# *Manual for a questionnaire-survey with community involvement on existing water use and hygiene patterns*

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## INTRODUCTION

A safe drinking water supply can only have an impact on public health when all people of the community actually use the safe water and the water does not get recontaminated before consumption. Even then, the potential health benefits of an adequate and accessible supply of clean water may not be realized because the same infections continue to be transmitted by other routes than the water supply itself. A complete upgrading of the local environment (through adequate sanitation, drainage, waste disposal facilities and general hygiene) is therefore needed.

The health impact of a new water supply can be increased considerably when it is accompagnied by a hygiene education programme. It can be shown to the people that the provision of safe water alone does not prevent the transmission of disease, and they can be assisted to identify and reduce the other health risks in their own environment along with improving their water system.

A study of existing water use and hygiene patterns provides useful data for planning both community hygiene education activities and improvements to the existing water and sanitation services.
One way of doing this is through a questionnaire-survey in which the community is involved. In this kind of study, the investigations are not carried out by an external organization, which observes the people and asks them questions. Instead, community members are actively involved in designing and carrying out the study and discussing the results. Besides collecting the necessary local data for planning and evaluation, it makes full use of the knowledge of local people of the environment and it initiates a process of awareness.

This manual describes how a questionnaire-survey on water uses and hygiene patterns can be planned, prepared and carried out with involvement of the community. The manual is partly based on experience obtained in two urban fringe communities (La Sirena and Los Mangos) in Cali, Colombia and partly on a review of literature on community problem identification and -solving techniques.

The manual is meant for the engineers and social scientists of the working-group of the University of Valle, Cali, Colombia who are assisting rural and urban-fringe communities in improving their water supply by means of the introduction of a treatment system and/or upgrading of the distribution network. It is also meant for the promotors of the National Federation of Coffee-growers in the communities where an improvement of the water and sanitation services and hygiene education is going on.
As this is only a first attempt, both should adjust the manual using experiences from other similar studies in the different socio-economic and cultural areas.

Grateful mention is made of Mrs. Christine van Wijk-Sijbesma and Mrs. Marieke Boot for their valuable contributions.

## 1. WHY DOING A STUDY ON COMMUNITY PRACTICES.

Factual data on community practices such as existing water uses and hygiene patterns of the members of the community, are needed for the water supply and sanitation project for three reasons:

**a) for the planning of the water supply and sanitation project.** For the design of the water supply and sanitation system not only technical and financial information (such as number of inhabitants, annual population growth, daily water consumption and socio-economic situation of the people) are important. Also the existing water uses and hygiene patterns of the community members and the underlaying reasons for this behaviour should be taken into account, for the water and sanitation system should correspond as much as possible with the conditions and possibilities of the people. Disappointing results in acceptance, use and financing can then be avoided.

> The community of La Sirena in Colombia (see the report 'The application of a questionnaire-survey with community involvement in La Sirena and Los Mangos, Cali, Colombia') had a piped water supply for ten years when the local Water Committee wanted to add a treatment system. Slow Sand Filtration (SSF) was chosen for its low-costs and community manageability. However, the questionnaire-survey that was carried out together with community members, showed that almost half of the households was not connected to the original water system. The main reasons for this were: 1) they did not think it was necessary because people could obtain water from other sources and 2) they did not know about the SSF-plant that was built but not yet functioning when the study was carried out.
> The limited coverage meant that the per capita recurrent costs of treated water were relatively high, forming an additional barrier to new connections and impeding the potential public health benefits of a better quality of water.
> Activities to increase the connection rate have been included in the planning stage.

**b) for the planning of the local hygiene education programme.** Based on the water uses and hygiene practices a local hygiene education programme must be set up because only then the topics covered by the programme, will correspond with the reality of the people. And the required changes in the behaviour only then will correspond to the possibilities of the people.

> In a Colombian community the treated water was not used because people prefered the taste of the untreated red water (containing manganese). Their decision was based on taste and not on purity.

In many cultures children are not stimulated to use the latrine because their faeces are not perceived as harmful germ-laden carriers of diseases.

A programme in which the use of soap is promoted is unrealistic when people can not afford to buy soap and they themselves use local substitutes like ashes and certain types of leaves.

**c) as a baseline for later evaluation.**
When factual data on community practices are available an evaluation is possible by comparing the situation before and after the introduction of the water supply / sanitation system. The impact of the water supply and sanitation project and hygiene education programme can be measured for example by comparing the numbers of house-connections and (improved) latrines before and after the programme, the amounts of water used for personal hygiene and productive purposes, improvements in water storage and draining practices in the houses, etc.

In an urban area in Japan, a 90% drop in intestinal parasites, a 12% increase in kitchen improvements and a 29% increase in health knowledge were obtained by the community based programme that consisted of environmental self-surveys and special health classes for mothers, fathers and grandmothers. (Miyasaka, 1971).

## 2. WHY INVOLVING THE COMMUNITY IN THE QUESTIONNAIRE-SURVEY?

When a group or groups within the community, with the collaboration of the community development worker, health promotor or others, draw up a series of questions to which an answer is sought by interviews and observations in the community concerned, one can talk of a questionnaire-survey with community involvement (Van Wijk - Sijbesma, 1984, p.84). It is a form of investigation that provides both the community development worker or health promotor and the community members with factual knowledge of the local situation. It is expected that insight into the actual health risks in the community will lead to a greater readiness among the community members to take action.

Next to its information gathering function, a questionnaire-survey with community involvement has an educational and training function. In general, such research aims 1. to conscientize people, raise their awareness level and equip them with new problem analysis skills and 2. for project staff, community and leaders, to learn from the participants about their situation and problems and get a better understanding of local conditions and constraints. This is achieved by involving people in the research process rather than imposing predetermined research from the outside upon them.
The participants have to be actively involved in the planning and implementation of the study and the analysis and discussion of the data of the survey, interviews or observations. This means that they think actively about aspects like, how to organize the survey and what to do with the results, where to do the observations and how to interprete the results, how to identify what kind of questions can be asked to which leader, and what implication the results have for the project.

Better study
Participation of members of the community in a study on community practices has many advantages for the study itself. It increases the chances of a succesful development of the study because community members possess knowledge about the local environmental situation, habits, people and language and terms which is useful for 1) defining the subjects to investigate, 2) formulating the questions or observation-points, 3) selecting whom to interview or observe and when to do the interviewing or observing and 4) doing the interviewing or observing and entering the houses. Their knowledge of the settlements patterns, the total population and total area, and ethnic, religious or language groupings is useful for 5) drawing maps and selecting the sample.

> The surveyors of La Sirena reviewed the questions of the questionnaire on words and terms used as they knew best the local language.

Lower costs

An other advantage of community involvement is shown by an experiment in five communities in the Philippines. In the communities community members were trained to carry out their own socio-economic studies. The experiment showed that these studies were as reliable as those carried out by the agency staff. And it led to considerable reduction in costs. (Cross, 1980).

Hygiene education process

A questionnaire-survey in which community members are involved, is a unique starting-point for hygiene education. When during the study discussions are organized about the relation between the ongoing activities and health, an awareness among the participants can be created.

> The understanding of the volunteers of the communities of La Sirena and Los Mangos of health problems increased because they were directly confronted with the possible local causes of diseases like diarrhoea and skin- and eye-infections, and because the findings were subsequently discussed in neighbourhood meetings in which the volunteers took part.

Sometimes, however, a community is involved in a study not because long-term effects are pursued or because of the valuable contribution community members can make, but only because they are considered as free manpower. In these cases, they are only used to do the interviewing or observations and the other aspects, mentioned above, are absent.

## 3. HOW TO CARRY OUT THE QUESTIONNAIRE-SURVEY WITH COMMUNITY INVOLVEMENT

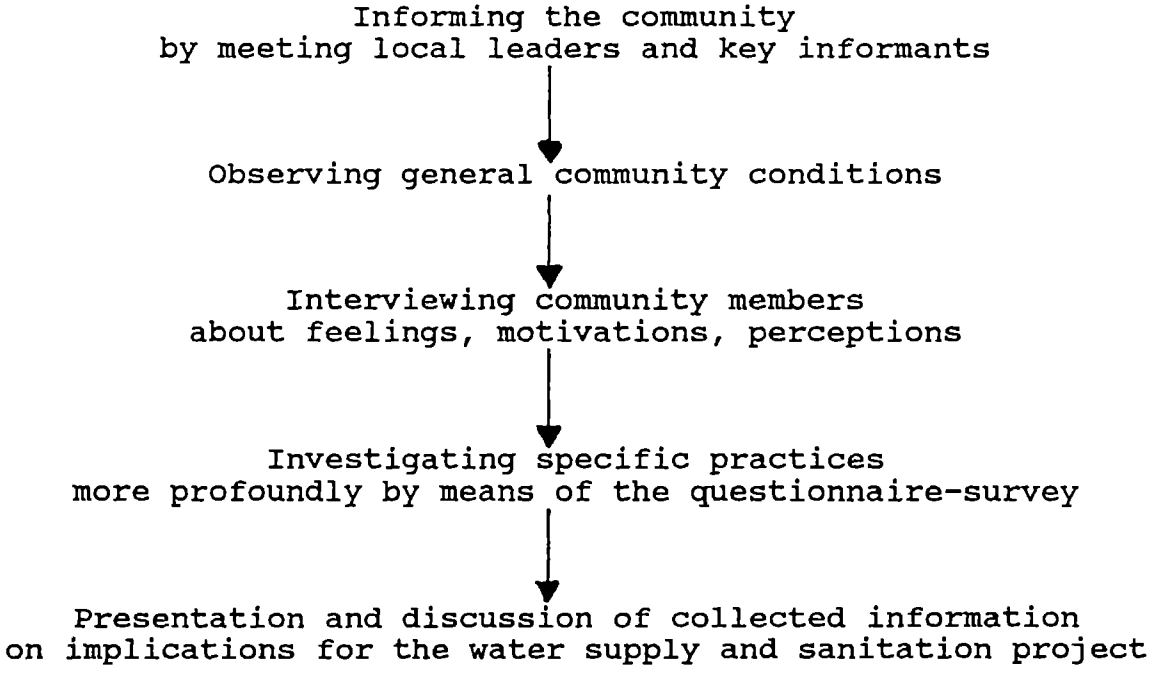
### 3.1 Introduction

The questionnaire-survey is not, and should not be, an end in itself. It serves as a tool for the subsequent action programme. As it is part of an overall programme, only the necessary information should be solicited. It then leads to more definite, enterprising action toward community betterment.

The questionnaire-survey can best be organised by an interdisciplinary group consisting of a person of the social or health staff who is familiar with community participation work, a person of the technical staff (engineer), the extension worker or promotor of the community and some community members. It is then more likely that all aspects relevant for the project (such as technical, social, organizational, health, guidance of group processes) are taken into account.

In the following it is described how the questionnaire-survey can be carried out. Figure 1 shows the different activities of the study.

Fig. 1. Organizing a questionnaire survey with community involment: the process



## 3.2 STEP 1: Meetings with the community leaders and key informants.

The first thing to do when a study is going to be carried out in a community is to **contact local leaders.** This is of special importance because 1) they possess an extensive knowledge about the community and 2) their support is needed for the project.

> In La Sirena and Los Mangos the Water Committee of La Sirena tried to hinder the questionnaire-survey. This was possibly due to the fact that there had not been a close enough contact and the purpose of the survey was not sufficiently clear to them.

The information leaders give must be seen from their own point of view. It is important to be alert on a different opinion or interest of the community leaders and its members. The information the leaders give therefore must be **crosschecked** with the information the people give. Also it may be important to check whether the different leaders have varying opinions.

Community leaders to contact can be formal as well as informal leaders. Also key-informants or representatives of community-based organizations can provide precious information that is often supplementair to that of the formal leaders.

> In La Sirena the following leaders and key informants and organizations were contacted: the Water Committee, two housewives who were very active in the community, two civil organizations, an engineer who had been working on the water supply of the community and the caretaker of the SSF-plant.
> They provided important information about the history of the water supply system of La Sirena, about the community and it's members, the actual water and sanitation situation, etc.

An other acivity that must be undertaken in this phase of the process is to find out what **information already exists about the community.** Many teams making an inventory of the local situation start <u>de novo</u>. The failure to use existing basic data means that field research time is wasted in the beginning of the process which will be much needed towards the end when time possibly gets short.

> As there was no health centre in La Sirena nor in Los Mangos and as it was known that people of the two communities with serious health problems went to the health centre in a neighbouring community, this centre was visited to obtain selected health statistics. The municipal cadastre was contacted in order to get maps of the community.

Table 1 Possible information needs

| | |
|---|---|
| Village setting: | location, accessibility |
| Infrastructure: | roads, health care facilities |
| Demographic factors: | total number of households, number of adults and children per household |
| Economical factors: | income levels, availability of cash / seasonality |
| Social factors: | religion, ethnical groups |
| Health: | infant and child mortality, malnutrition |
| Village level organizations, formal and informal: | type of organization, its objectives, legal status, community access and representation |
| History of community participation: | traditional mechanisms for community participation, problems, weaknesses |
| Needs assessment: | perceived priority needs, perceived needs for water and sanitation improvements |
| Traditional roles of men, women and children: | tasks and role analyses by age and sex, men and women's role in family and village level decision making |
| Available technology and resources: | presence of people with specialized skills, general level of technology use |
| Education and exposure to media: | literacy level of community members, exposure to mass media, radio, TV, etc. |
| Existing water sources: | location and type, beliefs and myths |
| Environmental sanitation: | location and type of excreta disposal facilities, functioning, disposal of waste water |
| Health and hygiene practices: | perception of diarrhoea as a problem, hand-washing practices |

On the opposite page a checklist of possible information needs is included. The different techniques like observations, personal interviews and talks with the leaders, can be used to obtain this information.

## STEP 2: Selection of the study team

The following activity of the study is to select volunteers that are going to take part in the observations, interviewing the community members and, eventually, in the questionnaire-survey. According to the quantity of work to be done, it first should be decided how many volunteers are needed. More people can do a larger quantity of work but it is more likely that mistakes will be made.

> In La Sirena and Los Mangos eleven community members participated in the study. Each volunteer was accompagnied by a sanitary engineering student. One hundred and eleven questionnaires were filled in and the average time needed per questionnaire was 30 minutes.
> There were no specific selection criteria for the surveyors of La Sirena and Los Mangos. They had to be able to write and read and willing to spend time on the study.

When it is decided that the volunteers must be representatives of the community, this representativeness of the participants must be as many-sided as possible. The main thing is to have exponents of the differentiations in the community, and not just official representatives who merely act to safeguard the interests of their own group.
Possible guidelines for selection items for participants are:

- the number of years they live in the community (e.g. at least 5 years)
- all the different groups of the community must be represented (men as well as women, persons from different ages, religions, and social groups)
- the number of years of education they received (e.g. at least 5 years)
- they must have time to take part in the whole study: in the observations as well as in the interviewing.

There are several possibilities to find these volunteers:

- local leaders can be asked to give names of persons they consider to be useful to the study. The persons can be visited, asked if they want to participate and the feasibility of their participation can be considered.
- a community meeting can be organized both to explain the purpose of the study and to ask for volunteers. These are then visited and assessed as above.

EXAMPLE : OBSERVATION SHEET VILLAGE WATER SOURCE

Site of source: ..... Date of visit: .....

Type of source: ..... Time of arrival: .....

Distance from village: ..... Name of village owning source:

..... .....

---

Observations:

Fencing around area? no/yes

type: .....

.....

condition: .....

.....

Protection of source? no/yes

type: .....

.....

condition: .....

.....

Drainage of source? no/yes

type: .....

.....

condition: .....

.....

Additional facilities present? no/yes

type: .....

.....

condition: .....

.....

Refuse around source? no/yes

Excreta around source? no/yes

Water and mud around source? no/yes

Latrines within 20 m? no/yes

General remarks: .....

.....

.....

From: Training course. Evaluating .....

- people in the community can be asked to give names of persons they consult when they have problems or questions on water/sanitation and health. These people are subsequently contacted as above.

**STEP 3: Choice of the study techniques**

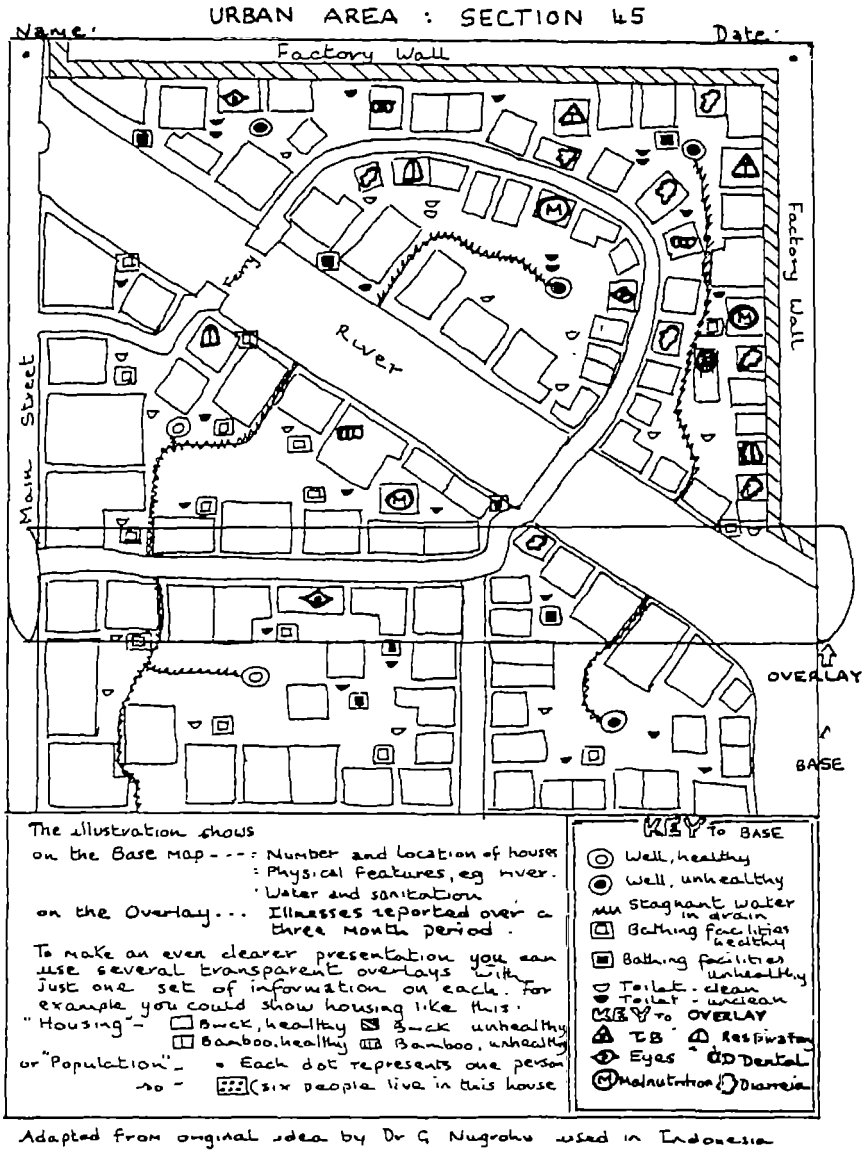
Two important techniques that can be used to study community practices, are **observations** and **personal interviews.** In observations and personal interviews community members can play an important role.

(a) Observations
By doing observations information can be collected on physical conditions of the community. For example, it can be observed where people collect water, how far they have to go, and how difficult the journey is, the water from the different sources can be tasted and smelled and its colour can be observed, it can be observed whether there are public latrines and whether their location is safe, what the drainage conditions are, etc. Observations can also provide information about behaviour patterns. It can be observed who collects the water, where, when, and how, how the water is stored in the houses, where the people bathe, who uses the public latrines, who attends meetings, how the people communicate, etc. (See table 1 for ample observation points).
A checklist can be made for the observations. On the opposite page an example is given of such a list.

> In La Sirena and Los Mangos observations were made in the streets, some schools and at the water-sources. Among others it was noticed that some women came to the river to wash clothes, that the hygiene in the sanitary facilities in the school was insufficient, and that there was a large quantity of rubber hoses in the river and streams to transport the river water to the houses.

Participation of the community members in observations should not only consist of just showing places that otherwise are not accessible, but also of planning the environmental walks, of thinking about the things that need to be observed, of carrying out actual observations and giving explainations, of making notes, of analyzing and discussing findings, etc.
Some examples of activities for the volunteers are:
* They can make the list of observation-points. With the help of this list and an answer-form they can check, whether the public places in the community, (like the latrines in the schools and health centre and the public sanitary facilities) are hygienic.
* They can make a map of the community to mark (protected and unprotected) public water points and places where waste is thrown and waste water running. An example of such a map is shown.

Example of a map that can be made together with community members.




Adapted from original idea by Dr G Nugroho used in Indonesia

From: Partners in evaluation.

Implications of the results for the local health situation must be discussed.

(b) <u>Personal interviews</u>

Observational methods are directed at describing and understanding behaviour as it occurs. Information about a person's feelings, motivations, perceptions, past or private behaviour, etc., on the contrary, only can be obtained by asking questions. An advantage of doing observations with community members often is that it is easier to establish contacts and ask additional questions about the things observed.

**Interviewing members of the community** can contribute considerably to obtaining a better understanding of the real issues effecting the water supply and sanitation because the majority of the

people has a profound knowledge of their community and their own behaviour. The people can be approached individualy or group interviews can be organized. Group interviews are particularly suited to discuss feelings and opinions and obtain much information in a short time.
For example, the people can be asked how much they pay for the water, why they go to a specific water-source, what their perception of clean drinking water is, which persons they consult in case of problems, etc. (see table 1 for ample questions)

**STEP 4: Implementation of general observations and interviews**

The process of organizing participatory observations and personal interviews consists of the following activities: (Based on Feuerstein, 1986, p. 57)

1. The volunteers jointly decide what will be observed.
2. They decide where observations take place, when and by whom.
3. They decide on coding/guidelines/accompanying questions.
4. If it is decided that no coding will be used, they decide how the information collected will be analysed.
5. Observers are trained briefly in actual practice.
6. After the observations and talks have been made, the information is analysed with the volunteers.
7. Decisions as to conclusions, feedback and future action should be made jointly.

Recommandations to improve the observations and talks, given by Rhoades (1982) are the following ones:
"Don't pull out an official-looking questionnaire."
"Oversized vehicles bearing official looking numbers driven by chauffeurs should be avoided."
"Walk as much as possible."
"Do not go in large numbers."
"Be sensitive to the fact that people may be suspicious."

Three to five days are needed to organize and carry out the observations and personal interviews with the community members.

**STEP 5: Preparation of the questionnaire-survey.**

<u>Introduction</u>
Sometimes informal techniques like structured observational walks and interviews with various interest groups are sufficient to get a general idea of the situation and make a start with the water supply and sanitation project.

In other cases, more exact information is needed on specific community characteristics such as the use of the local water-sources and the presence and use of excreta disposal facilities. These data can provide a baseline for the future impact-evaluation of the water and sanitation project.

In La Sirena and Los Mangos a questionnaire-survey was carried out to obtain information on these two topics in order to plan the hygiene education programme and to improve the water supply. F.e. it was found that only 55% of the households had a connection to the water supply with treatment of La Sirena and that almost all the households had some kind of sanitary facility.

More structured interviewing by means of questionnaires can be a suitable method to identify such problems and characteristics, and allows more people to be included in the study. As it is a time-consumming technique (after some practice has been obtained, several weeks may be needed), the use of a questionnaire is only indicated when a deeper understanding of a certain problem or issue is needed.

A questionnaire-survey can be described as a method of systematic information collection by means of a list of questions. Prepared standardized questionnaires are used for this purpose. It is a method to gather data quickly from large and varied group of people. It covers a wider geographical area and reaches a much larger population with given funds than f.e. personal interviews. A questionnaire-survey is one of the techniques that can be used to obtain factual data on community practices such as existing water uses and hygiene patterns.

A questionnaire-survey however should always be preceded by other data collecting techniques, such as observations and personal interviews, for a meaningful questionnaire only can be made after a good understanding of the local situation and problems has been established. Based on the obtained information, the questionnaire can be made.

**Basic steps for effective questionnaires.**

Making a questionnaire is not an easy task. The care with which the questionnaire is planned and designed will influence the quality of the information that will be obtained. The success of the survey also depends on the willingness of the informant to answer the questions and on the competence of the surveyors to ask questions in a non-suggestive way and to record the answers correctly.
The following basic steps may serve as guidelines. They are based on lessons learnt from the survey in La Sirena and on Feuersteins "Partners in evaluation" (p. 83).

The time of the participants generally is limited so that it can not be expected that they spend much time on making the format and codifying the answers. This better can be left to the specialists, after the initial list of study-issues has been defined.

Example of a simple questionnaire with recording space.

Men

1. Where do you wash your hands?

   At standpost

   Tap at home

   Water brought home

2. How do you wash your hands?

   In basin

   In bucket

   Other (specify)

3. Do you wash your hands before eating?

   Yes, all the time

   No

   Sometimes

4. Do you wash your hands after defecating?

   Yes, all the time

   No

   Sometimes

5. With what do you wash your hands?

   Water only

   Water and soap

6. Ho often do you bathe?

| | Every day | Twice a week | Once a week | Every 2 weeks | Every month | Other |
|---|---|---|---|---|---|---|
| In summer | | | | | | |
| In winter | | | | | | |

**Other preparing activities to carry out are:**
**- Explain to the interviewers (once more) the purpose of the water supply project,** and discuss with them the importance of safe drinking water and of eliminating the other infection routes. Explain their role in it.
When more people are needed for the interviewing than took part in doing the observations and personal talks, they must be informed about the preceding activities. A resumen of the information that has been collected till that moment has to be given and a talk about the relation between water and health and between sanitation/hygiene and health should be held.
**- Explain to the interviewers the purpose of the survey,** its advantages and its conditions. Explain the importance of getting a true picture of the community hygiene situation and not what they would like it to be. They must understand that there is nothing shameful in identifying local problems as long as it is done anonymously and with the interim of making a better programme.
**- Ask the head and / or leaders of the community permission for the questionnaire-survey.** Explain its purpose to them.

STEP 6: **Design of the questionnaire**

For the formulation of the questions the following activities take place:
**- With the interviewers it is decided what exactly needs to be found out and who is going to be interviewed (targetgroup).** A list of issues that need to be included can be made.
**- The social scientist drafts questions according to the chosen issues.** The questions are discussed with the interviewers on importance, clearness and completeness.
Important recommendations on the questionnaire the social scientist should keep in mind are:

**A). The questionnaire and questions must be kept simple,** so that the interviewers can complete the form and draw their own conclusions. Complicated surveys are very costly and require highly trained staff, often annoy the people, the people seldom benefit much, and the forms are often not accurately completed. An example of a simple questionnaire is included.

Question nr. 17 (see Annex A) (Is the tap open ... yes / no?, How is it functioning?, Where does the waste water from each tap go to?) from the questionnaire for La Sirena and Los Mangos is an example of a complex question. Too much information was required in this question so that many answers were missing.

**B). The questionnaire must be limited in scope and length,** so that not more than 30 minutes is needed to complete it. Often all kind of unnecessary items are introduced into the questionnaire which increases the work, it makes people less willing to take time off to answer the questions and it

increases the cost of tabulation and analysis, while half of the data remain unused in the end.

The interviewing in La Sirena took on an average 30 minutes per household.

C). **The questions must be short and clear,** not more than twenty words. If the question deals with more than one idea, use several shorter questions instead of one long one. The main words or phrases can be underlined or emphasised. The questions must be concrete in stead of abstract.

The question "If an improved water supply was to be built in a nearby village, what advise would you offer them from your experience with this supply?" could be replaced by "Suppose: The members of community X (fill in the name of a neighboor village) are going to build a water supply. Think of the water supply of your community. What special advise do you then have for them?"

D). **The language must be clear and simple,** using words and phrases in common use. The use of slang or jargon must be avoided, unless these are considered clearer than other words. It must be made sure that questions do not have more than one meaning to the respondent.

E). **Words which are not exact, must be avoided.** F.e. words like 'generally', 'usually', 'average', 'typical', 'often' and 'rarely'. If not, information may be obtained which is unreliable or not useful. It is better to use exact words with one meaning and pronunciation.

F). **Questions to which the respondent can guess or knows the 'correct' or 'required' answer, must be avoided.** Questions like: Do you always wash your hands with soap after you went to the toilet? should be avoided because the respondent may know that it is important to do so and thus say 'yes' althought this may not be true.

Question number 7 (Do you boil the water before drinking it?) from the La Sirena and Los Mangos questionnaire can be seen as such a question.
When this kind of information is required, the question can be combined with in depth probing, such as: "I know that in practice it is not always possible to boil water. Are there any times when you are unable to boil water before drinking?"

G). **Observations can be included.** Unreliable information often can be avoided by observing instead of asking.

In La Sirena the state of hygiene of the sanitary installation was observed instead of asking the people a question like: "How many times per month do you clean the latrine?".

H). **Decide how the questionnaire will be completed.** Will it be filled in by the interviewer, or as a group activity?

I). **The questionnaire must be planned carefully,** by choosing only important questions. They must be arranged in the best order with those that are easiest to answer, or those that

Example of an unattractive questionnaire.

# WATER COLLECTION AND STORAGE

1. In dicate your most preferred/used water source of the above (A = most preferred)
   A. B. C.
2. If water is not available inside the house, who brings water to the house?
   i. ii. iii. iv.
3. What is the cost of equipment for carrying and collecting water?
   Container : Type Cost Where available
   Rope : Type Cost Where available
4. If this equipment is not yours, how do you get to use it?
   i. Borrow..... ii. Community ownership..... iii. Rent..... iv. Don't use.....
5. Who maintains the water sources you indicated you used?
   SOURCE
   A. You Yourself..... B. Community..... C. Owner..... D. Other (Who)
   B. You Yourself..... B. Community..... C. Owner..... D. Other (Who)
   C. You Yourself..... B. Community..... C. Owner..... D. Other (Who)
6. How is the source maintained/What is this person responsible for? (Mark whichever applicable) i. Keeping it clean..... ii. Keeping animals away.....
   iii. Repairs & Maintenance..... iv. Other.....
7. Which of your water sources mentioned above do you pay for? (Mark where applicable)-
   i. ..... ii. ..... iii. .....
8. How much do you pay for each source each month? (N.A. = Not applicable)
   i. a) ..... b) N.A..... ii. 3-6 mths..... iii. Full year.....
9. If you buy water, for how many months in one year do you buy?
   i. Less than 3 mths..... ii. 3-6 mths..... iii. Full year.....
10. How do you store water at home (Mark whichever applicable)
    i. Clay pots..... ii. Cement Water tank..... iii. Other container (Specify).....
    iv. No Storage facility..... v. Tins/Drums..... vi. Skins..... vii. Metal water tank.....
11. What do you think about your drinking water?
    i. Yes ii. No. iii. Don't know
    A. Tastes good
    B. Is safe and good for health
12. If you think your water is bad, why do you think so? (Mark where applicable)
    i. Causes sickness..... ii. is dirty..... iii. Other (specify).....
13. Which sickness does bad water cause?
    i. ..... ii. ..... iii. ..... iv. .....
14. How do you make bad water good: (fill in as many as are applicable)
    i. ..... ii. ..... iii. ..... iv. (Don't know
15. Why do you use this method of making bad water good?.....
    .....
16. Do you have any idea of what else could be done to provide safe drinking water (Mark the 2 most preferred) i. Water tap..... ii. Hand pump.....
    iii. Covered wells..... iv. Separate water source for people and animals.....
    v. Boiling..... vi. Other (specify)..... vii. Don't know.....
17. Would you prefer your own or a community water source (Mark one only)
    i. Community..... ii. Own..... iii. Either..... iv. Both..... v. Don't know
18. If this water source was safe and good, would you be willing to pay for it, even if your present source is free or cheaper?
    i. Yes..... ii. No..... iii. Don't know.....
19. Would you help build and maintain this source? (Mark all applicable)
    i. By Labour..... ii. By cash..... iii. In kind..... iv. Nothing..... v. Don't know...

are more general, first. Asking personal details such as age can be left to the end when a good relationship has been established between interviewer and respondent. The order of the earlier questions must not influence the answers to later questions.

Question nr. 14 of the questionnaire of La Sirena and Los Mangos (What do you think is the most urgent problem that needs to be solved by the community?) is preceeded by questions about the water supply. Possibly this influences the answers to this question.

J). **The questionnaire must look attractive.** Sub-headings, spaces, etc. can be used. It must look easy for the interviewer to complete. An example of an unattractive questionnaire is included.

K). **The answer to one question must relate smoothly to the next.** For example, if necessary 'if yes, why do you?' or 'if no, why don't you?' can be added.

In question nr. 1 from the questionnaire for La Sirena and Los Mangos is explained clearly where to continue:

Where does the water come from that you use for daily consumption?

| | |
|---|---|
| - River | Go to quest. no. 2 |
| - Stream | Go to quest. no. 2 |
| - SSF-plant | Go to quest. no. 5 |
| - Doesn't know | Go to quest. no. 5 |
| - Other ..... | Go to quest. no. 2 |

L). **Space for recording 'no response', 'no opinion',. 'doesn't know', etc. must be left.** Avoid blanks when filling in the answers. Later these are difficult or impossible to understand.

M). **There must be enough space for recording the answers.** Perhaps the interviewer will need to write more on the back of a page or on a separate sheet of paper.

N). **Too many open questions better can be avoided** because much time is needed for codification and it is harder to categorize the answers.

Half of the questions of the questionnaire for La Sirena and Los Mangos was open. Consequently much time was needed for codification and compilation of the results. Much time could have been saved by using the closed form with one or two additional answer categories. Example of a more closed question:
"What work has realized or is realizing the University of Valle in the community?"
Possible answer categories:
- Water supply
- Other
- Do not know

O). **Each page of the questionnaire must be marked clearly,** using a heading or a number. When the pages become separated they can easily be put together again.

P). **Each questionnaire must be marked clearly,** giving each

Example of answer categories.

Q. 42. At what age do children in your homestead start using the latrine.

"Right Answers":

from earliest age
about 1 year
about 2 years
about 3 years

"Wrong Answers":

about 4 years
about 5 years
about 6 years
more than 7 years
children don't use
not applicable

Q. 43. Where do children of your homestead generally pass water?

"Right Answers":

in latrine

"Wrong Answers":

in open
depends, can't say
not applicable

Q. 45. Do you wash your hands after going to the latrine?

"Right Answers":

yes
only after defecation

"Wrong Answers":

no
only if water if available
sometimes (unspecified)

Q. 47. If children do not use a latrine, how are stools disposed of?

"Right Answers":

thrown in latrine
thrown in hole
thrown in hole and covered

"Wrong Answers":

left alone
thrown in bush
other, please specify
other, not applicable, don't know

respondent/house/group an identifying letter or number. One way of doing this is by using boxes and numbers like this: 826. This means that interviewer number 8 completed its twenty-sixth questionnaire. The interviewer should also fill in the day, month and year in which the questionnaire was completed.

Q). **Together with the surveyors it is decided how the answers will be recorded.** This must be kept simple. For example, the answers can be **coded** which means they are given a number or code so that later it is easier and faster to summarise and analyse them all. An other possibility for classification is to categorize the answers in "safe behaviour = causes no health problems" and "unsafe behaviour = possibly causes health problems", or to caregorize the answers in "right" and "wrong" answers. An example is included.

STEP 7: **Sampling**

- **The social scientist calculates which percentage of the households needs to be interviewed.** It is not necessary to interview all the households, when the sample* is large enough and the households representative for the community, time and money can be saved by interviewing only the selected households.

  In La Sirena and Los Mangos the households had to be counted in order to calculate the sample. A person from the University together with a person from La Sirena did the counting. The method of systematic sampling was chosen. A minimum of 25% of the households had to be interviewed.

- **When needed, small maps for the surveyors of (sectors of) the community can be made that are used to indicate the households where the people should be interviewed.** The surveyors with a map in the hand then easily can find the households.

STEP 8: **Training of the interviewers**

- **With the surveyors it is decided how the questionnaire will be introduced to the respondents.** The interviewers must be able to explain the exact purpose of the questionnaire-survey and to tell the respondents that the results will be available to them.

*For more information about sampling, see "Sampling for monitoring and Fact-finding with rural people" and "Minimum Evaluation Procedure (MEP) for water supply and sanitation projects". (1985). WHO and London School of Hygiene and Tropical Medicine.

The surveyors have to be convinced of the importance of assuring the respondents of anonymity. Anonymity is important, for instance, when respondents are nervous about admitting how much property, how much land or how many animals they own because they fear it may result in heavier taxation.
- **The interviewers learn how to introduce themselves to the respondents and to behave carefully.** They may need to carry an introduction letter to identify themselves. They should behave according to the cultural customs of the community/area/country.
- **With the interviewers the way of interviewing is discussed,** f.e. what to say when the respondent does not understand the question?
- **The interviewers learn to thank the respondents for answering the questions after the interview,** and acknowledge her/his contribution.
- **The interviewing is practiced thoroughly with the interviewers (introducing themselves and thanking included).** Role plays can be very useful for this purpose. Also the surveyors should be able to explain why certain questions are asked.
- **The interviewers are trained on how to record the answers,** explain exactly where to write the answers, circle a number, put a mark on a scale, etc.
- **A sheet with instructions is made for the interviewers and explained.** The instructions give additional explanation about the questions, about how to ask the questions and about how to record the answers. An example of a list of instructions is included in Annex B.

STEP 9: Pre-testing of the questionnaire

- **The questionnaire is pre-tested by the interviewers** or tried out in practice. It must be pre-tested on at least three people similar to those to be included in the survey. The pre-testing serves to identify possible problems in the selection and wording of questions; understanding of questions and answers; using of response categories; inadequate writing space and the length of the questionnaire/interview. The results are discussed with the study team. If necessary the questions and/or questionnaire should be modified and tested again.

  In La Sirena and Los Mangos the pre-testing showed that there were several questions which were not understood by surveyors and/or respondents. It was thought that an ample explanation and some little changes in the questionnaire were sufficient to solve the problem. But this was not the case. There were still many answers missing after the application of the questionnaire.
  This may partly be due to the fact that a second pre-testing of the questionnaire did not take place.
- **The engineer and sociologist / social scientist as well take part in the interviewing and in the pre-testing.** This will give them a better idea of the situation.

Example of compilation of results.

| PROBLEM | HOW COMMON | HOW SERIOUS | HOW IMPORTANT |
|---|---|---|---|
| Babies have diarrhea | + + + + + | + + + + | 9 |
| Children have worms | + + + + | + + | 6 |
| Children very thin | + + + + | + + + | 7 |
| Skin sores | + + + + + | + | 6 |
| Toothaches | + + | + + + | 5 |
| Chickens died | + + + | + + + | 6 |
| Too far to water | + + + + + | + + | 7 |
| Fever and chills | + + + | + + + + | 7 |
| Fathers often drunk | + + + | + + + + | |
| Crops failed | + + + | + + + + + | |
| Food in store too costly | + + + + | + + + + | |
| Heart attacks | + | + + + + | |
| Women pale and weak | + + + | + + + | |
| Problems after birth | + + | + + + + | |
| Measles | + + | + + + | |
| Common colds | + + + + + | + | |

\+ not very common (or serious)
\+ + somewhat common (or serious)
\+ + + common (or serious)
\+ + + + very common (or serious)
\+ + + + + extremely common (or serious)

From: Helping health workers learn.

STEP 10: Planning of the application of the survey

- **Together with the interviewers it is planned <u>when</u> the questionnaires are going to be filled in,** on which day(s) and on what time. It is also planned who is going to do the interviewing in what sector/street of the community.

  In La Sirena and Los Mangos the interviewing took place on a thursday and friday. It was decided not to do the interviewing during the weekend because many people then went to Cali.

  The surveyors prefered <u>not</u> to do the interviewing in their own street because then the respondents maybe felt unhappy for someone familiar was inspecting their house.

- **When more than one day and/or night is needed, the interviewing continues the next day/night.** By doing so the people will have little time to change things in their surroundings.

STEP 11: Implementation of the survey

- **When possible, an announcement of the survey is made in the community.** The (religious) leaders can be asked to inform the people about the purpose of the survey and can stimulate the people to cooperate.
- **All the needed material must be available (pencils, paper, forms, maps).**

  In La Sirena and Los Mangos the interviewers were also equiped with a torch because of regular problems with the electricity.

- **After the first 3 - 5 questionnaires have been filled in per group, the interviewers come together.** Unforeseen problems can be discussed.
- **A meeting is organized after all the questionnaires have been filled in and it is discussed how it went.** The surveyors tell what they found out, why it is important and how a next study could be improved.

STEP 12: Compilation, presentation and discussion of the results

- **The compilation of the results must be simple,** so that the interviewers can take part in it and that the results directly have a meaning to them. The example on the opposite page shows how this can be done.

  In La Sirena the interviewers did not take part in the compilation of the results because this was done by computer. However, when community members are involved in a questionnaire-survey, it is essential that they participate in the compilation and analysis of the results because then it is more likely that they achieve a better understanding of the programme and their role in it.

- **It is decided together with the interviewers how respondents,**

Examples of visualization of the data.

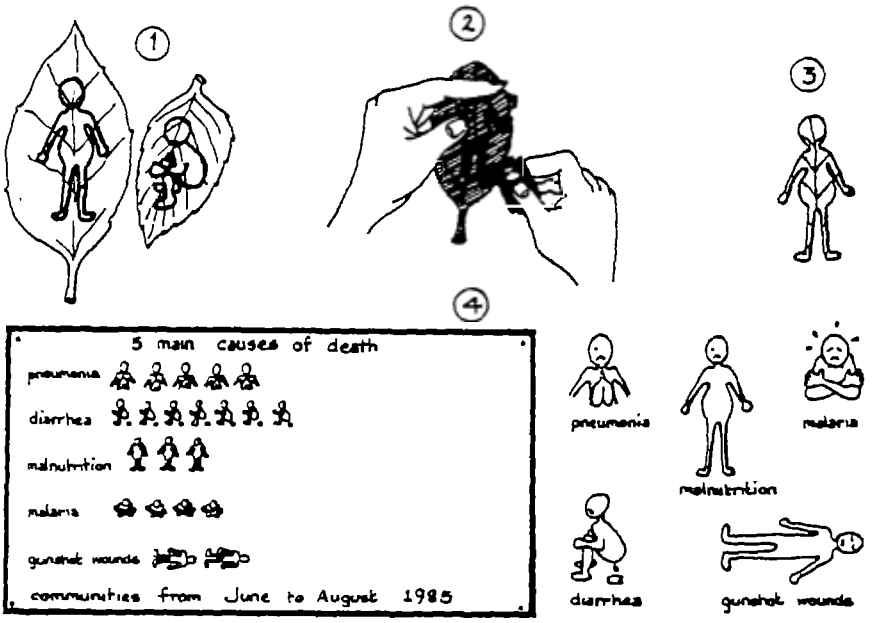
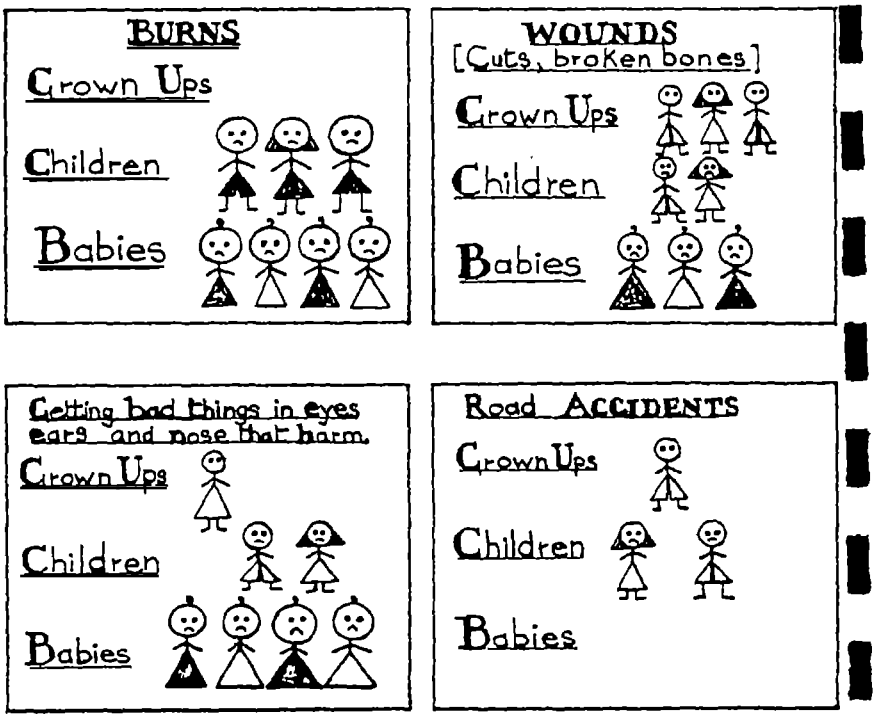



Figure No.

TITLE: USING LEAVES TO PRESENT STATISTICS

From: Partners in evaluation.

From: CHILD-to-child



staff and community leaders will share the information obtained and in what form and what role the volunteers will play in these activities. The findings can be communicated to the people, for example, at a community or group meeting, in a radio broadcast, in a newsletter, etc. The results must be discussed and together with community members it must be decided what possible corrective actions will be undertaken.
Examples of how the data of the survey can be shown to the other community members are given.

As beforementioned, in La Sirena and Los Mangos the results were presented and discussed in group meetings. For these neighbourhood meetings slides of the possible local causes of diseases were made with two community members. The slides served both as a resumen of the findings of the survey and as stimulus for discussion about health. Some slides are added.

Low-income groups in La Sirena

The SSF-plant of the community of La Sirena

**STEP 13: Initiation of the action programme**

Then based on the findings of the observations, personal interviews and the questionnaire-survey, the hygiene education and technical improvements can be planned and implemented.

In La Sirena and Los Mangos the action programme that was established after the application of the questionnaire-survey, consisted of three activities: - meetings with the Water Committee to re-establish a good relation with its members, - hygiene education meetings, that were organized per street or block of houses, to discuss the health risks in order to reduce or eliminate them and - a training of the members of the Water Committee so that they would be better able to fulfil their tasks.

The hygiene education consisted of subjects like the difference between treated and untreated water, how to get a connection to the treated water supply of La Sirena, the importance of clean water for health, etc.

The improvement of the intake and distribution net would provide a better water quality.

The proposed changes must be discussed with the community leaders 1. to check the acceptability of the measures and 2. to obtain their support for the implementation of the improvement measures.

## 4. CONCLUSION

In this manual an attempt has been done to establish guidelines for a study on community practices such as existing water uses and hygiene patterns. A questionnaire-survey in which community members are involved can be organized for this purpose. However, this working guide is based on only one study and therefore should be developed and adapted further by the user teams according to their experiences in different types of communities. Only then a really practical and thoroughly tested document can be made and will it be ensured that rich experiences of collaborative efforts with villagers are put in writing to ensure that they are not lost but used both for new studies and to train others.

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## Annex A Questionnaire of La Sirena and Los Mangos

### TRANSLATED QUESTIONNAIRE ON WATER SUPPLY AND SANITATION IN LA SIRENA, CALI, COLOMBIA

Name ..... Male / Female
Address .....
Number of persons living in the house .....

1. Where does the water come from you use for daily consumption?

2. Why don't you have a house-connection to the system that is administered by the Water Committee?

3. Are you interested in having such a connection?

4. What is your opinion about the 15.000.oo pesos you have to pay to get a house-connection?

5. What is your opinion about the quality of the water you use?

6. Where does the water come from that you use for the following activities?
drinking / washing of the dishes / bathing / clothes washing / food preparation / cleaning of teeth / animals / vegetables / cleaning of the house.

7. Do you always boil your drinking water?

8. Do you use any other methods to improve the quality of the water you use?

9. Where do you get your water when it doesn't come to your house?

10. Do you think there is a difference between water from the river, a well or a stream on the one side, and the water from the system that is administered by the Water Committee on the other

side?

11. What do you think of the actual distribution net?

12. In case this distribution net would be changed, would you, or your family, be willing to work one day a week?

13. Did you or any of the persons living with you have diarrhoea in the past two months?

14. What is according to your opinion, the most urgent problem that should be solved by the community?

15. Do you know what the University of Valle has been or is doing in this community?

OBSERVATIONS

16. Number of taps in the house.

17. Tap is open or closed.....

Tap can be closed well / not easily / not at all, is broken down.

Water disposal of each tap.....

18. What kind of sanitary facility is there in the house?

19. Describe the state of hygiene of the sanitary facility for what is concerned the seat, floor and walls.

Is there a smell in the sanitary facility?

Ask whether there are flies during day-time.

20. Where are the human faeces disposed?

21. Observe whether there are human faeces in the patio.

Name of interviewer .....

Date of interview .....

## Annex B Sheet with instructions for the surveyors

The person to interview is the mother. When she is not there, an other female member of the family, older than 15 years old, should be interviewed.

Try to avoid as much as possible, that people answer "I do not know".

ad A. When the person does not want to give her / his name, just fill in the sex.

Question nr.2. House-connection to the system administered by the Water Committee.
The persons has to give (a) reason(s) why they do not have a house-connection. Write down all the answers he / she gives. When the respondent does not know the answer, please help him / her by summing up possible reasons, like:
- because the monthly contribution is very high
- because it is not important
- because of a private connection.

Question nr.6. Boiling the water.
Probably the person knows that it is important to boil the water and therefore it is very well possible that he / she does not tell you the truth.
As you know the people of the community well, try to create a confidential relation and try to find out if the person really is telling the truth. Ask f.i. what they do have a lot of work to do and they run out of boiled water.

Question nr.7. Other methods.
Other methods to treat water can be
- add lemon to kill the bacteria
- let the water sedimentate

- add pills
- use filters in the tap
- use a compact filter.

Question nr.11. The actual distribution net.
First explain to the respondent what a water supply is and a distribution net.
"A distribution net is a total of tubes and taps that are built in order to bring water to the houses of a community".

Question nr.16. House-connections.
Open tap: Indicate for each tap if, at the moment of the observation, there is water coming out of the tap and nobody using it.
Closes well: Open each tap and close it again and indicate for each tap whether it closes well or not, or whether it is hard to close.
Water disposal of each tap: In other words, we would like to know where the dirty water goes to that comes from clothes washing, dishes washing, etc. For example: the water of the wash-bowl goes to the street or patio.
When you can not observe where the water goes to, ask the respondent and write down the answer for each tap. If the water goes to a septic tanc, look at the drawing on the next page to see what a septic tanc exactly is like so that you are sure the answer is right.