniality with local residents.

Training of field assistants took place during an intensive all-day session at a local church conference facility.

2.1.3 The Household Survey

Respondents to the household survey were women, the primary child caretakers. Their responses provided an overview of social relationships, economics, and educational levels of households.

The survey (see Appendix A) had the following objectives:

- To describe the composition of households according to age and sex in order to identify the range of potential child caretakers.
- To identify variations in socioeconomic status as measured by the level of education of primary adult males and females and by sources of income of primary adult males and females.
- To identify patterns of religious affiliation.
- To describe the ways community members organize domestic space.

- To find out what types of latrines are used in household settings.

- To identify how water used for handwashing and anal cleansing among Muslim families is stored and made available to children.

2.1.4 Intensive Interviews

Follow-up interviews were carried out among a sub-sample of households that had participated in the initial survey. These were conducted on return visits by the principal investigator and a field assistant who spoke either Kidigo or Kikamba. This sub-sample was representative of the larger sample.

The intensive interviews (see Appendix B) included a series of open-ended questions about women's daily household routines that affect child survival.

2.1.5 Structured Household Observations

Observations were made by four field assistants known to local residents in the two respective regions. The field assistants systematically observed and documented women and children interacting in the context of toilet behavior of young children. A record was made of the sexes and approximate ages of the children observed and of the presence or absence of adult and sibling caretakers. Most mothers interviewed appeared to discuss their childcare practices freely, indicating that the field assistants were sensitive and respectful of the mothers' opinions.

2.2 Findings of the Case Study

The two regions studied were inhabited largely by populations from different tribes with different cultural traditions; therefore, no attempt was made to give overall results. Instead the findings were given for each of the two main ethnic groups, or sometimes for the region.

2.2.1 The Physical Setting of the Households

In Kwale District, domestic tasks are carried out both inside the house structure and in the outdoor areas of the compound. However, the style of house differs from region to region throughout the district. Mwapala region compounds usually have a main house for sleeping and separate structures designated for cooking or for keeping livestock, whereas Muhaka region household compounds consist of a main house with a covered porch across the front.

2.2.2 Population Characteristics

The mean number of persons per household is 7.4. The households in the Mwapala region are slightly larger than those in Muhaka region. Children between the ages of birth and fourteen are numerous in both sub-samples. They comprise approximately half the number of individuals per household on average. Children under five years of age are of particular interest to hygiene education programs. In the domestic units of the Mwapala region 70 percent of the households surveyed have children under five years of age. By comparison, 78 percent of those in the Muhaka region have one or more children under five.

2.2.3 Kin Relationships among Household Members

Household membership is based on kinship relationships in all households, but several different types of kin ties form the basis of domestic group organization. Among the households surveyed, four different types can be delineated: (1) households in which the core kinship tie is husband and wife and children, (2) households consisting of a mother, her son, her son's wife, and children, (3) female-headed households, and (4) households in which there is no primary female. In the majority of households surveyed in both regions, the kinship relationship was husband, wife, and offspring. Other relatives also reside in many of these households.

2.2.4 Religious Affiliation

Information concerning institutional religious affiliation provides only preliminary insights about a people's ideational system, for religious affiliations comprise only one aspect of any existing system of belief. Traditional African beliefs and religion often co-exist with other institutionalized religious beliefs. Only by observing human behavior through the course of daily interaction can the range of influences that different religious ideologies have on specific health strategies be deduced.

Among the households in the Muhaka region, where the inhabitants are primarily Digo, Islam plays an important role in daily life and in the social customs of children and their caretakers. The influence of Islam is not limited to ritual practices performed at local mosques. It also has a strong influence on health strategies, on the ways that domestic environments are structured, and on beliefs about the protection of children.

2.2.5 Educational Level

In both regions, the primary adult females have not typically received a secondary education. However, it is more common for Kamba women to have completed some primary school than for Digo women. About one-third of the Kamba women have completed at least four years of primary school.

More of the primary males have attended schools than primary females. Again, however, Kamba men who are the primary males in their households have more

schooling than their counterparts among Digo men. Thirty-nine percent of Kamba men and 16 percent of Digo men have had between five and eight years of primary education. Twenty-one percent of the Digo men have had no institutional education at either Koranic schools or in the government school system. Men who are primary males in Digo households are more likely to have attended a Koranic school than Kamba men. Twenty-nine percent of the Digo men have had some Koranic education.

2.2.6 Sources of Income

In addition to educational attainment, sources of subsistence provide another indicator of the socioeconomic status of household units. The availability of cash determines the amount of money that can be spent on items such as improvement of housing, latrines, school fees, purchased foods, and commercial transportation.

The most time-consuming daily work activity for both men and women is subsistence farming. Cash crop farming is also very important in providing money for supplemental foods during some months of the year and to pay for children's school fees. The most important source of income is also farming. Only 11 percent of the primary males among the Digo and 8 percent among the Kamba are engaged in wage employment with no farming activities. Other sources of income are particularly significant for Digo women. Financial assistance from persons outside the household, hawking, and selling *makuti* are the most common forms of support.

If one looks at males' contributions to household support, there is a marked difference in farming strategies among Kamba and Digo households. The percentage of primary males in the Kamba households engaged in cash farming (together with subsistence farming) far outnumbers the primary males among Digo households. Eighty-one percent of Kamba men, compared with only 41 percent of the Digo men, receive some cash from their farming activities.

The mixed farming system that residents in this region rely on is very complex but is fundamental to understanding a wide range of child health issues in the population. The linkages between household farm production, the health of children, the allocation of time and work among those who care for children, their decisions about water utilization, and sanitation practices should be firmly understood by those who plan hygiene educational programs.

2.2.7 Sanitation Patterns

The presence or absence of a functioning latrine was reported for all households visited during the initial survey. All households that have a waste disposal system have pit-type latrines. On the whole, the percentage of domestic units with latrines is rather low. Of the 300 households surveyed, 48 percent have latrines. Kamba households are much more likely to have latrines than Digo households: while 73 percent of Kamba domestic units have latrines, only 25 percent of Digo households have them.

Decisions about whether or not to have a latrine usually involve several factors. Seasonal rains cause the collapse of latrines and increase the need for maintenance. The cost of labor to dig a latrine was cited as another factor influencing decisions about building or replacing a latrine.

In analyzing the findings of the survey, the researchers looked for a possible correlation between the presence of a latrine and the educational level of the primary male or female. Such a correlation was found for Kamba but not for Digo households. For the Kamba households, a significant correlation was found to exist between the education level of primary males and the presence of a latrine. A stronger correlation was found to exist between the educational level of the primary females and the likelihood that the household has a latrine. However, even when educational differences are taken into account, the findings indicate that the two sub-samples make different decisions about having household latrines.

Differences were also found in the ways Kamba and Digo households situate latrines within their domestic units. In the Kamba households the latrines are usually situated away from the main sleeping house. Members of Digo households design their living spaces quite differently, with an open courtyard and bathing and latrine facilities as one integrated unit. Latrines are often incorporated into the main structure of the household, rather than situated away from the house. Among Digo domestic units without latrines, a bathing enclosure is often used as a place for urinating as well as a place for bathing. Muslim practices of personal hygiene customarily require that people clean themselves by washing with water after urinating.

2.2.8 Children's Use of Latrines

Information concerning children's use of latrines was obtained in two ways. Mothers and other primary caretakers provided information, and, in the second phase of data collection, the investigators and field assistants made a series of systematic observations.

The women interviewed in both regions reported that a high percentage of older children in their households made routine use of latrines--in those households that had one. Once again, however, the findings indicate differences between Digo and Kamba households. Among the 91 Kamba households with latrines and with children aged five to twelve, 97 percent of the mothers said that these children routinely made use of the latrines. In contrast, among the 29 similar Digo households, only 62 percent of the mothers reported that the children used the latrine regularly. While women's evaluations may have been influenced by ideal behavior patterns rather than actual ones, the difference between Kamba and Digo households appears to have some important implications.

Caretakers generally reported much less use of latrines by younger children. Seventy percent of women in households with latrines and with younger children in the family said that children under five years did not make regular use of latrines. However, a greater percentage of Kamba than Digo children under age five made use of latrines. In Kamba, women caretakers in 39 percent of the households reported that children five or under used the latrine. Among Digo

households, most young children do not use the latrine, even if the household has one.

2.2.9 Disposal of Children's Feces

Several methods of feces disposal are practiced in Digo households. Mothers or older siblings scoop up the toddlers' feces with a hoe and deposit them into the latrine, if there is one. Among the Kamba domestic units, toddlers' feces are buried beyond the cleared area of the compound or in a nearby cultivated plot. As in the case of Digo households, adult caretaker or other siblings remove the excreta using a hoe or a tin scoop. Often, however, if the mother or older siblings are not present, feces can remain on the ground in the compound. The chances of spreading infection to other children depends, in part, on the care that the mother takes in collecting surrounding contaminated soil when she removes the excrement. An added problem is that chickens or children playing in compounds can easily scatter the feces before they are noticed by adults. Kamba mothers appear to be rather diligent about sweeping their dirt compounds with brooms made of coconut fibers. While sweeping removes bits of food that may otherwise attract flies, there is also the chance that sweeping may further scatter contaminated soil.

In Kamba households, where youngsters learn to use latrines at rather early ages, children initially learn to defecate on the ground within the enclosed areas of the latrine. Later, older children or the mother brush the feces into the latrine opening.

Information from the household survey and intensive interviews provide background concerning mothers' perceptions of the potential danger of children's feces. In Digo households, 66 percent of the primary females said that they felt there was a danger of spreading sicknesses through the excreta of young children. In Kamba 76 percent perceived this danger. In both regions, therefore, a sizeable minority of child caretakers do not perceive any health threat from the excreta of young children.

2.2.10 The Use of Water for Personal Hygiene

Among Kamba households, some mothers were observed washing the hands of young children after they had used the latrine. Water is not always readily available, however, in some households. Small quantities of water are not customarily stored in closed containers either within or next to latrines. In Kamba compounds, drinking water is usually stored inside the main house in a covered plastic bucket. In Digo households, water is stored in a large clay pot or in a plastic bucket. One of the difficulties in teaching personal hygiene practices to the young is that water may not be easily accessible without the assistance of adults. The distance between the water storage places and the site of a latrine within the compound may affect the pattern and frequency of handwashing by children.

In Kamba households, older relatives frequently oversee the play and interaction of youngsters. These adults were generally attentive caretakers but were not

observed to influence the toilet behavior of children. No consistent attempt was made to establish regular handwashing routines among young children of the household.

2.3 Interpreting the Findings

2.3.1 The Cultural Context

Results of the field assessment underscore the need for hygiene education programs to be based on a thorough awareness of the existing principles of folk hygiene that mothers are utilizing. While health educators may find it important to modify existing practices and introduce new methods of child care that will enhance the survival of youngsters, they need to be aware of the cultural paradigms that are the very basis of the existing strategies that mothers use. The naive observer can too easily draw the conclusion from the survey data that caretakers among Digo households are relatively unconcerned about physical cleanliness and hygiene, but further inquiry suggests otherwise.

Within Digo households, Islamic belief in the concept of *ndjisi* (pollution) strongly influences the personal hygiene practices of both children and adults. According to this belief, certain acts render a person's body impure or polluted and require the individual to restore himself or herself to a state of purity by washing the buttocks with water. Anal cleansing is usually a part of the customary hygiene practiced by members of Digo households.

In both the case of Islam and Christianity, religious teachings concerning proper conduct also incorporate beliefs about personal hygiene. There are even some points of congruity between beliefs about the potential value of cleanliness in the biomedical health belief model, in the teachings of Islam, and in the teachings of Christianity. The similarities, however, exist only to a partial extent. The differences are important to grasp. Within the context of religion, a disregard of the tenets concerning physical cleanliness is a breach of morality that carries threats of negative sanctions. Within the context of biomedical hygiene, personal hygiene is a matter of controlling environmental factors that can reduce the transmission of pathogens. Noncompliance can lead to disease. These marked differences in ideological premises underscore the reasons why individuals within a community may learn to follow and value practices of personal hygiene, but often for very different reasons.

2.3.2 Implications of the Findings for Hygiene Education Planning

1. Belief in the concept of *ndjisi* structures many aspects of human waste disposal and hygiene practices. This concept requires a person to wash with water, but it does not specify that soap be used. It is believed that cleaning should be

that soap be used. It is believed that cleaning should be thorough, but techniques vary from person to person. While hygiene education programs can easily build on the concept of pollution to help provide incentives for physical cleanliness, the tenets of Islam are basically moral tenets and are not intended for preventing the spread of pathogens.

2. Because feces are generally considered polluting, many persons prefer to defecate away from their households and compounds. A latrine is still not accepted as a fully appropriate or convenient waste disposal alternatives by many in the region.

3. The cultural need for water, which is required for anal cleansing and for washing the bodies of children after defecation, suggests that latrines and water supplies need to be planned as joint components of housing designs.

4. Young children in Muslim households require small quantities of easily accessible water for personal hygiene. Hygiene educators and child caretakers need to teach the young practices of handwashing, using soap if possible, as part of their personal hygiene routine.

5. New types of latrines, such as the VIP-type, need to be carefully evaluated by local members of the community prior to their introduction. Modifications may be needed in order to accommodate cultural preferences.

Chapter 3

GUIDELINES FOR CONDUCTING A HOUSEHOLD BASELINE STUDY

What follows is a step-by-step outline of procedures for carrying out socioeconomic research of household water, sanitation, and hygiene conditions and practices. It details the community context of household-level research; outlines survey and interview research methodologies; and defines the process by which research findings are reviewed and applied to planning.

3.1 Step One: Preparatory Work

3.1.1 Defining the Policy and Program Context

Researchers who conduct household baseline studies must link their investigations to the larger national and regional context. Frequently researchers have delved into major research without consideration of the government's national policy. Their work does not begin in the rural villages and towns but at the national ministerial level. They must learn about national objectives and ongoing activities in water supply and sanitation and health. This is essential in order for them to arrive at useful recommendations. In Djibouti, for example, socioeconomic research of water use and sanitation behavior was preceded by a workshop for key policymakers and planners in defining their sector objectives. The research then formed the basis for planning of community hygiene education and water and sanitation infrastructure programs.

3.1.2 Making Contact with the Community

The next task is to make contact with the community. It is recommended that a series of at least four informal discussions with small groups of community members (a representative sampling from four different communities) be held before planning the study. Such meetings will permit researchers and planners to obtain information concerning indigenous hygiene practices and concepts of cleanliness and pollution before they begin to develop the survey instruments.

Initial informal discussions might target the following groups: teachers from a local primary school, a group of women who participate in a supplemental income-generation activity, groups of women of different ages gathered at community water points, members of a local church or mosque, etc. These also provide the opportunity to gather data on leadership among women and their past experiences in undertaking projects.

3.1.3 Developing the Survey Instruments

The next preparatory task is to develop a series of structured and informal data collection instruments that will provide insights about existing hygiene practices and beliefs. Each field setting requires a research design suitable to local conditions. Examples of the survey instruments designed for use in the baseline survey in Kenya are included in Appendices A and B.

The methods used for collecting information about household hygiene and handling of children's feces are the same as those recommended for any household-based study. Both intensive ethnographic techniques and structured survey techniques are recommended, including semi-structured and open-ended interviews and observation of an appropriate sample of the population.

Planners can use existing household survey instruments and interview guides as models, but they must modify the instruments to make them culturally appropriate. Meetings with the community will provide essential information for the modification process.

All interviews and informal discussions should be carried out in the primary language used by the women who are being interviewed.

3.1.4 Selection of the Survey Sample

Sampling is used in cases where statistical validity is desirable. To be representative, the sample must include a significant proportion of the cases, and known differences in a population based on ethnicity, income, kinship structure, education, religion, sexual division of labor, neighborhood location, etc., should be represented. The selection of random houses should be based on distance from existing water sources, e.g., households furthest, midway, and nearest to water source. Statisticians of the host country should be included in the design process, so that they can contribute their expertise and increase their own understanding of planning research.

3.1.5 Scheduling of the Interviews

To assure adequate coverage, factors such as seasonality and work patterns must be considered when timing the interviews. For example, if mothers are out in the field and children are with caretakers, then interviews with both need to be scheduled. It is also preferable to collect data at least twice at six-month intervals so that seasonal aspects of behavior may be observed. Behaviors regarding feces disposal, for example, may be different in the rainy than in the dry seasons.

3.1.6 Recruiting and Training Field Assistants

Careful recruitment and appropriate training are essential for field assistants who will carry out the interviews and observations. At a minimum, training should include a detailed discussion of all survey questions, a review of interviewing techniques and possible responses, and practice in recording the responses systematically and providing explanatory information to supplement answers when appropriate.

Field assistants who carry out the study should be trained to use open-ended interview techniques that elicit useful information about the assumptions mothers make concerning cleanliness and contamination. Highly structured questionnaires, as are commonly used in large-scale surveys, may be useful for obtaining information about the availability of water or about how water is stored, but they are less useful for obtaining accurate information about what people really do in complex daily life situations, especially when the subject is highly personal. In using such interview techniques, field assistants must understand that their presence influences the behavior of the observed and that what people say they do is not necessarily what they actually do. This means that techniques for probing and on-the-spot observations should be included in the research training.

Effective training sessions can be organized using role-play techniques. Community facilitators can help to arrange practical observation and recording sessions at the homes of friends, neighbors, and relatives. These practice sessions should be followed up by training sessions in which problems encountered by the field assistants are discussed and solved.

3.1.7 Testing the Survey Instruments in the Field

Field testing of survey instruments is essential. Such factors as the way questions are asked and how the presence of the interviewer may affect the behavior of respondents should be demonstrated in a pre-test situation.

3.2 Step Two: Data Collection

3.2.1 Sequence of Activities

Three kinds of data collection activities are recommended. The first is a household survey taken of a representative sample of households; the second is a series of intensive follow-up interviews in a smaller sample of households; the third is structured observation of household members in yet a smaller number of households. Each of these methodologies will yield a different type of data. The first will yield general data on where, when, and possibly how. The second will yield data on variations in utilization, and the third, data on actual behavior.

3.2.2 The Household Survey

The household survey should provide information on such general socioeconomic conditions as household composition, sources of household income, water use, latrine use, and child-health strategies. It may also address very specific subjects concerning household sanitation practices. In the Kenya survey, for example, one section of the household survey was designed to elicit information on episodes of diarrhea and perceived causes of diarrhea. Responses to such questions can provide useful information about health-care strategies and perceptions of the causes of disease.

3.2.3 Intensive Follow-up Interviews

Follow-up interviews are to be carried out among a representative sub-sample of households that participated in the initial survey. These interviews include open-ended questions about women's daily household routines that affect child survival. (Focus group discussion could be used as an alternative, but very effective, method to obtain such information.)

The intensive interviews or focus group discussions might cover such subjects as the following:

- women's routines regarding household excreta disposal, latrine cleaning, and regular latrine maintenance;
- child caretakers' disposal of children's feces;
- availability of water for handwashing and bathing;
- mothers' perceptions of threats to children's health; and
- customs of personal hygiene and related religious beliefs.

3.2.4 Structured Household Observations

As part of the follow-up interview process, field assistants should visit a representative sample of households systematically to observe and document the context of women's and children's interaction surrounding the toilet behaviors of young children, and the utilization and care of water in the household. A record should be made of the sexes, approximate ages of the children observed, and of the presence or absence of adult and sibling caretakers.

Any study conducted in a household setting requires a great deal of sensitivity on the part of researchers. The health of infants and children is a topic of great interest and concern to mothers. The ways in which mothers manage children's illnesses and teach their children personal sanitation are often highly sensitive topics. Field assistants carrying out household observations and interviews must be respectful of mothers' current practices and opinions about childcare practices. Sufficient time, over a one week period, is needed

to obtain accurate data upon which a well-targeted hygiene behavior program can be designed.

3.3 Step Three: Review of the Findings

3.3.1 Preliminary Review

As information from household surveys and interviews is collected, representatives from a team of sanitation planners and community health workers need to work with the social researchers in preparing a preliminary review of the findings. The purpose of such a review is to identify findings which are potentially important but which might not have been anticipated in the early stages of the research. Such findings will need to be listed and prioritized in order of importance. Each of the findings might be specific behaviors needing change. For example, covering water in transport might be a behavior less important than refraining form putting stones in the container so that water will not spill. The identification of such behaviors requires both observation and interview.

3.3.2 Final Review

Once the data have been tabulated and analyzed, a second, more definitive review with planners should be carried out. At this stage planners need to determine what data are essential to their work and how best they might be organized. The implications of this preview process for formulating planning guidelines are discussed in Chapter 4.

3.4 Step Four: Applying the Findings

3.4.1 Searching for Ways to Promote Behavioral Change

Analysis of the data from field research is relevant not only to hygiene educators but also to those planning housing and sanitation systems and facilities. Hygiene educators need to be sensitive to the fact that mothers and other caretakers rely on an existing cultural knowledge system for their strategies of child care. In this respect the recipients of programs designed to enhance child survival are not "empty vessels" waiting to be filled with knowledge and enlightened solutions. They are already using and sometimes modifying a set of intricate strategies of child care and household cleanliness. Planners of housing and sanitation systems and facilities must, for their part, enhance those existing strategies by introducing facilities that are appropriate to the people who will be using them. Water and sanitation designs that either contradict or ignore the principles of basic socioeconomic and cultural paradigms are not likely to be incorporated into the existing repertoire of household routines and child care strategies.

Health and sanitation planners working outside the bounds of their own cultures continue to be puzzled by the failures of their projects. While most of these projects are well-intended, few yield the range of results that were envisioned because of an absence of essential socioeconomic and cultural understanding. Failures also result when planners misconstrue the ways that social factors and indigenous knowledge influence behavior. Indigenous cultural concepts and practices are often seen as a series of isolated, idiosyncratic, or exotic behaviors that create barriers to health and well-being, not as avenues that can lead to behavioral change. Hygiene educators and health and water and sanitation planners need to become more skillful in utilizing existing cultural paradigms concerning pollution, cleanliness, contamination, and protection.

3.4.2 Multi-Level Analysis

Information obtained from research at the household level must be placed in a broader analytical context for the purposes of planning. Planners need a context with physical, public health, and public service parameters, for it is they who design training and consciousness-raising programs, water and sanitation systems, and community environments which touch the everyday lives of most people. The household level is selected initially as the unit of analysis, because that is the most manageable point of entry in building an adequate base and for determining what interventions might succeed.

The ideal relationship between planning functions and household health, water, and sanitation practices and conditions which are in need of improvement, may be expressed diagrammatically. Figure 1 shows how other parameters relate to household conditions. In the figure, the vertical axis consists of the analytic categories based on people and place, moving from the smallest, least inclusive, to the larger, more inclusive: household to neighborhood to surrounding community. The horizontal axis consists of the planning sectors or areas: public services, public health, and health education.

At the household level, specific water and sanitation conditions are given. Each condition falls in the domain of one of the planning functions. In turn, each function is the responsibility of a designated office of the local, regional, or national government, each with a multitude of specialized planners.

Interventions by these offices are made at the neighborhood level and larger community level in order to improve water and sanitation conditions for households in the aggregate. Such interventions range from health training programs in household sanitation to improved surface and groundwater drainage. Figure 1 suggests that for water and sanitation programs to work effectively, they should be integrated programmatically with public health and health education services. In that way the higher-level neighborhood/community improvements would be more effectively promoted and reinforced at the household level. Such an effort is best carried out through an inter-sectoral approach to urban water and sanitation needs, as described in Chapter 4.

Figure 1

Example of Multi-Level Analysis and Planning Perspective

	Household Conditions	Public Health	Health Education
Needs and Objectives	a. access to water	d. latrine location	g. water management by women
	b. appropriate wastewater disposal	e. water storage	h. personal hygiene
	c. evacuation of latrines	f. open/covered latrines	i. food preparation
Neighborhood Planning Intervention	a. ex.: 1 water standpipe/20 households	d. local training/inspection groups	g. women-led group meetings
	b. local drainage/ waste disposal points	e. theatre demonstration/ training exercises	h. school/local association sensitizing programs
	c. (none)	f. theatre demonstration/ training exercises	i. mobile health training units
Larger Community Planning Intervention	a. dispersed reservoirs	d. joint community/ government inspection teams	g. women-led community demonstration exercises
	b. drainage network	e. radio/television programs	h. radio/television programs
	c. recycling in aeration ponds	f. radio/television programs	i. radio/television programs

Figure 1, taken from data on urban hygiene education in Djibouti city, is an example of how needs and objectives are translated to actions at the household, neighborhood and wider community levels. For example, the objective of gaining "access to water" will require "a water standpipe for every 20 households" at the neighborhood level and "dispersed reservoirs" at the larger community level. Similarly health education in "food preparation" will require, at the neighborhood level, "mobile health training units", and at the community intervention level, "radio and television programs."

Chapter 4

INTERSECTORAL PLANNING-RESEARCH

Chapters 2 and 3 showed how household-level data can be collected. This chapter takes a broader view by describing how the data-collection process can be integrated with the planning process and how planners actually use the data they obtain. Two WASH projects in the Republic of Djibouti carried out planning-research to devise water and sanitation systems for low-income neighborhoods and a squatter community. (See WASH Field Report No. 214, Design of a Sociocultural Study of Household Water Use and Sanitation Practices in Djibouti City, and WASH Field Report No. 242, Analysis of a Sociocultural Study of Household Water Use and Sanitation Practices in Djibouti City.) What these projects teach us about research and planning can be applied to health and water and sanitation projects in various cultural settings, geographic areas, and in rural and urban settings alike.

4.1 Involving Planners in Research

Planning and research must go hand in hand. This means that planners must participate in the research process itself--including design, data review, and interpretation--and that researchers should be sure that their research will yield results that planners can use.

Physicians in hygiene, epidemiology, and health education services; social scientists and statisticians in national research centers; water and sanitation planners; officials in public service agencies; community planners and organizers--all are integral to the planning-research exercise.

Cooperating with these kinds of government officials in carrying out socioeconomic research for planning purposes, while a seemingly obvious tactic, is not often done. What such cooperation requires is a brokering role on the part of the social researcher in which an attempt is made to elicit the interest, concern, and even a sense of responsibility on the part of the officials. For example, officials can be asked to contribute possible survey questions relevant to their specialty. Optimally, some officials should be part of the team carrying out the field research and observation.

When officials become involved in socioeconomic research, they begin to feel that they really have a stake in how the research is conducted, the communities come to feel that the government cares about them, and the social researchers can view from close up how officials perceive the socioeconomic dimensions of health and water and sanitation practices and conditions.

4.2 The Approach in Djibouti

4.2.1 Reasons for Success

The intersectoral approach outlined above would seem to represent an ideal--easy to talk about, hard to achieve. Its success in Djibouti was due to two main factors. First, planners had already demonstrated their interest in and had requested a socioeconomic study. An earlier WASH workshop in water and sanitation had been used effectively to raise the consciousness of sector planners on the importance of the social context. The second important factor was that a National Committee on Water, Sanitation, and Hygiene was established to organize and direct the research planning process. Planners on the committee represented a full range of disciplines--water and sanitation; roads and drainage; architecture, housing, and urbanism; public health and epidemiology; social research and statistics; and women's affairs and community development. They cooperated in an interdisciplinary manner quite uncharacteristic of many bureaucracies.

4.2.2 Functions of the Working Group

A smaller, working sub-group of this national committee was established to help direct and participate in "reconnaissance" field interviews that would provide the researchers with the information they needed to formulate and pretest the survey instrument. The anthropologist-planner assisting the committee in designing the study helped select the working group. Selection was based on an assessment of the official's level of interest, technical understanding, ease of interpersonal skills, and access to and receptivity by the community. The planners chosen had to be freed from their daily bureaucratic commitments.

Three Djiboutian planning officials served on the working group: an extremely popular and engaged public health physician who had appeared on national television to promote public hygiene, a sociologist from the National Research Institute with an excellent understanding of and sensitivity to the several ethnic sub-divisions of the population, and a water systems planner/official who was familiar with physical conditions of water use and sanitation practices in the community. Others on the working group were the anthropologist-planner mentioned already and a woman anthropologist familiar with Djiboutian women's issues. Statisticians from the National Statistics Office were also part of the working group. While they did not participate directly in the pretest reconnaissance interviewing, their contribution to defining a statistical framework for the survey proved invaluable.

4.2.3 Work of the Rest of the Committee

The rest of the National Committee was not uninvolved. They met often during the research design, analysis, and follow-up. Individual members and their office staffs reviewed the survey questions for relevance to their planning needs. In the data review and analysis process, these committee members examined

the results with the objective of informing statisticians and social researchers how the data might best be organized for their practical use.

To obtain detailed information on the context in which planners work, the social researchers carried out in-depth interviews of key officials of the agencies or offices represented on the committee. Information was obtained on existing physical and health planning standards; level of technology employed in water delivery and sanitation methods; degree of cost effectiveness and cost recovery; experience in community self-help techniques; appropriateness of various technologies; and the policy environment. This information was highly useful in organizing the analysis and deriving plans. Additionally, officials were questioned about their knowledge of household and community management of water and any socioeconomic and political conditions of which they might be aware.

4.2.4 Intersectoral Focused Interviews

The pretest reconnaissance interviews consisted of pre-agreed questions posed to residents (all of them women) through a three-way give and take conversation among resident, government planner, and social researcher. (One of the three Djiboutian planning officials was present at each interview.) The open-forum character of the interviews yielded information of a breadth and depth not normally associated with large-scale sampling surveys.

Although the purpose of these focused interviews was to provide information upon which the survey instrument could be based, as it turned out interview findings were also very powerful in framing the plans and later were dramatically confirmed as accurate and insightful by the sample survey. This is not intended to imply that survey research should be eliminated in favor of focused interviews. Rather, the intent is to suggest that there should be a good balance between the intersectoral focused interview approach and the sample survey. In some instances planning functions can be effectively addressed through the interview mode. However, where extensive, representative information on a community's attitudes, preferences, and expressions of willingness and ability to pay for services are sought, then the survey approach is probably more appropriate.

When measured for its cost-effectiveness, the intersectoral focused interview approach may appear expensive. Three or four technical specialists must devote several days to interviews (and spend time away from their normal work). However, surveys are also expensive, given up-front design and pretest requirements, sampling, implementation, coding, tabulation, analysis, etc. If cost is a determining factor, then the focused interview should be the preferred method of incorporating social research into the planning process. Naturally, a detailed comparative costing of the two methods should be carried out. In Djibouti, focused interviews were chosen for the sake of expediency; namely, constraints on time, money, and technical capacity. If any or all of these is in short supply, then the focused interview approach should be given strong consideration.

4.3 Developing a Plan for Practical Action

Socioeconomic research findings cannot stand on their own but must be interpreted collaboratively by planners and social researchers and then integrated into a framework for practical action that takes into account policy and financial constraints. Figure 2 illustrates how socioeconomic data was used in Djibouti by public services, public health, and health education planners in developing their short- and long-term program needs.

The figure shows how plans were developed for two hypothetical communities: Community A being urban and B a squatter area or rural community. Two communities were used to show how plans vary for human settlements with variable residential patterns, densities, health environment conditions, and household water and sanitation practices and conditions. The division also reflects widely divergent cost estimates for infrastructure.

The physical and health standards introduced in Figure 2 are based on conditions found to be appropriate in low-income shelter and community upgrading projects in other developing countries. In such projects, rather than simply applying arbitrary physical planning standards, officials use socioeconomic data to inform the proposed standards. Communities are asked about their preferences. In addition, they are asked about their ability and willingness to pay for their preferences. Governments can provide infrastructure or introduce health programs only if users can pay for services on a continuous basis. When it appears that very low income people are unable to afford certain services, low-cost minimal standards based on appropriate technologies have been accepted and found to be affordable in many developing countries.

4.4 Using Research Findings

A few examples of how research findings were used in the Djibouti projects illustrate the importance of understanding the socioeconomic context.

- For religious and cultural reasons, both Communities A and B clearly signalled rejection of a communal system of sewage disposal. (Pretest interviews indicated that they also rejected the reuse of excreta for compost or stabilized humus.) At the same time, site analysis showed that use of pit latrine soakaways were not technically feasible in Community A because of the close proximity of seawater to the ground surface. These findings, along with financial feasibility data, pointed to adoption of a straight-drop pit latrine such as already exists there but with ventilation and a removable cover to eliminate flies, mosquitoes, and bad odors.

Figure 2

Suggested Planning Guidelines

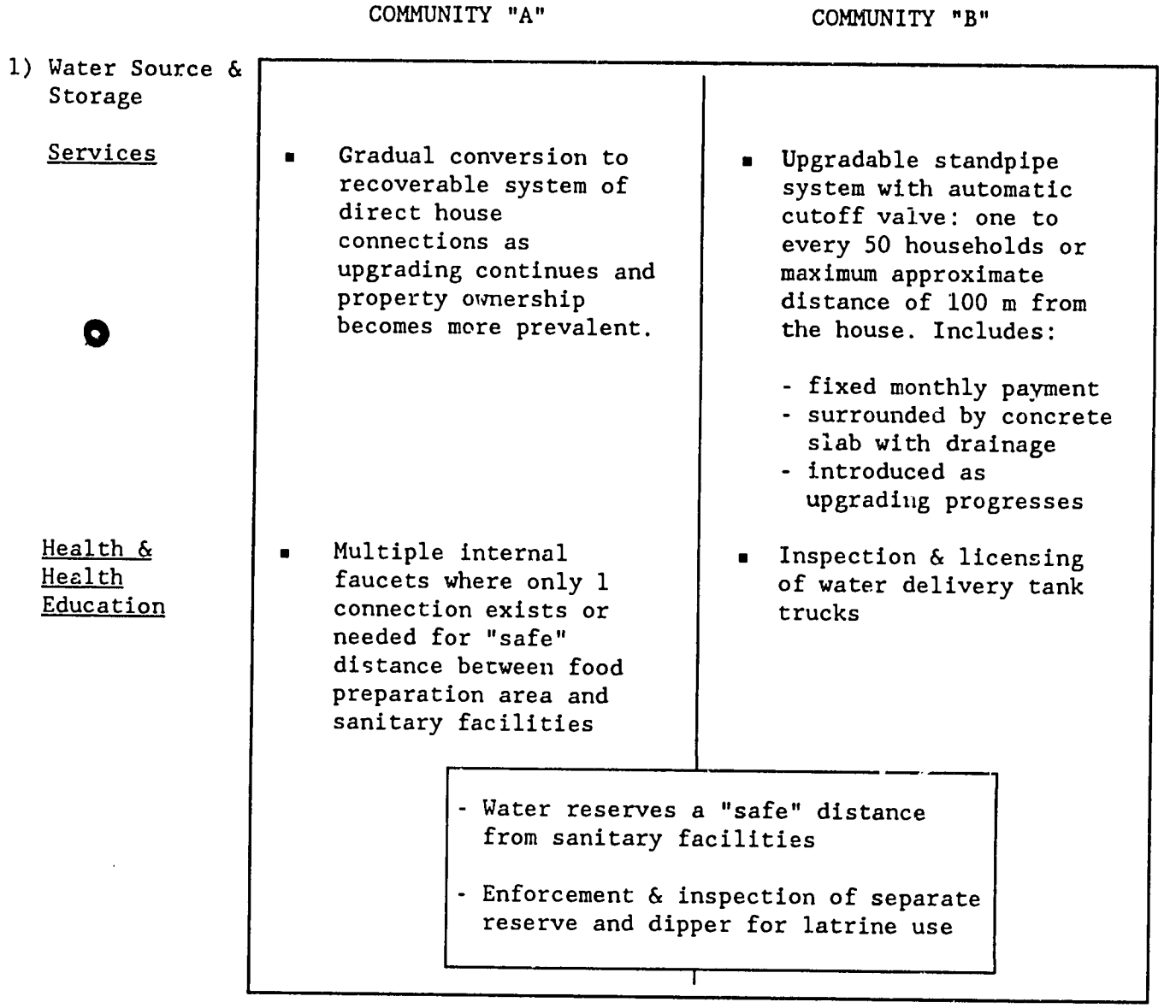


Figure 2 (continued)

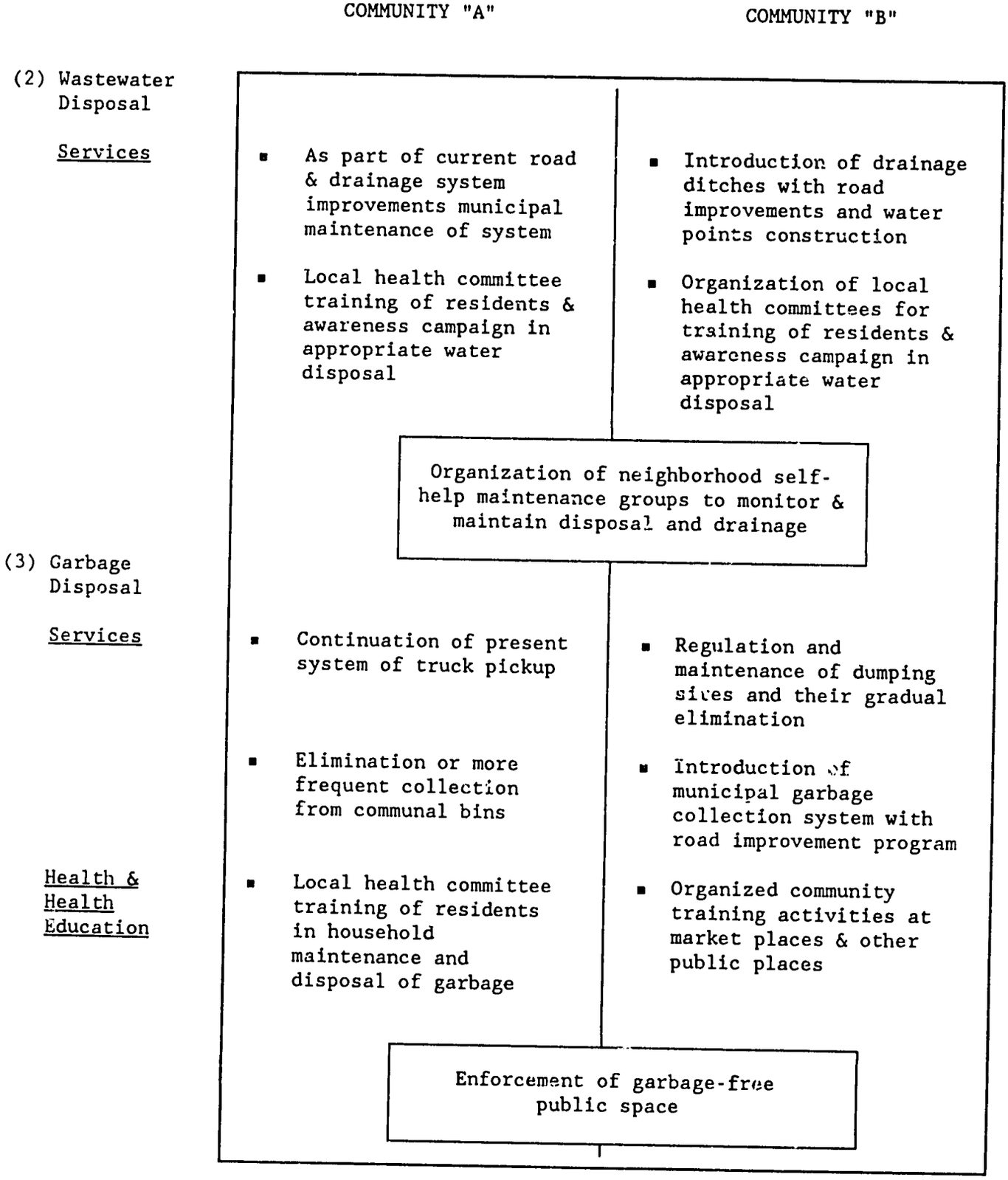


Figure 2

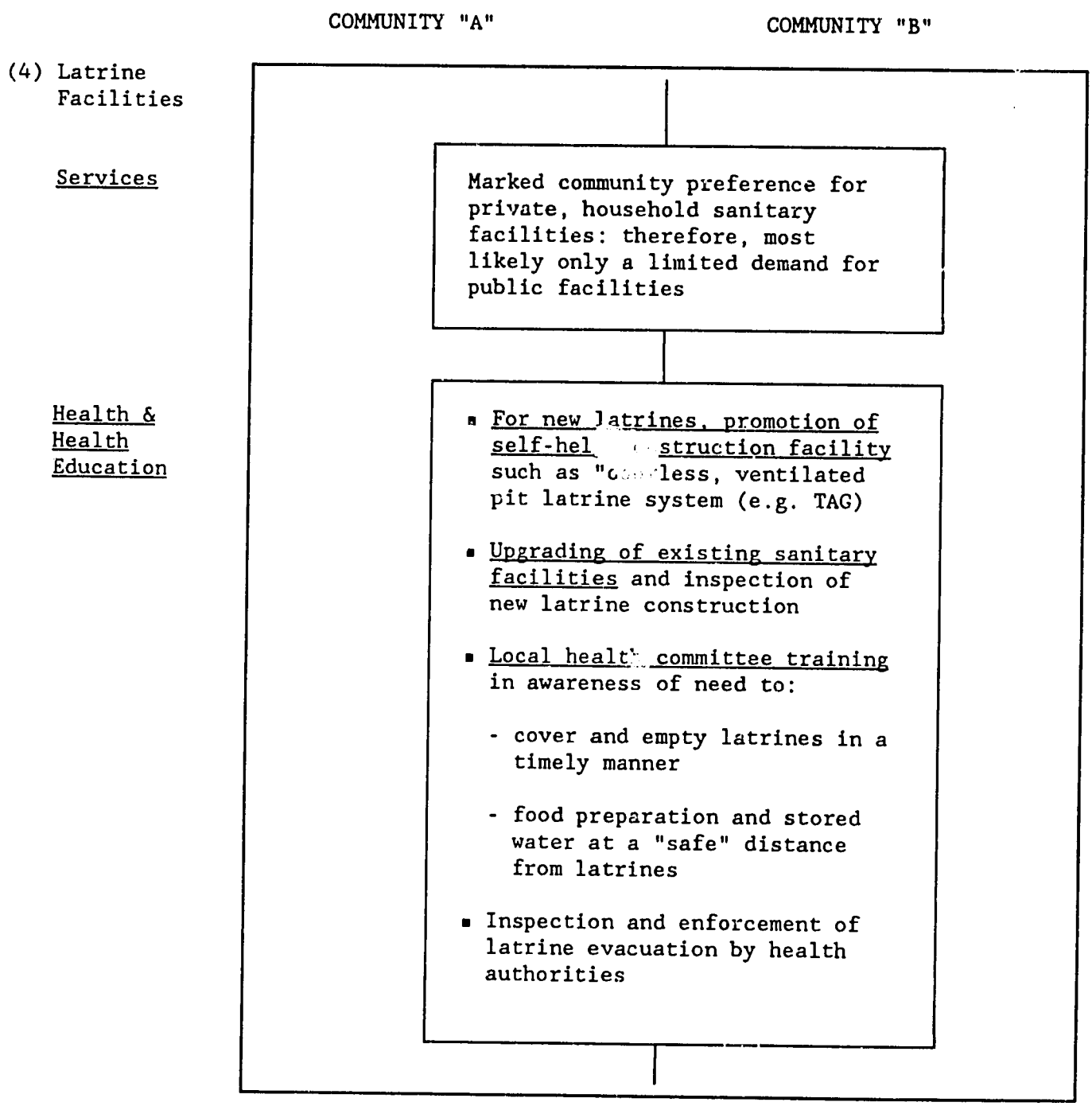
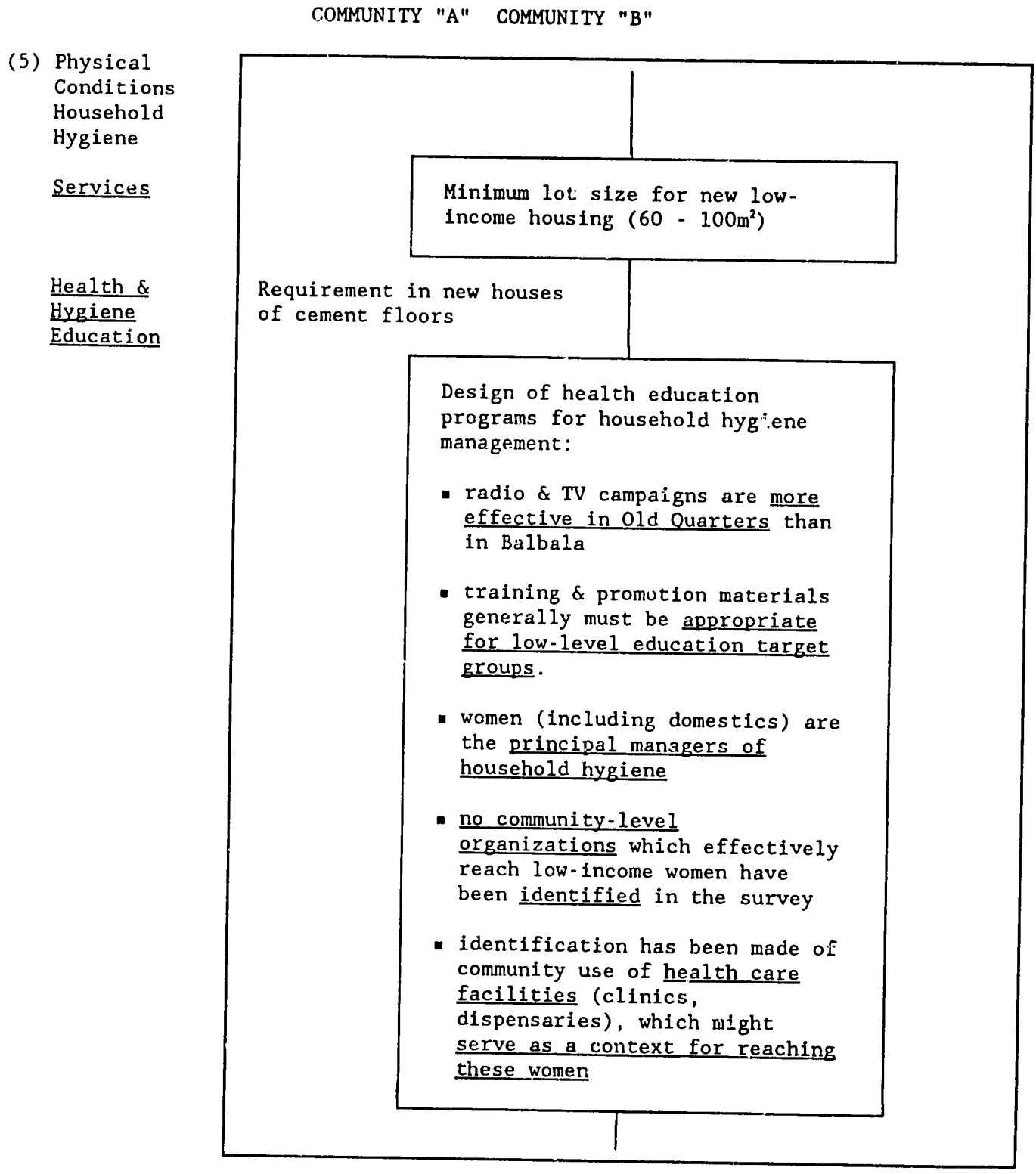

COMMUNITY "A"
COMMUNITY "B"
(4) Latrine Facilities
Services
Marked community preference for private, household sanitary facilities: therefore, most likely only a limited demand for public facilities
Health & Health Education
For new latrines, promotion of self-help construction facility such as "odourless, ventilated pit latrine system (e.g. TAG)
Upgrading of existing sanitary facilities and inspection of new latrine construction
Local health committee training in awareness of need to:
- cover and empty latrines in a timely manner
- food preparation and stored water at a "safe" distance from latrines
Inspection and enforcement of latrine evacuation by health authorities

Figure 2


COMMUNITY "A" COMMUNITY "B"
(5) Physical Conditions Household Hygiene
Services
Health & Hygiene Education
Minimum lot size for new low-income housing (60 - 100m²)
Requirement in new houses of cement floors
Design of health education programs for household hygiene management:
▪ radio & TV campaigns are more effective in Old Quarters than in Balbala
▪ training & promotion materials generally must be appropriate for low-level education target groups.
▪ women (including domestics) are the principal managers of household hygiene
▪ no community-level organizations which effectively reach low-income women have been identified in the survey
▪ identification has been made of community use of health care facilities (clinics, dispensaries), which might serve as a context for reaching these women

In Community B, while groundwater or seawater level is not a problem, geology is. Soil there is very limited, with rock close to the surface, and thus very difficult to penetrate. Pit latrines are sufficiently difficult to dig that communal solutions are necessary though they are not the preferred mode.

- The socioeconomic survey findings revealed that access to safe drinking water and water for other household purposes in Community A is complicated by highly diversified methods of delivery. These include direct connections, hose connections to a neighbor's tap, or water carried from a nearby household. Few residents there have complaints about access to water, in part because most obtain their supply with little difficulty and cost. But access through a source other than a direct line to the household, such as by hose, jeopardizes the security of the water supply. Even though household storage of water was observed to be adequate from a hygiene standpoint, a more secured source would include direct delivery to the compound or house. Where cost of a direct connection to individual households is unaffordable, given the need for cost recovery, delivery through a water standpipe to every other compound or every third or fourth household might be feasible in Community A.

- The socioeconomic survey indicated that in Community B there is an even greater variation in existing methods of water provision. Delivery there is by tank trucks, containers carried by mules, hoses, fountains, and a limited number of direct connections. Over half the respondents cited access to water as a problem. Almost all households there maintain water reserves, some of which are stored in unsafe barrels.

  As stated in Figure 2, a standpipe system with an automatic cutoff valve was recommended, using a ratio of one standpipe to every 50 households or a maximum distance of 100 meters from source to household.

  Both this system and the system in Community A should be upgradeable so that street mains can eventually provide individual house connections. At present, based on survey results of ability to pay, water system upgrading is still several years away.

As the above examples and Figure 2 show, the research data appear to have served effectively in forming the dialogue on the various technological options for water and sanitation systems. Rather than just becoming part of the background for decision-making about what are often viewed as "technical" matters, socio-economic data can play a much more pivotal role in that process.

4.5 Conclusion

Planning research in the socioeconomics of water use and sanitation practices is a complex weave of social, technical, and interpersonal factors. The local participatory aspect of the research process may be critical to the success of the ultimate endeavor--improving community and household water and sanitation conditions. Through this approach, communities are given the opportunity to play a leading role in decisions which affect their lives.

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APPENDIX A

Household Survey Instrument

APPENDIX A

Household Survey Instrument

Household Number_____
Location_____
Interviewer's Name_____
Time_____ Date_____

I. Household Characteristics and Composition

1. Name of person interviewed_____ sex M/F ____ age ____ marital stat. S / M / D

2. Ethnic group of Primary male in household_____

3. Ethnic group of Primary female in household_____

4. Number of people living in household and marital status: Indicate below.

Age	Male(M)	Female(F)	Marital Status (S)(M)(D)
0-11mos.			
1yr -1yr 11mos.			
2yrs-2yr 11mos.			
3yrs-3yr 11mos.			
4yrs-4yr 11mos.			
5 - 9yrs.			
10 - 14yrs.			
15 - 19yrs.			
20 - 24yrs.			
25 - 29yrs.			
30 - 35yrs.			
35 - 39yrs.			
40 - 44yrs.			
45 - 49yrs.			
50 - 54yrs.			
55 and over			
Totals			Grand total in hh ____

Appendix A, Household Survey Instrument, Cont.

5. How many children stay in the household whose mothers live elsewhere?

_____ none

_____ one or more; Specify age(s) and sex_____

6. Basic kin-ties within the household. Mark one below.

_____ Husband-Wife household

_____ Mother and Son and Son's Wife household

_____ Female-headed household

II. Family Background

7. (1)Father of the household:

A. Does the father of the children go to the mosque?_____

B. Does he attend a local church?_____

If so, which church?_____

(2)Mother of the household:

A. Does the mother of children follow the teachings of Islam?

_____

B. Does she attend a local church?_____

If so, which church?_____

8. How long has the family lived in the current house?_____

9. Prior to living in this house, where did you live?_____

A. Describe the house you lived in there.

No. of rooms?_____ Did it have a latrine?_____ Type?_____

What were the sources of water for the family when you lived in the former house?_____

_____

Appendix A, Household Survey Instrument, Cont.

Other information concerning family background and family history

_____

_____

_____

_____

10. Primary sources of income for the family. (Interviewer should skip No. 10B if there is no male in the household.)

A. Primary adult male of the household: Sources of financial support.

(1) _____ wage employment. Specify type and where_____
_____

(2) _____ farming. Specify type_____

(3) _____ hawking

(4) _____ water vending

(5) _____ fishing

(6) _____ financial support from a relative

(7) _____ other sources of financial support

Additional comments:

B. Primary adult female of the household: Sources of financial support.

(1) _____ wage employment. Specify type and where_____
_____

(2) _____ farming. Specify type_____

(3) _____ hawking

(4) _____ water vending

(5) _____ selling other items (part-time)

(6) _____ financial support from a relative

(7) _____ other sources of financial support

Appendix A, Household Survey Instrument, Cont.

11. Educational attainment

Education of Primary male/ Primary female of the household

	Primary Adult Male	Primary Adult Female
No formal education		
Adult education only		
Madrasa		
Standard 1 - 4		
Standard 5 - 8		
Form 1 - 4		
Form 5 +		

III. Physical Aspects of the Family's Current House

12. Number of rooms in the main house_____

Clarify, when needed_____

_____

A. Are there any additional structures in addition to the main house where family members stay? If so, explain_____

_____

13. Sketch the compound indicating the arrangement of structures. Indicate area(s) where food preparation takes place. Indicate where the latrine(s) are. Indicate where water is kept. Indicate where the children are playing at the time of the visit.

Appendix A, Household Survey Instrument, Cont.

14. Does the household keep animals?_____

A. If so, what kind of animals does the family keep?

_____ chickens

_____ goats. Approximate number_____

_____ cows. Approximate number_____

_____ others. Specify

15. Is there a vegetable garden?_____

A. What vegetables are the family growing at present?

_____

16. Where do the members of the household obtain their water?

A. Places where water is obtained:	B. Uses of this water
_____	_____
_____	_____
_____	_____
_____	_____

17. How and where is water stored for use by the family?

18. Does the house have a latrine?

_____yes Type(s)_____

_____no _____

19. If no latrine(s), why doesn't the family have a latrine?

_____

_____

20. Does the household have an indoor toilet or latrine?

_____yes Additional description, if needed_____

_____no _____

Appendix A, Household Survey Instrument, Cont.

IV. Children's Hygiene To be answered by the mother or primary caretaker of the young children.

21. What are the health problems that children of your household sometimes suffer from? Specify ages of children affected.

Problem	Age(s)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Probe: Do the toddlers (watoto wa changa) often suffer from diarrhea? _____

_____ often _____ sometimes _____ seldom

22. Have any of the children of the household, 5 years and under, experienced diarrhea problems during the past two months? Explain in detail for each child that has been sick and give the age (in years and months) of the child.

Appendix A, Household Survey Instrument, Cont.

23. What do you think are the perceived causes of this child's (or these children's) diarrhea?

24. What do you do for the child who has diarrhea?

Probe: Do you treat at home or seek the help of a traditional healer or go to the dispensary?

Who else do you ask advice from when your child/children become sick?

25. Have any children died in the household in the past two years?

_____ yes

_____ no

A. If yes, what was the cause of death? (Probe for details and description of symptoms which occurred prior to the time of death.)

26. Do the children 5-12 years use the latrine at home daily?

_____ yes

_____ no

Additional comments_____

_____

_____

27. Do any of the children under 5 years use the latrine? (Explain in as much detail as possible.)

28. How and where do you usually dispose of young children's faeces?

29. Do you usually wash your hands afterwards?

Probe: Make comments on the mother's perception about the danger of spreading sicknesses from the children's faeces.

30. Observation to be made by the interviewer.

Are the toddlers and infants in the household wearing diapers or pants of any type at the time of the interview? (Explain and give the ages of the children you observe.)

_____ yes

_____ no

_____ There were no toddlers or infants in the house to observe.

APPENDIX B

Intensive Interview Schedule

Women's Daily Household Routines That Affect Child Survival

APPENDIX B

Intensive Interview Schedule

Women's Daily Household Routines That Affect Child Survival

Methodology: Informal, open-ended interviews were conducted with a primary female caretaker in a subsample of 45 households. The objective of this data gathering exercise was to document existing patterns of child care and ethnohygiene that mothers and other women in the study region currently practice.

1. What are the household members' current routines for cleaning the latrine? Does the mother or someone else usually do the routine cleaning of the latrine?

   A. How is the latrine cleaned? If the latrine has a cement slab, how is it cleaned?

   B. Does the mother or her older children use any particular method for controlling flies around the latrine?

   C. Does the mother or other household members practice any techniques for controlling odors?

   D. What is the usual frequency of cleaning the latrine, or is it cleaned as needed?

   E. Observe and make notes on latrine cleaning after use by children, if possible.

2. What are the mother's routines and practices of disposing of the faeces of infants? The body waste of older children?

3. What are the mother's (or other caretaker's) routines for bathing youngsters?

   A. Time(s) of day.

   B. Mornings?

   C. Evenings?

   D. Where is the water poured after the bath?

   E. Is it re-used?

4. Who fetches the water used in the household for bathing children and other domestic purposes?

   A. Mother or other adult caretakers?

   B. The older siblings?

C. How much time during the day is spent fetching water?

D. Do young children or toddlers accompany?

5. What are the practices and beliefs regarding the types of foods appropriate for children?

A. What foods should children eat when they have diarrhea? What food should they not eat?

B. What changes are made in the breast-feeding patterns when a child is ill.

C. Do children use special eating utensils? How are they cleaned? Where are they stored?

D. Discuss practices regarding water intake.

6. Discuss mother's and other caretakers' perceptions of health threats to children in the local region.

A. What are the concerns that mothers have about agents in the natural environment that sometimes cause illnesses among children?

B. Are there agents in the social environment that are sometimes known to cause sickness or harm to children?

7. What are the toilet practices of toddlers? Of older children?

A. Do children sometimes wander off into the bush when they want to relieve themselves?

B. Do they usually go along with other siblings, or do they usually go alone?

C. Do children sometimes urinate or defecate near ponds, rivers, or water points?

D. What are the preferred toilet behaviors that mothers and other caretakers try to teach young children?

E. What are the personal hygiene customs taught to young children?

F. What are the cultural teachings (of Islam or other ideologies) that adults and children are taught to follow?