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# CADU

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CADU EVALUATION STUDIES :  
HEALTH EDUCATION (BASE-LINE STUDY)

by  
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## PREFACE

This is the first report on a CADU evaluation study. It has been written shortly before the present Swedish staff of the Planning and Evaluation Section are leaving their assignments in Ethiopia. Since neither Ethiopian nor Swedish personnel have yet been recruited in their succession, and since it should be possible to reproduce the methodology used in the study at later occasions, the methods have had to be described in detail in the report. To some extent, therefore, it is more of an instruction as to how to conduct such studies in the future than a summary of findings. It is hoped, however, that the reader will nevertheless be able to find his way through the report, skimming over parts that seem too technical. A good starting point for this sort of reading would be the summary in chapter 7.

Asella, May 1969

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## 1. THE PROBLEM

### 1.1 Evaluation Design

CADU started a programme of health education in Sagure in the autumn of 1968. It is one of the project activities that are to be evaluated by the Planning and Evaluation Section by means of separate studies. The general design of the CADU Evaluation Programme is given in the Plan of Work and Budget 1968/69 (CADU Publications, Addis Ababa 1968), and will only be briefly resumed here. First, however, it may be appropriate to introduce a few key concepts that will be needed in the evaluation work.

In general, an activity within an economic development project aims at conveying information to group of people. This group is referred to below as the target population. The purpose of conveying the information normally is to induce the target population to change their behaviour in some respect. Most often it is a question of making people use other methods for performing tasks and solving problems that they are since long familiar with, although their traditional methods for doing this are deemed inefficient and/or harmful. The respect, in which the project activity aims at changing the behaviour, is called the goal variable. For instance, if a project activity consists in training farmers in agricultural practices, then the goal variable could be defined as agricultural technique. Apart from this concrete sense of the term, an abstract and somewhat jargon - like one will also be used below, for expressions like "the position of this person on the goal variable is 3.6". This would mean that the person in question possesses the attribute that the project activity aims at changing to the degree of 3.6 (the meaning of such numerical expressions is dealt with later in the report).

Sometimes the primary aim of an activity is not to change the behaviour of the target population as defined above. Instead, it may be to change the behaviour of another (generally larger) population, to whom information is spread via the target population. This is for instance the case when innovation disseminators are used for spreading innovations to people that are not in direct contact with the project activity. One could then denote this latter group of indirectly influenced people a secondary target population. To make the difference clear, the direct receivers of project information could be called the primary target population. Project designs may of course be conceived of that include several levels of target populations, which would then be referred to as primary, secondary, tertiary, etc.

The evaluation of a CADU project activity basically aims at answering three different questions:

1. How much has the position of the target population(s) on the goal variable changed since the start of the project activity?
2. How much of this change can be attributed to the project activity and how much to causes outside CADU's control?
3. How much has it cost to bring about the part of the change that CADU can be credited for?

To answer these questions an evaluation design has been worked out, the main contents of which are the following (the numbers refer to the three above questions):

- 1.a) measurement of the position of the target population on the goal variable before the start of the project activity ("before-measurement");
- b) ditto when the activity has been going on for some time and an assessment of the effects is desired ("after-measurement");
2. continuous follow-up and registration of events that may influence the position of the target population on the goal variable, but are not part of the evaluated project activity ("external events");
3. continuous follow-up and registration of the costs incurred by the project activity.

At the outset of the health education programme the information about prevailing conditions in the target population was too insufficient to allow for precise goal formulations. This is of course the general situation in the early stages of a project activity. The lack of initial information also makes it difficult to plan for efficient measurements of the target population. Especially the absence of advance variance estimates for the goal variable renders the statistical work difficult when it comes to attaining desired degrees of precision in the measurements. For these reasons, the evaluation cannot be planned simply as a control of goal-fulfilment, at least not from the beginning.

As time passes and successively more experience is gathered, however, it should be possible gradually to change the evaluation design towards a greater emphasis on goal-fulfilment control. A continuous feed-back process is envisaged in this respect, so that the result of the before-measurement of an activity raises the level of information in the project, thus rendering it possible to make both goal formulations and future measurements of the target population more precise. In the same way, the after-measurements will provide still more information and continuously increase the amount of information available in the project and make more precise goal formulations and measurements of goal attainment possible.

The CADU evaluations will only exceptionally make use of a design with control groups (i.e. a design where before- and after-measurements are carried out in a control area as well, and where the effect of the project activity is defined as the difference in change between the before- and the after-measurement in the project and the control area). Normally, to make sure CADU is not credited with too much of the positive changes that hopefully will occur in the project area, the follow-up of external events referred to in step 2 above is preferred. The first year's experience of evaluation work has shown that the choice of control area will in most cases in practice determine the effect of the evaluated project activity. The reason for this is that in a region at the stage of development relevant for the CADU-project area, the most important changes are typically not caused by any general upward trend, but by isolated, sudden changes in the pre-conditions for development, "external events" (water is found in a dry area, extension activities are introduced by a government agency, a commercial investment is made, a road is built etc.). If no such events occur in an area that has been chosen for a control area, there is no problem. But if there is such a change, together with its likely repercussions on the general development of that area it will by definition lower the project effects in the region with which that area is compared. True, it is quite possible to select control areas where external events are improbable to occur. But such

areas are likely to be rather remote and isolated in the first place, which may give rise to criticism of project authorities for having deliberately chosen areas that will give favourable comparisons for the project. The health education programme has been considered an activity where the evaluation does not presuppose a control area.

There is one more argument for the follow up of external events as a substitute for control areas, viz. the economic one. Most before- and after-measurements will no doubt be made as sample surveys, where the cost per observed unit is often very high. This is especially true when the sample is scattered over a big area, e.g. the project area or a control area, where there are only very few and bad roads. (For a team of two men, an average of only two observations per working day is a common experience from CADU evaluation studies of this kind). From a statistical point of view, it is in most cases necessary to have equally big samples from every area where an estimate with a certain error margin is desired, (other things, e.g. the variance, being equal). Suppose the available resources allow for a total number of, say, 200 observations in a certain study. This leaves the researcher with two alternatives. One is to use a control area, making 100 observations there and 100 in the project area. The other is to concentrate all the 200 observations to the project area. Other things being equal, the first alternative will give estimates with error margins that are 42 percent wider (for each of the two areas) than the second. It seems that the second alternative will very often be the best choice, especially if one adds a (comparatively cheap) follow-up of external events.

### 1:2 Purpose of the Study.

The present report is a report on the before-measurement for the evaluation of the health education programme in Sagure. The activity started in the autumn of 1968. The target population can be defined as all women living in Sagure town and having at least one child not older than 5 years when the activity started. There is no explicit objective to reach secondary target populations, but such effects may be expected. The goal variable can be defined as knowledge and behaviour in the field of hygiene and health of small children and their mothers, including the pregnancy period. (Throughout this report the expression "small children" is used to indicate children not older than 5 years).

The primary purpose of the study is to provide part 1.a) of the evaluation design given in section 1:1. Due to the low overall information level in CADU concerning prevailing conditions in the target population, however, there has also been a secondary purpose, viz. to provide information for the planning of the health education programme itself. To co-ordinate the before-measurement with the first systematic data collection for the planning of the project activity has turned out to be a practical arrangement also in other CADU evaluations. This procedure can be regarded as part of the earlier given picture of the information feed-back in the decision-making process of the project.

The primary purpose calls for a descriptive study, suitable for later use as part of a study involving testing of hypotheses (when the outcomes of the before- and after-measurements are to be compared). The secondary purpose only requires an exploratory study, particularly as the traditional behaviours in the field of child care and hygiene can be assumed (on the basis of earlier experience) to be rather uniform. The study consists, therefore, of two parts, one for each purpose. The requirements as to statistical representativity and precision are, of course, much

higher for the first part. Because of this, most of the resources available for the study have been concentrated to that one. The details of the study planning are dealt with in the next three chapters.

Because the results of the exploratory study are only of interest to those in charge of planning the health education programme, they are not given in this report. As the planning and implementation of the two studies were so closely interwoven, however, reference to the exploratory one is made at one or two occasions below.

On the other hand, the report also contains the essentials of a third study, carried out at the same time as the other two, viz. a survey of sanitary conditions among the households in Sagure. It had a dual purpose: to be used as a before-measurement in evaluating the sanitary improvements hopefully following from some of the activities of the CADU Health Clinic in Sagure, and to yield data useful for the planning of these activities. Since these activities do not have the same target population as the health education programme, however, the sanitary study is only briefly reported in a separate chapter (Ch. 6.).

The health education programme of CADU is planned to be extended to a number of other areas than Sagure. The evaluation methods developed for the Sagure study, therefore, are expected to be used in all these places as well. Also, the Ministry of Public Health has adopted the methods and intends to use them for evaluation of the nation-wide health education programmes planned to be launched later. The main questionnaire of this study, insignificantly changed, has been adjusted for use with data processing equipment in order to make possible tabulation of the vast numbers of interview data expected in these evaluations.

### 1:3 Evaluation Criteria.

Generally, the criterion against which a project activity should be evaluated ought to be positive changes in the goal variable. For the health education programme, one could of course argue that the ultimate goal variable is the health level, length of life, etc. of the target population, rather than mere knowledge and behaviour as far as hygienic practices are concerned. This is of course quite true, but the trouble is that information on life length etc. is not enough to pass judgment on the effects of the health education programme. There are too many other factors influencing things like average length of life of a population. Consequently, the relationship between good health education and a healthy life is far from unambiguous. Moreover, it is definitely too complicated for decisions on project management level to be based on.

Therefore, the only criterion used in the evaluation of the health education programme will be positive changes in the goal variable. The question of an operational definition of the goal variable consequently becomes a very crucial one. In this study, an attempt has been made at solving this problem by constructing a scale for measuring an individual's position on the goal variable. The scale is in itself an operational definition of the goal variable. The details of the scaling procedure are given in Chapter 5.

Notwithstanding the arguments for using positive changes in the goal variable as the main criterion of effect of the health education programme, however, there are obvious reasons for following the development of the health status of the target population. Information on this will no doubt



be of a great complementary value in comparing the before- and after-measurements of the goal variable. Therefore, a general health survey was made in Sagure before the health education programme was started. The results are not processed yet, but they will be published in a separate report by the CADU Public Health Section.

#### 1:4 General Information on Sagure Town.

Sagure is a small town (according to the official Ethiopian definition) with some 1,400 inhabitants. It is situated 25 kilometers south of Asella at an altitude of 2,400 meters. There are two market days per week, with people coming in from the surrounding rural areas to do business. On the main market day, some 4,000 visitors can be found in the town.

The majority of the heads of households have commercial occupations: traders (in agricultural products), and craftsmen. Female heads of households (some 125) are almost exclusively bar-owners/prostitutes (as elsewhere in Ethiopia a combined occupation). Approximately 50 percent of the inhabitants are Galla, 34 percent Amhara and the rest mainly Gurage and Arabs. The literacy rate is higher than the country average, some 54 percent of the males and 10 percent of the females being able to read and write their own names. C. 90 percent of the inhabitants are orthodox Christians, the remainder mainly Moslems. The per capita income is not known, but is unlikely to be above the national average of c. Eth.\$ 130.

For further details on local conditions in Sagure, the reader is referred to two CADU Publications: Wickstrom, Bo, Sagure, A Market Village in Ethiopia (Addis Ababa 1967), and Eksmyr, Roland, Census in Sagure and Yeloma 1967 (Addis Ababa 1968). The above data have been taken from these sources.

## 2. RESEARCH DESIGN: GENERAL METHODOLOGY

### 2:1 Choice of Research Method.

For the descriptive purpose of the first part of the study and the exploratory purpose of <sup>the second</sup> a survey method using personal interviews from a questionnaire was deemed to be the most suitable choice. For finding out about knowledge in the field of hygiene and health of small children and their mothers, the interview method is a rather obvious choice. For the behavioural part of the study, observations would be an alternative, the main factor behind a choice being validity considerations (i.e. the problem of whether answers to questionnaires are correct descriptions of behaviour or represent more or less conscious deviations from actual facts).

The standpoint taken on the validity issue in this study is the same as that of several other CADU evaluation studies. It is based on experiences from interview surveys in industrialized countries, where the tendency of the respondent to give answers that he thinks please the interviewer is a wellknown phenomenon. For the before-measurement, the interview method is entirely relied upon. The argument is that a person living in a traditional society without previous contacts with the set of values introduced by the project activity is not very likely consciously to mislead the interviewer by giving false answers. For the after-measurements, on the other hand, the situation may not be quite so simple. In most cases, the respondent will then have received information from the project activity and may very well have developed a conception of the kind of answers that are wanted from him. In all probability, therefore, special measures will have to be taken to secure validity control of the after-measurements. Most likely, these will take the form of a greater emphasis on observations, either for control of the questionnaire approach or, more radically, as an exclusive method. True, there are validity doubts about the method used for the before-measurement as well, and surely one or two suggestions could be made as to how a check-up on this could have been built into the method. Unfortunately, however, the study was planned under considerable time strain, since it had of course to be launched before the onset of the health education programme in order to be meaningful at all. There was, therefore, simply no time to plan and implement more advanced techniques than the ones used.

### 2:2 The Questionnaires.

Two sets of questions were used for the interviews: one for the descriptive part of the study and one for the exploratory. The exploratory questions were simply made up from a list of desired information delivered by the CADU Public Health Section. Considering the need for emphasis on the descriptive part of the study, no efforts were made to reach any particular degree of sophistication for the exploratory questions.

The descriptive questions were chosen in such a way, that taken together they form an operational definition of the goal variable. In other words, what the health education aims at is attaining positive changes in the respects covered by these questions. Also, the set of descriptive questions is a self-weighting operational definition in the sense that the proportions of questions from different parts of the health education programme (diet during pregnancy, children's diet, food hygiene, etc.) reflect the relative emphasis given to these parts in the programme.

The descriptive questions were put together in a questionnaire called "Questionnaire A". This was given to a sample from the target population of 80 women, (the statistical design is dealt with in detail in chapter 3). In addition to this, a "Questionnaire B" was constructed by adding the exploratory questions to Questionnaire A. Questionnaire B was given to a sample of 20, thus giving a total sample size for the descriptive questions of 100, which was the desired number. The two questionnaires can be found as Appendices 1 and 2 respectively to this report. There is no reason to believe that the longer interviewing time for questionnaire B will affect the quality of the answers to the questions it has in common with questionnaire A. Nor is there any conceivable disadvantage in having the descriptive questions from A mixed with the exploratory ones from B. In all the processing, therefore, the questions from questionnaire A have been treated as equivalent, no matter whether they were actually contained in questionnaire A or B.

All the interviews were made by the community nurse employed at the CADU Health Clinic in Sagure. The intimate character of some of the questions made a female interviewer indispensable. The nurse also had the advantage of a qualified medical background. Since she would be responsible for giving the health education to the mothers when it started, this was also a way of increasing her efficiency in that capacity of hers by getting to know most of her pupils in advance. She was a newcomer to the town, so there were no risks of old feelings between her and the respondents disturbing the interview situation. Nor does the attitude towards strangers in Sagure involve any risk of bias. The instruction given to the interviewer can be found as Appendix 3 to this report. The fact that only one interviewer was used may of course have introduced an interviewer bias (i.e. an uncontrolled influence on the answers from the behaviour of the interviewer during the interviews). As there was nobody else available, however, this risk had to be accepted, although of course precautions were taken in the form of careful instructions before and ditto supervision during the interview work. Unfortunately, because of the supposedly embarrassing nature of some of the questions it was deemed impossible for the exclusively male staff of the Planning and Evaluation Section to control any interviews directly. Instead, control and supervision were made via the interviewer's normal supervisor, a Swedish nurse.

The questionnaires were originally constructed in English. For the pilot study, the preliminary English questionnaires were translated into Amharic during the interviews. After the pilot study, the definite version of questionnaire A was translated into Amharic in a written version. This translation was made by an experienced interviewer with good knowledge of English in co-operation with the nurse who was going to make the interviews in Sagure. The Amharic version of questionnaire A can be found as Appendix 4 to this report. For the c. 25 percent of the cases where the respondents were only Gallinya-speaking, the English questionnaire was translated directly into Gallinya. The interviewer is fluent in both Amharic and Gallinya.

The main things that were tested in the pilot study were the following:

a) choice between "open-ended" and "closed" questions (i.e. between questions not giving any response alternatives and those providing such alternatives for the respondent to choose among);

- b) acceptability to respondents of questions dealing with possibly embarrassing matters;
- c) suitable intervals to be given in questions dealing with frequencies of habits;
- d) length of interview.

The length of the interview was found to be approximately 30 and 60 minutes for questionnaire A and B respectively. The other main findings during the pilot study are included in the below comments to the questions.

Going through questionnaire A, one or two comments may be justified for some of the questions. The more obvious cases, as well as the entire questionnaire B, are not commented upon. The numbers refer to the numbers in questionnaire A.

1.1.-1.2. The personal data were collected partly to be used in the planning of the health education programme, partly for possible cross-classifications (in the before-measurement and/or in the after-measurement).

1.3. Although the target population was defined as women having at least one child not older than 5 years, the study involved these women's habits and knowledge for all their children (a child being defined as a person below 15 years of age).

2.1. This question deals with a widespread belief that any other treatment than injections is useless. At the same time, the question serves as a warming-up question for the medical part of the questionnaire, being easy to answer and carrying no embarrassing connotations.

5.3. It was suspected that women who do not follow the orthodox fasting rules are not willing to admit this. In the industrialized countries, so called projective techniques have been developed to deal with such problems. It has been shown, for instance, that people often attribute to other people behaviours or attitudes that they have themselves but are reluctant to admit. Question 5.3. is such a projective question intended as a control of question 5.2.

6.1.-6.4. The problem of post lactation food habits is an extremely important one in Ethiopia. This is the period when protein deficiency may create irreparable damage, and it was felt that several aspects of the problem had to be covered by the questions.

9.1.-9.3. These are the traditional Ethiopian operations, performed for superstitious and/or ritual reasons. Because of their sometimes very harmful consequences they are included in the health education programme.

9.4. Rickets is very common among Ethiopian children. Since adequate amounts of sunshine would prevent it, the widespread habit of keeping small children indoors will be an important target for the health education.

11.1.-11.3. These questions differ from the others by dealing with attitudes rather than behaviour or knowledge. They represent a very cautious first approach to the family planning programme in the area. The family planning programme itself will start later and be evaluated separately, but it was considered practical to study the possible change in attitudes together with the general health education programme.

### 3. RESEARCH DESIGN: STATISTICAL DESIGN.

#### 3:1 Estimation of Sample Size.

The below account of the statistical procedures is rather technical. A reader without some knowledge of elementary statistics will not be able to understand all of it. This is, on the other hand, not necessary either. In the choice between giving a comprehensive course in statistics, advanced enough to make the beginner reach the stage of competence necessary to understand the below account, and to keep down the number of pages of an already too voluminous report, the author choose the latter. When the results of the study are given (in section 5:3), the concept of "confidence interval" will be explained, since it is essential to the interpretation of the results. For other technicalities, the reader is referred to elementary statistical textbooks, e.g. Cochran, William G., Sampling Techniques (second edition, New York and London 1963), and Freund, John E., & Williams, Frank J., Elementary Business Statistics (Englewood Cliffs, N.J., 1964).

From a statistical point of view, the problem was one of estimating proportions, viz. the percentages of the target population behaving in one or the other way, or having one or the other knowledge. True, there are a few questions that involve estimates of continuous variables. Because of the predominance of the other type of questions, however, the statistical design has been chosen entirely with respect to estimation of proportions.

The population (in the statistical sense of the word, in this case equivalent to the target population) consisted of 163 individuals. For economical reasons, a sampling survey was desired.

From the point of view of evaluation, a rather high degree of precision in the methods of estimation was needed. Otherwise there might be a risk that minor effects on the target population are not detected, because they are within the margin of error. It was decided that a 95 percent confidence interval ought to give a margin of error of not more than  $\pm 5$  percentage units around the estimated proportions.

No advance estimates of the variance in the variables to be studied were available when the study was planned. Estimations of the necessary sample size for the most pessimistic assumption regarding the variance ( $p = 0.50$ ) gave an unacceptable result. Considering the normally very uniform patterns of behaviour and knowledge in a traditional society, however, it was believed that the proportions would normally be so close to 1.00 (or 0.00) that an assumption of  $p = 0.50$  would be unnecessarily pessimistic. It was decided that in the (in all probability few) cases where  $p$  would be between 0.20 and 0.80, a wider error margin than the one earlier defined would be accepted. Consequently, the sample size was calculated on the basis of  $p = 0.80$ . Because of the high sampling fraction, the finite population correction was used, and the necessary sample size was estimated at 100. The formula used was the ordinary one:

$$n = \frac{\frac{t^2 pq}{d^2}}{1 + \frac{1}{N} \left( \frac{t^2 pq}{d^2} - 1 \right)}$$

where  $n$  = sample size;

$p$  = the percentage of the sample having a certain characteristic;

$q = 1 - p$ ;

$d$  = the maximally accepted difference between  $p$  as estimated from the sample and the "true"  $p$  (the percentage of the population);

$t$  = the abscissa of the normal curve that cuts off an area at its tails, corresponding to the confidence level chosen (in this case 5%, since a 95% confidence interval was desired);

$N$  = the number of individuals in the population.

### 3:2 Sampling Method.

Contrary to the situation in most CADU evaluations, a sampling frame was available. CADU had undertaken a census in Sagure in February 1968, one of the outcomes of which was a list of all children not older than 5 years. The children were listed family-wise, starting in one part of the town and going along the streets until the whole town was covered. The list did not indicate the names of the parents (adults were on another list).

A simple random sample of 100 was taken out of the 163 families listed, with the use of a table of random numbers. Neither the structure of the population, the purpose of the study nor the properties of the sampling frame called for any other sampling method. In addition to the main sample, a reserve sample of 30 was drawn. The interviewer was instructed to use the reserve sample to substitute for non-available women in the main sample, according to the rules in Appendix 3.

#### 4. RESEARCH DESIGN: SCALE CONSTRUCTION

##### 4:1. Background.

The usual way of presenting the results of a descriptive study is to give the percentage distribution of the population (or sample, if it is a sample survey) for each studied item separately. This method leads to statements of the type "To prevent diarrhoea in their children 5 percent of the mothers go to the medicine-man, 9 percent go to the health clinic, etc.". If the study consists of some 40 items, this way of describing a situation quickly becomes difficult to grasp. And if one tries to anticipate the after-measurement and the judgments to be passed on the basis of the differences between the before- and the after-measurements, the problems seem almost insurmountable. How is one to evaluate a 3 percent decrease in the proportion of mothers relying on the medicine-man against a 5 percent increase in the proportion washing their hands more than once a day? Should those responsible for the health education programme be given more credits for one of these achievements than for the other? If so, for which and how much more? What would be the overall judgment if there is an average improvement of 4 percent on all items dealing with infant feeding and nothing on the rest? The list of awkward questions could be continued ad infinitum.

A still more complicated situation will arise when it comes to decision-making on project level, based on comparisons between the effects of different project activities. One of the purposes of a system of continuous, built-in evaluation is to provide the project management with information that serves as steering-impulses. It is hard to see how any decision-maker could base his decisions on some 10-15 sets of maybe 30-50 percentage distributions each, making up his mind e.g. about how scarce resources should be allocated to different project activities on the basis of effects attained.

Apparently, there is quite some argument for a simpler and more condensed way of expressing the position of the target population on the goal variable than to give some 40 different percentage distributions. For this study (as for other CADU evaluations) a method has been developed that will make such expressions possible. It is hoped that this will simplify the evaluation work, especially in the long run when the number of comparisons between before- and after-measurements and between different after-measurements increases. Since the percentage distributions of individual items will of course also contain a lot of valuable information, they will be given in addition to the more condensed data.

##### 4:2 The Theoretical Problem

The basic ambition has been to characterize the position on the goal variable of each individual in the sample, using such a method for this that the target population can then be described with more "advanced" statistical parameters as the mean, the standard deviation, etc. This meant that some kind of scale had to be developed to measure each individual's position on the goal variable. Furthermore, unless that scale fulfils certain theoretical conditions, statistical parameters as the mean and the standard deviation and statistical techniques such as analysis of variance (which may be useful when comparing the before- and after-measurements) cannot be used. For a scale to be used in evaluation work, there is one more requirement to be met: it should be possible to make statements about the distance that the target population has moved along the scale between two measurements.

These criteria imply that the scale has to be what is known as an interval scale, i.e. the units of measurement must be equal. Thus, one should be able to maintain that the difference between e.g. the scale values 2 and 4 is equal to the difference between 7 and 9. (An example of this are the temperature scales, where an increase in temperature from 10 to 20 degrees is just as big as an increase from 35 to 45 degrees. Since an interval scale lacks an absolute zero point, in the sense that the scale value 0 indicates a total absence of the property measured, one cannot say for instance that 40 degrees is twice as hot as 20 degrees. That would require a so called ratio scale, such as the ones used in measuring length, weight, etc., which is not necessary for the purpose of this study).

Within the fields of sociology and psychology, methods have been developed for constructing interval scales to measure knowledge, behaviour or attitudes. For this study, an attempt has been made to build an interval scale of the type usually referred to as the Thurstone differential scale<sup>1)</sup>. Technically, the scaling method used is known as a response method, i.e. scale values are given both to the items that constitute the scale and to the individuals who are measured by the scale. This kind of scaling methods were originally developed for the measurement of attitudes and not of knowledge and behaviour. To the best of the knowledge of the author of this report, moreover, they have never been used outside the developed countries before. Therefore, the methods used had to be developed without any previous experience of their application to problems such as those encountered in the CADU evaluation work.

#### 4:3 The Scale Construction.

##### 4:31 Summary of the Procedure.

The rationale of the scale has been the conception of questionnaire A as an operational definition of the goal variable. In other words, the health education programme aims at changing the knowledge and behaviour of the target population in the respects covered by the questions of questionnaire A. To bring about this change, the programme must try to convey certain standards as to what are desirable behaviours and knowledge e.g. (to boil the water before drinking it, to provide adequate supply of animal protein during pregnancy, etc.). With the help of the scale, therefore, it must be possible to assign scale values to individuals that express the degree to which they meet these standards. This is a fundamental condition that has to be fulfilled by the scale in addition to the theoretical requirements discussed above.

The scaling procedure consisted of the following steps:

1. A list of all answers given to questionnaire A was submitted to a group of judges, experts in the field of mother and child care (doctors at a children's hospital).
2. The judges were asked to score each answer on a 9-step scale with 9 indicating knowledge and practices very conducive to good health and 1 the opposite.

<sup>1)</sup> For a description of this sort of scaling procedure, the reader is referred to Green, Paul E. & Tull, Donald S.: Research for Marketing Decisions (Englewood Cliffs, N.J. 1966), pp. 202-204. A thorough account of the theoretical aspects of the scaling problem can be found e.g. in Torgerson, Warren S.: Theory and Methods of Scaling (New York 1958).



3. For each of the answers, the median and the quartile deviation were calculated. Answers causing too much disagreement among judges were cancelled from the scale. To the rest, the median was given as the scale value.
4. The answers given by each of the respondents to each of the questions were scored with the scale values thus obtained. The mean scale value was calculated for each respondent.
5. The mean and standard deviation of the sample was computed and used as an estimate of the target population's position on the goal variable before the start of the health education programme.

The details and considerations behind this procedure are given below.

#### 4:32 The Task Given to the Judges.

To collect the information necessary for the scale construction, the main study was carried out and partly processed, so that the different answers given became known. Then a list was compiled of all the answers given (to keep the total number of answers down, some answers with very low frequencies were omitted.). In the list, the order between the questions was that of questionnaire A. For each of the questions, the answers were listed in random order, except for those cases where there was some sort of logical order (e.g. increasing frequency: "never", "sometimes", "almost always"), which was maintained.

The whole set of answers obtained for each question was examined to make sure it contained the recommendation of the health education programme. Since this was so in all the cases, there was no need for adding answers to the list.

In some cases, the phrasing of the questions was slightly changed in order to make the judging task clearer. Mostly, this was only a question of logic (e.g. splitting up a compound question into parts to have each of them scored separately). For two questions, the change involved more than that and will be commented upon below when it comes to the scoring of the respondents.

The list and the instruction to the judges can be found as Appendix 5 to this report. The appendix also gives the scale values assigned by the judges (the method of calculating these values is described in section 4:33). The judging method used is one of so called "equal-appearing intervals", i.e. the judges were instructed to assign numerical scale values on the 1-9 scale so that the intervals between two consecutive integers were subjectively equal. The end and middle points of the scale were defined in the instruction. Pediatric expertise was consulted in the design of the task for the judges. The reactions from the judges did not indicate any difficulties in grasping the idea or in solving the tasks given to them.

Six Ethiopian and six European doctors at the Ethio-Swedish Pediatric Clinic in Addis Ababa were chosen as judges. They all have extensive experience of pediatric work in Ethiopia, including the traditional superstitions and practices on which judgments were to be passed.

#### 4:33 Calculation of Scale Values.

For each answer, the median and the quartile deviation of the scale values assigned by the judges were calculated. These statistics were preferred to the mean and standard deviation respectively because they are not affected by extreme values. For some of the answers, there were isolated instances of extreme judgments, in most cases probably indicating misconceptions or mistakes rather than actual differences of opinion.

The quartile deviation was used to eliminate the answers that caused too much disagreement among the judges to be used in the scale. Thus, all answers with a quartile deviation of 4 or more were removed. This means, in other words, that for each of the answers retained, the "middle six" of the judgments (if the judgments on that answer are ordered from the lowest to the highest) are within at most 3 score units from each other. This was considered a sufficient degree of agreement. In this way, 24 items out of 202 were eliminated. It may be of interest to note that in most cases the disagreement was caused by a systematic difference of opinion between the Ethiopian and the European judges, the former giving lower scores. This was especially true for questions regarding infant and child feeding.

For each of the remaining answers, the median value of the judgments was used as the scale value. Out of the 21 questions in questionnaire A, all but four yielded answers, the scale values of which covered the entire scale from 1 through 9. The four are 2.1 (scale value 4-9), 6.1 (1-7.5), 7.1 (1-8.5) and 8.1 (1-7). The scale values and their quartile deviations can be found in Appendix 5.

Due to a mistake in the first stage of the data processing, a few of the answers given by respondents were not detected before the scaling task was given to the judges. As time did not allow for a new round of judging, and as the scale values of the answers missed seemed rather obvious, they were assigned jointly by the head of CADU Public Health Section (a pediatrician) and the author of this report. These answers and scores have a parenthesis around them in Appendix 5.

#### 4:34 Scoring of Respondents.

The answers given by each of the respondents were scored, using the scale values thus obtained. Some of the questions of questionnaire A are subdivided in the list used by the judges. For instance, question 3.1 is subdivided into question 3.11, 3.12, 3.13, 3.14 and 3.15. In these cases, each of the sub-questions was scored separately and the mean of these scores assigned as the score of the whole question. If several answers were given to the same question by a respondent, the mean score value of the answers given was calculated.

If the answer given had no scale value assigned to it (because of low frequency of response or disagreement among judges), no score was given. When the mean was calculated, the number of such answers was subtracted from the number with which the sum of the scores was divided to give the mean. The same procedure was used for calculating the mean of sub-questions when some of the answers to them had no scale value.

For two of the questions, there was a difference between the phrasing given to the respondents and that given to the judges. Question 7.2 originally dealt both with methods (of cleaning the baby's bottle) and frequencies of the habits. This gave an unacceptably big number of combinations, which would have made the judging task tedious. Instead, the judges were asked to give scale values to the methods only. The respondents were then given the mean scale value of the methods mentioned as their score for that question. If only one method was mentioned and the frequency given for it was "sometimes", the score was calculated as the mean of "never" and the method in question. Although not quite in accordance with the actual phrasings, this procedure probably gives a satisfactory accuracy.

Questions 9.1-9.3 dealt with the traditional Ethiopian operations performed on children. The mothers were asked on how many of their children they had made each of the operations. The task given to the judges, on the other hand, was only to give scale values to the operations themselves. Since information had been collected about the respondent's total number of children below 15 year's of age, (question 1.3) the percentage of children that had been operated could be allowed to affect the score. This was accomplished by giving the scale value 5 for each not operated child (girl in the case of 9.3) and for each of the questions 9.1-9.3 calculating the mean of all the children (the scale value for an operated child was 1). Then all three questions 9.1-9.3 were treated as one question, i.e. the mean of all three was calculated and given as the score for traditional operations. This was the only case where the relative weights of the questions in questionnaire A were changed in the scale construction.

#### 4:4 Concluding Comments.

The procedure followed for the construction of the scale in this study should yield an interval scale. However, one cannot be sure that this is actually the case unless a number of controls of the interval scale properties (e.g. the equal size of the measurement units all over the scale from 1 through 9) are carried out (techniques for this are described in the earlier mentioned book by Torgerson). Due to the time-pressure under which the study has been made, unfortunately, it has not been possible to make any such controls.

The same is also true for so called item analysis, i.e. a control that none of the questions "points in the opposite direction" of the rest of the questionnaire. For instance, if the respondents scoring high on a certain question normally have a low overall score on the rest of the questionnaire and vice versa, then that question is unsuitable for use in the scale. There are standard techniques for making such analyses, but time has not permitted their use in this study.

A third problem left unsolved in the study is that of the precision of the scale values (both of individual values and of means) This is a rather complicated theoretical problem which is not treated in ordinary textbooks in scale construction or statistics. Its solution requires consultations with specialists on scaling methods. Since such specialists have not been available in Addis Ababa, it has not been possible to solve the problem. It is suggested that measures are taken in the future to approach the question, since it will be of paramount importance for the future evaluation work of CADU.

Despite these shortcomings, the scaling methods used have in all probability yielded results that are quite sufficient for this stage of the evaluation work. Moreover, all the data collected in the study are still available, in case adjustments are needed in the future. Before the first after-measurement is planned, attempts should be made to solve the problems discussed above.

## 5. RESULTS.

### 5:1 The Field Work.

The interviews were carried out in September 1968. The general impression from the field work was the same as from other CADU interview studies: the respondents were in most cases very co-operative, and there were no refusals at all. In a number of cases, the women had already been interviewed by CADU staff for other purposes (e.g. the population censuses), some of them even several times. There was reluctance in some of these cases, but the interviewer managed to make all sampled respondents co-operate.

The non-response cases (15 in all), therefore, were entirely made up of people who had moved out of Sagure (and who consequently no longer belonged to the population). Women from the reserve sample were substituted for such cases. Women who had moved within Sagure were searched for at their new home and in all cases found. Mothers of small children, who had moved into Sagure since the last CADU census was undertaken (February 1968), could not be sampled since they were not contained in any sampling frame. There is, therefore, a slight bias in the results: women who move more than others are likely to be underrepresented.

The interviews were conducted with only interviewer and respondent present (except for a few cases when the interviewer's supervisor was present). The interviewer was very strict about this, which is necessary in a society where the wife is so subordinate to her husband as mostly in Ethiopia. A number of minor clashes with husbands over this issue are reported, but no refusals.

The standpoint taken on the validity problem during the planning of the study seemed to be confirmed by the experience of the field work. In the interviewer's view only some 5 or 6 of the respondents had earlier been influenced by modern ideas on health and hygiene. These respondents may have given misleading answers to some of the questions, especially to those dealing with hygiene. The bulk of the respondents, however, according to the interviewer obviously did not have any ideas about what practices or knowledge were favoured by the interviewer and the set of values she stood for. There is, therefore, no reason for pessimism about the validity of the answers in general.

The problem of reliability, or the ability of the questionnaire to give the same answers if the study is repeated, does not seem to give rise to any serious doubts either. The categories in which the interviewer was supposed to sort the answers seemed adequate, and the doubtful cases were few. The main reliability risk lies in the explanations over and above the standardized wording, that were needed for some of the questions to keep the number of "no statement"'s down. In general, the interviewer seems to have used probing techniques with great skill in these cases. In spite of the reliability risks, this was evidently a necessary device to get across the shyness shown by women not used to questions about their personal habits and beliefs. Incidentally, the family planning questions did not turn out to be as embarrassing to the respondents as they were expected to. In fact, there were no questions that appeared so embarrassing as to cause validity or reliability problems or else disturb the interview situation. In this respect, the findings from the pilot study were confirmed.

### 5:2 The Scale Values.

Each of the respondents was scored with the methods described in section 4:34. The mean and standard deviation of the sample were calculated and found to be 4.4 and 0.68 respectively. As indicated earlier, the problem of calculating the error margins of the sample mean as an estimate of the population mean has not been theoretically solved yet. If ordinary methods of computing confidence intervals are applicable, however, a 95-percent interval would be  $4.4 \pm 0.13$ . In other words, the dispersion of the results, as measured by conventional methods, is very small.

From the point of view of the health education programme, the target population is clearly on the "negative" side of the goal variable. That is, their knowledge and behaviour in the field of mother and child hygiene and health are such, that the mothers on an average are likely to do more harm than good to themselves and their children. On the other hand, the distance from the mean 4.4 to the "neither-harmful-nor-healthy"-value of 5 does not appear to be too discouraging. To cover that distance seems a reasonable first stage target for the health education programme.

In the next section the percentage distribution of the answers to each question in questionnaire A is given. With it, the mean score of all respondents for that specific question is also shown. This information is of importance if one wants an overall view of where the most urgent needs for health education are. It can be seen, e.g. that changing the fasting habits during pregnancy is much more a problem of attitude than knowledge (the mean of question 5.1, dealing with knowledge of suitable diets during pregnancy is as high as 6.8, whereas question 5.2, dealing with actual behaviour in this respect has a mean of only 1.2).

The mean scores for each of the sections in the questionnaire are shown below, to give an overall picture of the situation:

<u>Section no:</u>	<u>Subject matter:</u>	<u>Mean score:</u>
2	Medical treatment	5.4
3	Means to prevent diseases	2.7
4	Personal hygiene	6.5
5	Diet during pregnancy	4.0
6	Children's diet	5.8
7	Food hygiene	2.8
8	Delivery	3.8
9	General (practice and malpractice)	4.5
10	Vaccinations	7.7
11	Family planning	1.6

Incidentally, this way of splitting up the overall scale value of the sample will make it possible to evaluate the progress of the health education programme for different parts of the programme separately. Also, it is an example of the way the scaling method, employed in evaluation work generally, can be used to compare the progress of different project activities in a condensed way, instead of going into the details of a number of percentage distributions. On the other hand, detailed planning of an activity of course presupposes more elaborate information than the one summed up in the scale values.

A word of caution against taking the numerical values too literally may also be appropriate.

There are relationships between several of the questions that are more complicated than the ones expressed in the scale values as calculated by this method. To give only one example, the question about frequency of soap use ought, ideally, to have influenced the scores of the question dealing with washing body and hands in a more direct manner. One could also have doubts as to the unexpectedly high mean score for the question dealing with food habits after weaning (question 6.3, mean 3.4). Maybe the scores would have been different, had the task to the judges not been to score the fact that a certain food item is given at a certain time, but rather the fact that it is not given earlier. There may be more such objections, most of which point to the average score of all respondents as being a better estimate than the means of individual questions.

No similar studies have been made in other parts of the country as yet. To put Sagure into a national frame of reference, however, there is reason to believe the results to be rather above than below the national average. Several factors point in this direction. Sagure is a town, situated at a road and only occasionally inaccessible during the rainy season. There have been some scattered activities from the Ministry of Public Health before CADU started its health clinic. There is a provincial hospital in Asella, only 25 kilometers away, where it is in principle possible for the inhabitants of Sagure to receive medical care. Finally, the main validity risk of this study clearly makes the estimated scale values more likely to be too high than too low.

#### 5:3 Percentage Distributions.

For each of the questions and sub-questions of questionnaire A, the percentage distribution is given. The numbers indicated below refer to the numbers of the questions in questionnaire A.

For the percentage distributions based on answers from the whole sample, 95 % confidence intervals are given below in steps of 5 percentage units (for percentages in between, the intervals can be interpolated). By "95 % confidence interval" is meant that the probability is 0.95 that the true proportion, i.e. /proportion of the whole population, is covered by that interval. To exemplify, it was found that 9 percent of the mothers in the sample wash their baby's bottle with hot water after the meals. The confidence interval for the percentage 9 can be found below to be  $\pm 4$  (the figure for 10 percent is used). Thus, the chances are 95 in 100 that the percentage of the whole population having that habit is  $9 \pm 4$ , i.e. between 5 and 13.

Percentage of the sample	95 % confidence interval ("error margin"), percentage units
5	$\pm 3$
10	$\pm 4$
15	$\pm 4$
20	$\pm 5$
25	$\pm 5$
30 - 50	$\pm 6$

For a percentage above 50, the confidence intervals are the same as for the percentage minus 50, i.e. the interval for 80 percent is the same as for 30 percent. As can be seen, estimates close to 0 or 100 percent are the safest ones.

<u>Answer:</u>	<u>Percentage of mothers:</u>
1.1. Ability to read and write.	
Yes	6
No	93
Read only	<u>1</u>
	100

## 1.2. Monthly household income.

Less than Eth. \$ 60	51
More than Eth. \$ 60	24
Don't know	22
No statement	<u>3</u>
	100

## 1.3. "Which children below 15 years of age do you have staying with you? Start with the youngest".

The 100 interviewed mothers had together 268 children below 15 years of age. The number of children per mother was distributed as follows:

No. of children	Percentage of mothers having that no. of children
1	31
2	18
3	18
4	24
5	5
6	3
7	0
8	<u>1</u>
	100

By age groups, this gave the following distribution:

Age of child	No of children in age group	Percentage of children in age group
0-11 months	27	10
12-23 "	34	13
2-4 years	84	31
5-9 "	94	35
10-14 "	<u>29</u>	<u>11</u>
	268	100



<u>Answer:</u>	<u>Percentage of mothers:</u>
2.1. "What do you think is better when you are ill, injections or tablets, or does it depend on the disease?"	
Injections	39
Tablets	8
Depends on the disease	11
Don't know	40
No statement	<u>2</u>
	100
Mean score 5.4.	

3.1. "I am going to mention some diseases to you. What do you think causes them and what could you do to prevent these diseases?"

Only the part of the question dealing with prevention was used for evaluation purposes.

3.11. Diarrhoea in children:

Visit clinic	9
Cleanliness	5
Injection	7
Massage	3
Local medicine	3
Teeth extraction	5
Take to wogesha (medicine-man)	3
Other methods	3
No statement	<u>62</u>
	100
Mean score 2.1.	

3.12. Scabies (all ages):

Visit clinic	5
Cleanliness	37
Holy water	3
Injection	6
Other methods	1
No statement	<u>48</u>
	100
Mean score 4.4.	

Answer:Percentage of  
mothers:

## 3.13. Tuberculosis (all ages):

Keep warm	2
Other methods	2
No statement	<u>96</u>
	100

Mean score 1.1.

## 3.14. Tape worm (all ages):

Visit clinic	2
Cook the meat	23
Local medicine	25
Other methods	3
No statement	<u>47</u>
	100

Mean score 3.7.

## 3.15 Round worm (all ages):

Visit clinic	10
Holy water	3
Cook the meat	2
Boil the water	2
Injection	2
Local medicine	12
Other methods	4
No statement	<u>65</u>
	100

Mean score 2.1.

Grand mean 2.7.

## 4.1. "How often do you and your youngest child

a) "wash your whole body"

b) "wash your hands"?

	Respondent whole body	Respondent hands	Child whole body	Child hands
Several times a day	0	98	60	78
Once a day	6	2	24	18
Once a week	36	0	13	1
Once a month	28	0	0	0
Less often	30	0	2	3
No statement	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
	100	100	100	100

Mean score

3.7

8.9

8.1

8.0

Grand mean 7.2.

Answer:Percentage of  
mothers

4.2. "Do you use soap for washing yourself and your children, and if so, how often?"

	Respondent	Child
Never	3	5
Sometimes	51	52
Almost always	44	42
No statement	$\frac{2}{100}$	$\frac{1}{100}$
Mean score	6.2	5.2
Grand mean	5.7.	

5.1. "What food do you think is good and what do you think is bad during the pregnancy period?"

	Meat	Eggs	Cow milk	Goat milk	Vegetables
Good	87	70	80	0	95
Bad	13	27	15	2	5
Neither good nor bad	0	3	5	41	0
Don't know	$\frac{0}{100}$	$\frac{0}{100}$	$\frac{0}{100}$	$\frac{57}{100}$	$\frac{0}{100}$
Mean score	8.0	6.7	7.5	3.4	8.6
Grand mean	6.8.				

5.2. "Have you ever been pregnant during the long fasting period?"

Yes	81
No	15
No statement	$\frac{4}{100}$

IF YES:

"The last time this happened, how often did you eat the following items?"

	Meat	Eggs	Milk or butter
Never	100	100	100
As on non-fasting days	0	0	0
Less often than on non-fasting days	$\frac{0}{100}$	$\frac{0}{100}$	$\frac{0}{100}$
Mean score	1.0	1.0	1.5
Grand mean	1.2.		

Answer:Percentage of  
mothers.

5.3. (This question was given to all the 100 mothers). "When other women are pregnant during the long fasting period, how often do you think they eat this food"?

	Meat	Eggs	Milk or butter
Never	96	96	96
As on non-fasting days	0	0	0
Less often than on non-fasting days	0	0	0
No statement	<u>4</u>	<u>4</u>	<u>4</u>
	100	100	100

A comparison between questions 5.2 and 5.3 does not support any suspicion about low validity for the answers to 5.2.

6.1. "How long did you breastfeed your last weaned child"?<sup>1)</sup>

Less than 3 months	0
3-6 months	21
6-12 months	19
13-18 months	15
19-24 months	19
25-30 months	10
31-36 months	<u>16</u>
	100

Mean score 3.6.

6.2. "Did you give that child anything more than breastmilk while you were still breastfeeding it"?

No	16
Yes	83
No statement	<u>1</u>
	100

The "yes"-answers were distributed as follows:

1) Because of a mistake of the interviewer, questions 6.1 and 6.3 were rephrased so as only to include the last child (whether weaned or not). Thus, if the last child was not yet weaned at the time of the interview, there was no answer to these questions. The percentages are, therefore, based on a number of 48 children only. Because of the smaller sample size, the confidence intervals given earlier increase by 91 percent, i.e. they are practically doubled.

	Milk (com- mercial & cow's)	Injera, bread	Injera & wat	Gruel	Porridge	Abish + butter	Others
From Months:							
0-2	31	0	0	2	0	10	0
3-5	9	0	0	1	0	1	1
6-11	11	5	0	3	3	0	2
12 and later	8	10	6	3	1	5	3

Mean score 5.5.

6.3. "What did you give that child when you had no more breastmilk and from what age did you give it"?<sup>1)</sup>

From months:	Cow milk	Injera, bread	Injera & wat	Porridge	Others
0-2	8	0	1	0	6
3-5	10	0	0	0	2
6-11	2	0	0	0	0
12 and later	25	48	52	17	31

Mean score 8.4.

6.4. "When do you think it is good to start giving the following food items to your child"?

From months:	Eggs	Meat	Fruit or berries	Cooked vege- tables	Fresh vege- tables
0-2	0	0	0	0	0
3-5	0	0	2	1	0
6-11	12	2	15	11	4
12 and later	77	94	50	83	42
No statement	11	4	33	5	54

Mean score 7.9.

<sup>1)</sup> See foot-note on the preceding page.

Answer:Percentage of  
mothers

6.5. "Do you give your children below 5 years of age the following food items when you are fasting yourself"?

Kind of food	Milk	Eggs	Butter	Meat
Never	27	71	73	88
As on non-fasting days	70	25	24	8
Less often than on non-fasting days	2	1	1	1
No statement	<u>1</u>	<u>3</u>	<u>2</u>	<u>3</u>
	100	100	100	100
Mean score	6.7	3.1	2.8	1.7

Grand mean 3.6.

7.1. "Do you boil your drinking water, and if so, how often"?

Never	83
Sometimes	5
Almost always	11
No statement	<u>1</u>
	100

Mean score 1.9

7.2. "How do you clean the baby's bottle or cup, and how often"?

	By hand only	With cold water	With hot water	With water and soap	Boil it in water
Sometimes	16	36	6	16	11
Every day	2	4	82	33	15
After meals	<u>0</u>	<u>0</u>	<u>9</u>	<u>16</u>	<u>1</u>
	18	40	97	65	27

These percentages are based on a total of 81 mothers, who all feed by bottle (nobody by cup). The remaining 19 mothers by hand only. Some mothers use more than one feeding method. The smaller sample size in this question slightly increases the confidence intervals earlier given, viz. by one percentage unit each.

Mean score 3.7.

8.1. "Did you (or somebody else) cover the end of the umbilicus at your last delivery"?

No	29
Yes, with a piece of textile	57
Yes, with butter	11
Yes, with ashes	0
No statement	<u>3</u>
	100

Mean score 5.4.

Answer:Percentage of mothers:

8.2. "Did you (or somebody else) put butter in the baby's mouth at your last delivery"?

Yes	82
No	13
No statement	<u>5</u>
	100

Mean score 2.1.

9.1. "How many of your children below 15 years have had the uvula cut"?

9.2. "How many of your children below 15 years have had teeth extraction made"?

9.3. "How many of your girls below 15 years have been circumcised"?

The percentage of the mothers having different percentages of their children (for question 9.3. only of their girls) operated on are given below.

% of children (9.3: % of girls)	uvula cut	teeth extraction	circumcision of girls
0	71	77	57
1-25	4	6	1
26-50	8	4	4
51-75	5	3	0
76-100	12	10	34
No statement	<u>0</u>	<u>0</u>	<u>4</u>
	100	100	100

Mean score 4.4.

9.4. " Is the sun good or bad for your children"?

Good	41
Bad	52
Neither good nor bad	0
Don't know	0
No statement	<u>7</u>
	100

Mean score 4.5.

10.1. "Do you know of any disease that you can protect yourself and your children from by vaccination"?

Smallpox	83
Tuberculosis	4
Typhus	2
Others, relevant (i.e. that can be vaccinated against)	3
Others irrelevant	0
Don't know of any vaccination	<u>17</u>
	109

Mean score 7.7

<u>Answer:</u>	<u>Percentage of mothers:</u>
11.1. "Have you heard of any way to avoid having children too often"?	
No	76
Yes, interruption	0
Yes, no sexual contact	2
Others, relevant	14
Others, irrelevant	6
Yes, but no statement as to method	<u>4</u>
	102
Mean score 2.3.	
11.2. "Do you think your husband would like to try to avoid having children too often"?	
Yes, I am sure	0
Yes, maybe	0
No, I don't think so	0
Absolutely not	84
Don't know	6
No statement	1
No husband	<u>9</u>
	100
Mean score 1.3.	
11.3. "Would you yourself like to try to avoid having children too often"?	
Yes, very interested	3
Yes, maybe	1
No, I don't think so	0
Absolutely not	95
Don't know	<u>1</u>
	100
Mean score 1.3.	

The grand mean of the whole questionnaire, calculated in this way, is 4.4., i.e. the same as the mean of the respondents' individual scores.



## 6. THE SANITARY SURVEY.

### 6:1 Research Design.

The purpose of the sanitary study, as indicated in section 1:2, was dual: to provide before-data for the evaluation of certain of the activities of the CADU Health Clinic in Sagure, and to yield a basis for planning of these activities. The field of interest can be roughly described as housing and sanitary conditions of the entire Sagure population. Since the study is only indirectly related to the health education programme, and therefore will not be part of the evaluation of that programme, it will only be briefly reported here.

The study was made as a combined interview and observational study, some of the items in the questionnaire being planned for interviews only, and some for observations only. It was made by the Public Health Sanitarian of the CADU Health Clinic in Sagure. Like the interviewer in the health education study, he was a newcomer to town and did not have any relationship to the respondents that might have endangered the validity of the data obtained. He had extensive training and experience of such work from earlier employments in other parts of Ethiopia, where he had used virtually the same questionnaire.

For economic reasons, a sample survey was made. The population was defined as all households in Sagure (there were 457). On the basis of experience from other parts of the country, the habits to be investigated could be assumed to be even more uniform than those of the other study. Thus, the advance variance estimate was based on the assumption of  $p = 0.95$ . The desired precision was the same as in the health education study, a 95-percent confidence interval of not more than 5 percentage units around the estimated proportions. This gave a sample size of 65. The population census undertaken by CADU in February 1968 provided a sampling frame, from which a simple random sample was taken. There were no reasons for using any other sampling procedure.

The field work was carried out in August 1968. The general experience was the same as that of the other study: on an average good co-operation from respondents and no refusals. The questionnaire and the instruction to the interviewer can be found as Appendices 6 and 7 respectively. The latter deals at some length with the sampling procedure, since it for practical reasons had to be carried out partly at the interviewer's office. The questionnaire was translated into Amharic and Gallinya directly from the English version.

The emphasis on observational controls of many of the questions supports the view that the validity risk is a minor one. The simplicity of the questionnaire does not give rise to any substantial reliability doubts either. The only bias likely to have been introduced is a negligible one: underrepresentation of people who have moved into houses built after the last CADU population census in February 1968 (see interviewer instruction, point 8).

### 6:2 Results.

95-percent confidence intervals for each 5th percentage can be found below:

Percentage of the sample:	95-percent confidence interval (= error margin), percentage units
5	$\pm 5$
10	$\pm 7$
15	$\pm 8$
20	$\pm 9$
25	$\pm 10$
30	$\pm 10$
35-50	$\pm 11$

As can be seen, the precision of the method of estimation is only within the desired limits for the smallest percentages. This is in accordance with the assumption about the expected degree of conformity made when the study was planned.

Below, the percentage distributions are given for each of the questions in the questionnaire.

Answer:

Percentage of  
the households:

2.1. "Is the house owned or rented by you"?

Owned	43
Rented	57
Other	0
	<u>100</u>

2.2. "How many rooms do you have"?

A room was defined as a space delimited by a wall. A room divided by e.g. a curtain or furniture was considered only one room.

1 room	14
2 rooms	72
3 rooms	9
4 rooms	3
5 rooms	0
6 rooms	2
	<u>100</u>

2.3. "How many people sleep in each room"?

The answers to this question are reported "per room", i.e. the percentages of the households having different numbers of people sleeping in each room are based on the total number of households using that room as a sleeping room. Thus, the table below should be read for instance: "Out of the total number of households using room nr 2 as a sleeping room, 35 percent have 2 persons sleeping there".

Answer:Percentage of the households:

No of people per room	Room 1	Room 2	Room 3	Room 4
1	22	26	50	0
2	37	35	50	50
3	11	19	0	0
4	15	10	0	50
5	2	10	0	0
6	6	0	0	0
7	5	0	0	0
8	2	0	0	0
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

## 2.4. "How many beds do you have"?

0 beds	2
1 bed	58
2 beds	30
3 beds	6
4 beds	2
5 beds	<u>2</u>
	<u>100</u>

## 2.5. "How many are sleeping in each bed"?

The answers to this question are reported analogously to those of question 2.2.

No. of people per bed	Bed 1	Bed 2	Bed 3	Bed 4
1	22	31	25	100
2	68	59	75	0
3	<u>10</u>	<u>10</u>	<u>0</u>	<u>0</u>
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

## 2.6. "Where do the others sleep"?

On "chika" (clay) bench	3
On the floor	28
On wooden bench	<u>3</u>
	<u>34</u>

Total percentage of the households using other sleeping facilities besides beds (mostly for servants and children).

<u>Answer:</u>	<u>Percentage of the households:</u>
2.7. "Do any animals stay in the same room as the family members"?	
No animals	83
Cattle	2
Sheep	5
Goats	1
Other animals (mostly poultry and cats)	<u>9</u> 100
2.8. "Do you have any separate kitchen"? By "separate kitchen" is meant a separate house and not a separate space within the main building, set aside for kitchen use.	
Yes	52
No	<u>48</u> 100
2.9. "How do you keep your house warm"?	
Charcoal stove	11
Fire place	<u>89</u> 100
2.10. "What kind of roof do you have"?	
Corrugated iron	92
Thatched roof (grass)	<u>8</u> 100
2.11. "Do you have whitewash on the walls"?	
Whitewash	31
Plain chika	<u>69</u> 100
2.12. "What kind of floor do you have"?	
Chika	98
Others	<u>2</u> 100
3.1. "From where do you get your water"?	
a) "During rainy season"?	
Aleltu river	63
Rain water	32
Others	<u>5</u> 100

Answer:Percentage of the  
households:

b) "During dry season"?

Aleltu river	<u>100</u> 100
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The Aleltu river is 1 km away from the town. During the dry season it is almost dry and carries only water full of silt.

3.2. "How much water do you use in your household a day"?

1-20 litres	2
21-40 litres	40
41-60 litres	35
61-80 litres	<u>23</u> 100

3.3. "Do you boil your drinking water"?

Never	97
Sometimes	3
Almost always	<u>0</u> 100

3.4. "Do you think one should boil the drinking water"?

Yes	11
No	2
Don't know	<u>87</u> 100

3.5. "Do you use any other way to get the water clean and safe for you and your children"?

Yes	0
No	<u>100</u> 100

3.6. "Do you have a special pit latrine"?

Yes	2
No	95
No statement	<u>3</u> 100

IF NO: "Do you and your children use a special spot for your toilet needs or do you use any place you like"?

	Defecation		Urination	
	adults	children	adults	children
Certain spot	5	5	5	0
Anywhere	94	94	94	69
No statement	<u>1</u>	<u>1</u>	<u>1</u>	<u>31</u>
	100	100	100	100

<u>Answer:</u>	<u>Percentage of the households:</u>	
3.7. "Do you think a special pit latrine is good or bad"?		
Good		100
Bad		<u>0</u>
		100
IF GOOD: "Why is it good"?		
To have clean compound		25
Avoid bad smelling		20
Healthy		20
Avoid bad smelling and diseases		9
No nuisance		5
Privacy		9
Privacy and avoid smelling		3
Other motives (mostly combinations of the above), given by one respondent each		7
Don't know		<u>2</u>
		100
3.8. "Would you like to have a special pit latrine"?		
Yes		98
No		0
No statement		<u>2</u>
		100
IF YES: "Where would you like to have it"?		
In the compound		<u>100</u>
		100
3.9. "What do you do with your garbage (food waste)"?		
3.10. "What do you do with your refuse (other waste)"?		
	Garbage	Refuse
Throw it anywhere	66	59
Throw it in the field or in the streets	32	41
Throw it in the compound	<u>2</u>	<u>0</u>
	100	100

## 7. SUMMARY.

The health education programme in Sagure is one of the CADU project activities that are going to be evaluated by means of separate studies carried out by the CADU Planning and Evaluation Section. This is a report on the before-measurement for that evaluation. The results of this study will be compared to the results of one or several after-measurements, carried out whenever an assessment of the effects of the health education programme is desired.

Three different studies have been carried out:

1. A descriptive study on knowledge and behaviour in the field of mother and child hygiene and health. This study was made as a sample survey on mothers of children not older than 5 years. It is the main study of those described in this report.
2. An exploratory study in the same field, using part of the sample and aiming at providing basic information for the planning of the health education programme. This study is only briefly commented upon in the report.
3. A study on housing and sanitary conditions, carried out as a survey of a sample of all households in Sagure. This study is not part of the evaluation of the health education programme and is, therefore, only shortly summarized in the report.

Study no. 1 was carried out in the following main steps:

1. A set of questions was given to a simple random sample of 100 mothers in Sagure.
2. The answers obtained were submitted to a group of 12 doctors at a children's hospital. The task given to the doctors was to judge each answer on a scale from 1 to 9, with 9 indicating practices or knowledge very conducive to good health and 1 the opposite. The median of the scores assigned by the judges were then given to the respective answers as scale values. This procedure was expected to yield a so called interval scale, which is necessary if more advanced statistical techniques are to be used on the scale values.
3. The answers given by the mothers were scored with the scale values obtained in step 2. The mean score of each mother was calculated. The mean and standard deviation for the whole sample was then computed. They were found to be 4.4 and 0.68 respectively. The former figure indicates an average level of knowledge and practice in the field of mother and child hygiene and health that is more harmful than healthy. The latter figure indicates a low degree of variation among respondents as far as this level is concerned.
4. For each of the questions in the questionnaire, the percentage distribution of the answers, 95-percent confidence intervals for the estimates and the mean scale value obtained by all respondents were calculated.

The reliability risks of study no. 1 are estimated to be minor. The main validity problem is that of respondents giving answers which they think the interviewer wants to hear. Due to the small influence in Sagure of modern ideas in the field of medicine and hygiene, this risk is likely to be of minor importance.

Study no. 2 was made as an interview study on 20 of the mothers in the sample drawn for study no. 1. The results were only of interest for the planning of the health education programme. They are, therefore, not reproduced in this report.

Study no. 3 was a sample survey using a combined technique of interviews and observations. Because of the high degree of uniformity to be expected, only 65 households had to be sampled to obtain the desired precision. The percentage distributions and confidence intervals were calculated as in study no. 1. The average level of sanitary conditions was found to be very low.



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CHILALO AGRICULTURAL DEVELOPMENT UNIT  
Planning and Evaluation Section

STUDY OF MOTHERS IN SAGURE  
Questionnaire A.

Interviewer: .....

Date of Interview:.....

1.0 PERSONAL DATA

1.1 Name of respondent: ..... Address:.....  
Age: ..... Civil status:..... Religion:.....  
..... Ability to read and write: YES  NO   
READ ONLY

Occupation: .....

1.2 Name of head of household:.....  
Relationship to respondent: ..... Occupation:.....  
Monthly income: Less than Eth. \$ 60.  More than Eth. \$ 60.

1.3 "Which children below 15 years of age do you have staying with you? Start with the youngest"

"Name of Child"	"Sex"	"Age"	REMARKS

2.0 MEDICAL TREATMENT

2.1 "What do you think is better when you are ill, injections or tablets, or does it depend on the disease?"

INJECTIONS  TABLETS  DEPENDS ON THE DISEASE   
 INDIFFERENT / DON'T KNOW

3.0 CAUSES OF DISEASES AND MEANS TO PREVENT THEM

3.1 " I am going to mention some diseases to you. What do you think causes them and what could you do to prevent these diseases?"

NAME OF THE DISEASE	CAUSE	MEANS OF PREVENTING IT
"Diarrhoea in children"		
"Scabies in all ages"		
"Tuberculosis all ages"		
"Tape worm all ages"		
"Round worm all ages"		

4.0 PERSONAL HYGIENE

"How often do you and your youngest child":

	SEVERAL TIMES A DAY		ONCE A DAY		ONCE A WEEK		ONCE A MONTH		LESS OFTEN	
	R	CH	R	CH	R	CH	R	CH	R	CH
"Wash your whole body?"										
"Wash your hands?"										

( NOTE: R= RESPONDENT, CH = YOUNGEST CHILD)

4.2 "Do you use soap for washing yourself and your children, and if so how often?"

"For washing yourself?" NEVER  SOMETIMES   
ALMOST ALWAYS

"For washing your children below 5 years of age?"  
NEVER  SOMETIMES  ALMOST ALWAYS

5.0 DIET DURING PREGNANCY

5.1 "What food do you think is good and what do you think is bad during pregnancy period?"

KIND OF FOOD	GOOD	BAD	NEITHER GOOD NOR BAD	DON'T KNOW
"Meat"				
"Eggs"				
"Cow milk"				
"Goat milk"				
"Vegetables"				

QUESTIONS 5.2 AND 5.3 ONLY TO ORTHODOX CHRISTIANS.

5.2 "Have you ever been pregnant during the long fasting period?"

YES  NO

IF YES, "The last time this happened, how often did you eat the following food items?"

FOOD ITEM	"Never"	"As on non-fasting days"	"Less often than on non-fasting days"
"Meat"			
"Eggs"			
"Milk or butter"			

5.3 "When other women are pregnant during the long fasting period, how often do you think they eat this food?"

FOOD ITEM	"Never"	"As on non-fasting days"	"Less often than on non-fasting days"
"Meat"			
"Eggs"			
"Milk or butter"			

6.0 CHILDREN'S DIET

6.1 "How long did you breastfeed your last weaned child?"  
 ..... MONTHS.

QUESTIONS 6.2 AND 6.3: BE SURE YOU MAKE THE MOTHER MENTION ALL KINDS OF FOOD GIVEN TO THE CHILD BEFORE IT WAS 2 YEARS OLD.

6.2 "Did you give that child anything more than breastmilk while you were still breastfeeding it?" YES  NO   
 IF YES: "What and from what age?" WHAT .....  
 FROM ..... MONTHS

6.3 "What did you give that child when you had no more breastmilk and from what age did you give it?"  
 WHAT: ..... FROM: ..... MONTHS.  
 -"- ..... -"- ..... -"-  
 -"- ..... -"- ..... -"-

6.4 "When do you think it is good to start giving the following food items to your child?"  
 "Eggs" AT THE AGE OF:..... MONTHS  
 "Meat" -"- ..... -"-  
 "Fruit or berries" -"- ..... -"-  
 "Cooked vegetables" -"- ..... -"-  
 "Fresh vegetables" -"- ..... -"-

6.5 "Do you give your children below 5 years of age the following food items when you are fasting yourself?"

KIND OF FOOD	"Never"	"As on non-fasting days"	"Less often than on non-fasting days"
"Milk"			
"Eggs"			
"Butter"			
"Meat"			

7.0 FOOD HYGIENE

7.1 "Do you boil your drinking water, and if so, how often?"

NEVER  SOMETIMES  ALMOST ALWAYS

REMARKS: .....

7.2 "How do you clean the baby's bottle or cup, and how often?"

METHOD USED	NEVER	SOME TIMES	EVERY DAY	AFTER MEALS	REMARKS
"By your hand only"					
"With cold water"					
"With hot water"					
"With water and soap"					
"Boil it in water"					
"How else?"					

8.0 DELIVERY

8.1 "Did you (or somebody else) cover the end of the umbilicus at your last delivery?" YES  NO

IF YES, "with what?": "A piece of textile"  "Butter"

"Ashes"  "Anythingelse (What)?"  .....

8.2 "Did you (or somebody else) put butter in the baby's mouth at your last delivery?" YES  NO   
IF YES, "Why?" .....

9.0 GENERAL (Practice and mal-practice)

9.1 "How many of your children below 15 yrs have had the uvula cut?" .....

9.2 "How many of your children below 15 yrs have had teeth extraction made?" .....

9.3 "How many of your girls below 15 yrs have been circumcised?" .....

9.4 "Is the sun good or bad for your children?"  
GOOD  BAD  NEITHER GOOD NOR BAD  DON'T KNOW

10.0 VACCINATIONS

10.1 "Do you know of any diseases that you can protect yourself and your children from by vaccination?"  
SMALLPOX  TUBERCULOSIS  TYPHUS   
OTHER (WHICH)  .....

11.0 FAMILY PLANNING (MARRIED WOMEN ONLY)

11.1 "Have you heard of any way to avoid having children too often?"  
..... IF YES, "which?"  
NO SEXUAL CONTACT  INTERRUPTION  OTHER   
"Have you tried it yourself?" .....

IF NO METHOD HAS BEEN TRIED,

11.2 "Do you think your husband would like to try to avoid having children too often?"  
YES, I AM SURE  YES, MAYBE  NO, I DON'T THINK SO   
ABSOLUTELY NOT  DON'T KNOW   
REMARKS: .....

11.3 "Would you yourself like to try to avoid having children too often?"  
YES, VERY INTERESTED  YES, MAYBE   
NO, I DON'T THINK SO  ABSOLUTELY NOT  DON'T KNOW   
REMARKS : .....

CHILALO AGRICULTURAL DEVELOPMENT UNIT  
 Planning and Evaluation Section

STUDY OF MOTHERS IN SAGURE  
 Questionnaire B.

Interviewer:.....  
 Date of Interview: .....

1.0 PERSONAL DATA

1.1. Name of respondent: ..... Address .....

Age: ..... Civil status:..... Religion:.....

..... Ability to read and write: YES  NO

READ ONLY

Occupation:.....

1.2 Name of head of household: .....

Relationship to respondent: ..... Occupation:.....

Monthly income: Less than Eth. \$ 60.  More than Eth. \$ 60.

1.3 "Which children below 15 years of age do you have staying with you? Start with the youngest"

"Name of child"	"Sex"	"Age"	REMARKS



1.4 "Are you pregnant now?" YES  NO  IF YES, "When did you have your last menstruation?" .....

2.0 MEDICAL TREATMENT

2.2 "Has any of your children below 15 years of age been a patient at Sagure clinic?" .....

2.3 IF YES ON QUESTION 2.2

"Tell about the last visit you did for your own sake or for any of your children below 15 years of age": (NOT FOR VACCINATION)

"Who was sick?" ..... "which disease?" .....

"Which treatment was given?"

"Medicine  "Injections"  "Dressing"

"Advice (What)?" .....

"Did the treatment help?" .....

2.1 "What do you think is better when you are ill, injections or tablets, or does it depend on the disease?"

INJECTIONS  TABLETS  DEPENDS ON THE DISEASE

INDIFFERENT / DON'T KNOW

2.4 IF INJECTIONS OR TABLETS,

"Why?" .....

3.0 CAUSE OF DISEASES, MEANS TO PREVENT AND TREAT THEM

3.1 " I am going to mention some diseases to you. What do you think can cause them and what could you do to prevent these diseases?"

NAME OF THE DISEASE	CAUSE	MEANS OF PREVENTING IT
"Diarrhoea in children"		
"Scabies all ages"		
"Tuberculosis, all ages"		
"Tape-worm, all ages"		
"Round worm, all ages"		

TREATMENT OF DISEASES

3.2 "What do you do when your children have any of the following diseases?"

TREATMENT	"Diarrhoea"	"Fever"	"Worms"
"Give medicine" IF YES, "which?"			
"Give special food" IF YES, "which?"			
"Any thing else?" SPECIFY			

4.0 PERSONAL HYGIENE

4.1 "How often do you and your youngest child":

	SEVERAL TIMES A DAY		ONCE A DAY		ONCE A WEEK		ONCE A MONTH		LESS OFTEN	
	R	CH	R	CH	R	CH	R	CH	R	CH
"Wash your whole body?"										
"Wash your hands?"										

(NOTE: R = RESPONDENT, CH = YOUNGEST CHILD)

4.2 "Do you use soap for washing yourself and your children, and if so, how often?"

"For washing yourself?" NEVER  SOMETIMES   
ALMOST ALWAYS

"For washing your children below 5 years of age?"  
NEVER  SOMETIMES  ALMOST ALWAYS

5.0B FOOD AND NUTRITION

5.1B DIET OF RESPONDENT

5.1.1B "How often do you eat the following food items?"

KIND OF FOOD	ALMOST EVERY DAY	AT LEAST ONCE A WEEK	AT LEAST ONCE MONTH	LESS OFTEN
"Meat"				
"Eggs"				
"Onions, garlic"				
"Potatoes"				
"Kale"				
"Beans, peas, lentils, chick peas"				
"Other vegetables?" SPECIFY:				

5.0 DIET DURING PREGNANCY

5.1 "What food do you think is good and what do you think is bad during the pregnancy period?"

KIND OF FOOD	GOOD	BAD	NEITHER GOOD NOR BAD	DON'T KNOW
"Meat"				
"Eggs"				
"Cow milk"				
"Goat milk"				
"Vegetables"				

5.4 "Do you eat more of any particular food when you are pregnant?"

.....  
IF YES, "What?" .....

QUESTIONS 5.2 — 5.3 ONLY FOR ORTHODOX CHRISTIANS.

5.2 "Have you ever been pregnant during the long fasting period?"

YES  NO

IF YES, "The last time this happened, how often did you eat the following food items?"

FOOD ITEM	"Never"	"As on non-fasting days"	"Less often than on non-fasting days"
"Meat"			
"Eggs"			
"Milk or butter"			

5.3 "When other women are pregnant during the long fasting period, how often do you think they eat this food?"

FOOD ITEM	"Never"	"As on non-fasting days"	"Less often than on non-fasting days"
"Meat"			
"Eggs"			
"Milk or butter"			

6.0 CHILDREN'S DIET

6.1 "How long did you breastfeed your last weaned child?".....  
 ..... MONTHS.

QUESTIONS 6.2 AND 6.3: BE SURE YOU MAKE THE MOTHER MENTION ALL KINDS OF FOOD GIVEN TO THE CHILD BEFORE IT WAS 2 YEARS OLD.

6.2 "Did you give that child anything more than breastmilk while you were still breastfeeding it?" YES  NO

IF YES, "What and from what age?" WHAT: .....  
 FROM: .....MONTHS.

6.3 "What did you give that child when you had no more breastmilk and from what age did you give it?"

WHAT: ..... FROM: ..... MONTHS.  
 -"- ..... -"- ..... -"-  
 -"- ..... -"- ..... -"-

7.0 FOOD HYGIENE

7.1 "Do you boil your drinking water, and if so, how often?"

NEVER  SOMETIMES  ALMOST ALWAYS

REMARKS: .....

7.3. "How do you prevent the following food from getting spoiled?"

KIND OF FOOD	COVER IT	COOL PLACE	DRY IT	OTHER WAY, SPECIFY
"Meat"				
"Milk"				
"Eggs"				
"Vegetables"				
"Injera"				
"Bread"				

7.4 "Do you sometimes try to protect your food from flies?"

YES  NO

IF YES, "Why?" .....

7.5 "How do you give milk to your baby before he/she can drink it himself/herself?"

"By bottle?" YES  NO

"By your hand only?" -"-  -"-

"By cup & spoon?" -"-  -"-

"By anything else?" -"-  -"-

7.6 "Do you boil the milk before giving it to your children below 5 years of age?"

	NEVER	SOMETIMES	ALMOST ALWAYS	REMARKS
"When he/she is infant (before walking)?"				
"After walking?"				

7.2 "How do you clean the baby's bottle or cup, and how often?"

METHOD USED	NEVER	SOME TIMES	EVERY DAY	AFTER MEALS	REMARKS
"By your hand only"					
"With cold water"					
"With hot water"					
"With water and soap"					
"Boil it in water"					
"How else?"					

8.0 DELIVERY

8.3 "Who assisted at your last delivery?" .....

8.44 "Who else was present at your last delivery?" .....

8.5 "By what was the umbilical chord cut off?" .....

8.6 "Was the tool prepared in any way before the cutting?" YES   
NO

IF YES, "How?" .....

8.7 "Was the end of the umbilical chord tied after being cut off?"  
.....

8.1 "Did you (or somebody else) cover the end of the umbilicus at your last delivery?" YES  NO

IF YES, "with what?" "A piece of textile?"  "Butter"   
"Ashes"  "Anything else (what)?"  .....

8.8 "Did you (or somebody else) put butter on the baby's head?"  
YES  NO

IF YES, "why?" .....

8.2 "Did you (or somebody else) put butter in the baby's mouth at your last delivery?" YES  NO

IF YES, "Why?" .....

8.9 "How did you get out the placenta?": "By massageing the stomach"   
 "or by some other way (how)?"  .....

8.10 "How long did you stay in-side the house after the delivery?" ...  
..... DAYS.

"Why for that length of time?" .....

8.11 "When did you start to breastfeed the baby?" AFTER ..... HOURS.

8.12 "When was the baby first taken outside the house?" AFTER .....  
DAYS.

"Why at that time?" .....

9.0 GENERAL (Practice and mal-practice)

9.1 "How many of your children below 15 yrs have had the uvula cut?" .....

9.5 IF ANY, "tell about the last time this happened": (PROCEED TO 9.8 AND ASK ABOUT THE DETAILS).

9.2 "How many of your children below 15 yrs have had teeth extraction made?" .....

9.6 IF ANY, "tell about the last time this happened": (PROCEED TO 9.8 AND ASK ABOUT THE DETAILS).

9.3 "How many of your girls below 15 yrs have been circumcised?" .....

9.7 IF ANY. "tell about the last time it was made"  
"and tell me also about the last time it was made on a son":  
(PROCEED TO 9.8 AND ASK ABOUT THE DETAILS).

9.8

	UVULA CUT	TEETH EXTR.	CIRCUMCISION	
			SON	DAUGHTER
"Which child, sex?" "age now?"				
"At what age did it happen?"				
"Who decided about it?"				
"Who made it?"				
"What was the reason for making it?"				

9.9 "From which age do you let your children have sunshine on their bodies?" AT THE AGE OF ..... MONTHS/YEARS.

9.10 "On sunny days, do you let your children below 5 yrs. stay out in sunshine?"

"Often?"  "Sometimes?"  "or rarely?"

9.4 "Is the sun good or bad for your children?"

GOOD .  BAD  NEITHER GOOD NOR BAD  DON'T KNOW

9.14 IF GOOD OR BAD,

"Why is it good/bad?" .....

9.11 "Do you protect your children against the Evil Eye?" YES

NO

IF YES, "How?" .....

IF NO, "Why not?" .....

- 9.12 "What is the Evil Eye doing?" .....
- 9.13 "Do your children below 15 yrs. eat separated from the adults or together with them? Tell which children who eat together with the adults, who eat before and who eat after the adults."  
 TOGETHER WITH ADULTS: .....  
 BEFORE ADULTS: .....  
 AFTER ADULTS:.....  
 REMARKS:.....

10.0 VACCINATION

- 10.1 "Do you know of any diseases that you can protect yourself and your children from by vaccination?"  
 SMALLPOX  TUBERCULOSIS  TYPHUS   
 OTHER (WHICH)  .....
- 10.2 "have you had any vaccinations yourself?" .....
- IF YES, "which kind?"  
 SMALLPOX  BCG (tuberculosis)  TYPHUS   
 OTHER  ..... UNKNOWN   
 IF SMALLPOX IS NOT MENTIONED,  
 "what is the reason for not having had smallpox?" .....

11.0 FAMILY PLANNING (MARRIED WOMEN ONLY)

- 11.4 "Do you want to have more children of your own?"  
 YES  NO  DON'T KNOW  IF GOD WILL
- 11.5 "What is the best number of children for you?" .....
- "How many sons?" ..... "How many daughters?" .....
- 11.6 "How long time should it be between the children?" .....
- ..... YEARS.
- 11.1 "Have you heard of any way to avoid having children too often?"  
 ..... IF YES, "Which?"  
 NO SEXUAL CONTACT  INTERRUPTION  OTHER   
 "Have you tried it yourself?" .....
- 11.7 IF SOME METHOD HAS BEEN TRIED BY THE RESPONDENT,  
 "Would you like to try another way to avoid having children too often?"  
 YES, VERY INTERESTED  YES, MAYBE  NO, I DON'T THINK SO   
 ABSOLUTELY NOT  DON'T KNOW   
 REMARKS:.....



CHILALO AGRICULTURAL DEVELOPMENT UNIT  
Planning and Evaluation Section

STUDY OF MOTHERS IN SAGURE

Instruction for the Interviewer

1. There are two different questionnaires, called A and B respectively. A is an extract from B which has been made because not all the questions of B have to be asked so many times as those of A. You should make 80 interviews with A and 20 with B. From the pilot study already made, the interviewing time of the two questionnaires can be estimated at 30 minutes for A and 60 for B.
2. The households that you should interview have an "s" written with a pencil at the right side of the census lists. They are a sample of all the households with children under 5 years. By using statistical techniques, it will be possible to draw conclusions about all the households without making more than 100 interviews (A + B together). For statistical reasons, however, it is very important that you follow this instruction and the instructions on the questionnaires very carefully. If you have a problem, ask nurse Gunborg or me (telephone Addis Ababa 486 49). If there is nobody to ask, try to solve the problem yourself and make notes of exactly what you did. You may interview the households of the sample in any order you find suitable.
3. Sometimes you will have difficulties in finding the households that you should interview. They may have moved to another house, moved out of Sagure or for other reasons be hard to find. When this happens, you should try to find them if they still live in Sagure. For statistical reasons, you cannot interview the people that have moved into their house instead. If they have moved from Sagure, just make a note of this on their questionnaire.
4. Even if you try hard, there will always be some households that you cannot find. There may also be refusals to answer your questions or other reasons why you cannot make all the 100 interviews of the sample. For every household that you for some reason cannot interview, take a new one from the attached list of reserve households. The numbers of the list refer to the household numbers at the right side of the census lists. When you use the reserve list, it is very important that you take the households in the same order they have in that list. That is, you may not interview a household from the reserve list before you have interviewed all the households listed above it on the reserve list. You may, however, mix them with the "ordinary" households, i.e. those having an "s" after their name on the census lists. For instance, if you first make ten "ordinary" interviews and then cannot find the eleventh household, you may interview the first household from the reserve list before you go on with the ordinary interviews, if you want to.

5. When you come to a house, the person that you should interview is the mother of the children in the census list. If she is not in, come back later when she is there. Do not ask anybody else the questions. If you can find the household but not the mother (she may be dead or be away for other reasons), you should still not ask anybody else in that household. Instead, you act as if you had not been able to find the household at all (that is, you take another household from the reserve list). This is a study of mothers, not of households.

6. You should use a separate questionnaire for every mother you interview. When you have filled in the data on the top of the questionnaire and the personal data (1.1-1.3), the real interview starts. From now on, you should only ask the things that are within quotation marks (" "). Only if a mother does not understand the question you may try to explain it better by using other words.

Some words of the questionnaire have capital letters (CAPITAL LETTERS). They are instructions to you and should not be told to the mothers. This is especially important if several answers are possible to one question and some of them are already written in the questionnaire with capital letters. This means that you should only ask the question within the quotation marks, but that you should make an "x" in the square of the answer that is given (written in CAPITAL LETTERS). You should not, however, give these answers to the mother to choose between. They are only there to save you some writing work. If the mother does not understand the question, however, you may give examples of answers by naming one or two of the alternatives given. Make sure you choose different examples for different mothers. In some cases the answers should be given as part of the question. In these cases they are written with small letters within quotation marks, so you just follow the rules already given. Be sure you mention these answer alternatives before the mother starts answering herself.

Do not pay any attention to the numbers of the questions in the two questionnaires. They will only be used in the processing of the results later on. You should ask the questions in the same order that they have in the questionnaires, even if the numbers in questionnaire B differ from the actual order of the questions.

7. As stated above, you should make 80 interviews with questionnaire A and 20 with B. You may decide yourself which mothers you want to give questionnaire B. The important thing is that you get exactly 80 of A and 20 of B. Good luck!

Goran Nyberg  
Head, Planning & Evaluation Section

የባህሪ አርባ ልማት ደርጃት  
የፕላንና የመዘዘን ከፍል

በሦስት ወር ውስጥ የሚደረግ ጥናት  
ጥያቄ ሆኖ ሊሆን ይችላል

ጠቃሚው ስም . . . . .

የጠቃሚው ቀን . . . . .

1.0 የግል

1.1 የሙያው ስም . . . . . አድራሻው . . . . .

አድራሻው . . . . . የኑሮው አይነት / አገልግሎት አይነት /  
አገልግሎት የፈቃድ አገልግሎት ስም / . . . . .  
ሃይማኖት . . . . .

የሚገባበት የመገናኛ ትኩረት አይነት  አይደለም  ማገዘዝ ብቻ   
ሥራ . . . . .

1.2 የቤተሰብ አስተዳዳሪ ስም . . . . .

ከሙያው ስም ጋር ያለው ዝምድና . . . . . ሥራ . . . . .  
የወር ገቢ ከ\$60: ስም ብር / ብቻ  ከስም ብር በላይ  
በላይ

1.3 አድራሻው ከ 15 የመት በታች የሆኑት ልጆችን ከገዢ ጋር የሚገናኙ  
ፈት አገልግሎት ስም ከታች ልጅ ማስመዘን ወይስ /

የልጁ ስም	ጾታ	አድራሻ	መገለጫ

2.0 ሕክምና

2.1 /በታችኛው ጊዜ ለበሽታው ከመርፊና ከሚኖሩ መደብ ኒት የትኛው የሚሆነው  
ይመስልዎታል ጭንቅ አገልግሎት ነው::

መርፊ  የሚኖሩ መደብ ኒት  አገልግሎት ነው

የተለየ አስተዳደር አላውቅም

12 /

3.0 የበሽታ ጠንቀቅኛ የመከላከሉ ዘዴ

3.1 አሁን እኔ የአንጻንደ በሽታዎችን ስም አጠቅሳለሁ እነዚህ በሽታዎች መ ነሽቀቸው ዎን አንደሆነና የመከላከሉት ዘዴ ዎን አንደሆነ አሰብሽን ገለጭልኝ::

የበሽታው ስም	መ ነሽቀው	የመከላከያው ዘዴ
የሕጻናት ተቅማጥ		
አከከ በማንኛውም አደሜ		
የሳንባ በሽታ በማንኛውም አደሜ		
የኮቦ ትል በማንኛውም አደሜ		
ወሰፍት በማንኛውም አደሜ		

4.0 የገል ጤንነት

4.1 ሌንጅና ታናሹ ልጆቼ ስንት ጊዜ ...

	በቀን ብዙ ጊዜ		በቀን አንድ ጊዜ		በሰዎች አንድ ጊዜ		በወር አንድ ጊዜ			
	መ.በ.	ልጅ	መ.በ.	ልጅ	መ.በ.	ልጅ	መ.በ.	ልጅ	መ.በ.	ልጅ
በውነትሽን የምትታጠቡበው										
አጃቸሽን የምትታጠቡበው										

ሕገመገሚ: መ.በ = መልስ በጢ:: ልጅ = ታናሽ የው ልጅ /

4.2 ለራስሽ ስትታጠቡና ልጆቸሽን ስትታጠቡ በሰውና ትጠቀሙላላሽ አንደህ ከሆነ ዎን ያህል ጊዜን ::

ለራስሽ ስትታጠቡን በፍጹም  አንጻንደ ጊዜ  ይበልጡት ብዙ ጊዜ

አደሜያቸው ከ 5 ዓመት በታች የሆኑትን ልጆች ስትታጠቡን

በፍጹም  አንጻንደ ጊዜ  ይበልጡት ብዙ ጊዜ

/ 3 /

5.0 የአርገዝና ጊዜ ምግብ

5.1 በአርገዝና ጊዜ ጥሩ የሆኑና ጥሩ ያልሆኑት ምግቦች የትኞቹ ናቸው ብለሽ ታስቢያለሽ::

የምግብ ዓይነቶች	ጥሩ	ጥሩ ያልሆነ	ጥሩ መጥፍ ም ያልሆነ	አላውቅም
ሥጋ				
አንቀሳል				
የሰው ወተት				
የፍግል ወተት				
አትክልቶች				

5.2 በፋሲካ ጸም ጊዜ አርገዘሽ ታውቂያልሽ

አጭን  አይደለም

አጭን ከሆነ በመጨረሻው /የፋሲካ ጊዜ / ደረገዘሽ ጊዜ የሚቀጥሉትን የምግብ ዓይነቶች ምን ያህል ጊዜ በላሽን::

የምግብ ዓይነት	በፍጹም	ጸም አንዳልሆነ ጊዜ	ጸም በሌለ ቀን ይበልጥ አይታይም
ሥጋ			
አንቀሳሎች			
ወተት ወይም ቅቤ			

5.3 ሌሎች ሴቶች በፋሲካ ጊዜ ያረገዙ አንደሆነ አንዳሆነ ምግቦች ምን ያህል ጊዜ ይበሉ ይመሰልሻል::

የምግብ ዓይነቶች	በፍጹም	ጸዎ አንደሆነ ጊዜ	ጸዎ አንዳሆነ ጊዜ አነሰ ብሎ
ሥጋ			
አንቀሳሎች			
ወተት ወይም ቅቤ			

6.0 የሕጻናት ምግብ

6.1 በመጨረሻው ሳይ ጡት ያሰጣልሽው ልጅሽ ምን ያህል ጊዜ ጠባ ::  
 ..... ወሮች::

ለጥያቄ 6.2 እና 6.3 አንድ ደብዳቤ ልጅሽ ሁለት ዓመት ከመሙላቱ አስቀድሞ የሰጠቻቸው ምግቦችን በሙሉ አንድነገልጽ በጥንቃቄ መከታተል አንዳለብህ አትርሳ

6.2 ይህን ሕጻን /ጡት ያሰጣላቸውን / ታጠቢው በነበረበት ጊዜ ታለ ጡት በቱዚሚሪ ሌላ ነገር በጥተሽከራ :: አዎን \_\_\_\_\_ አይደለም \_\_\_\_\_

አዎን ከሆነ /ምን አደሜውስ ሰንት ቢሆን / ምን .....  
 ከ ..... ወር ጀምሮ

ገጽ 4

6.3 /ለራሰሽ በቂ ወተት /ጡት / ያልነበረሽ ጊዜ ለዚህ ሕጻን ምን ሰጠሽው አደሜውስ ሰንት ቢሆን

ምን ..... ከ ..... ወር ጀምሮ  
 : ..... : ..... : - :  
 : ..... : ..... : - :

6.4 የሚቀጥሉትን የምግብ ዓይነቶች ለልጆቻሽ መሰጠት ከምን ጊዜ ጀምሮ ቢሆን ጥሩ ይመስልሽል::

አንቀሳል አደሜው ..... ወር ጀምሮ  
 ሥጋ : ..... - : -  
 ፍራፍራዎች : ..... - : -  
 የተቀቀሉ አትክልቶች ..... - : -

ደልተቀቀሉ አትበልቶች አደጫው ..... ወር ሂመር

6.5 ለራስሽ በመትገምገሚነት ጊዜ ቅጥሎ ያሉትን መገባወጥ አደጫደቻው ከ5 ዓመት በታች ለሆኑት ልጆችሽ ታበደቸዋለሽ::

የመገባወጥ ዓይነት	በፍጹም	ጸዎ አገገገላላጭነት ቀን	ጸዎ ካልሆነ ቀን አገሰ ብሎ
ወተት			
አገገገላላጭ			
ቅቤ			
ሥነ			

7.0 የመገባወጥ ሀይሂን

7.1 /የመትገምገሚነት ውሃ ታረፎቀለሽ :: ከሆነ መን ያህል ጊዜን ::

በፍጹም  አገገገገላላጭ ጊዜ  ሁልጊዜ   
ጊዜ

መገለጫ .....

7.2 /የሐጻናትን ጠርጫዝ ወይም ኩባዳ አገገገላላጭ ታጥቢቀለሽ ሰንት ጊዜሰ::

ዘዳው	በፍጹም	አገገገላላጭ ጊዜ	ሁልቀን	ከመገባወጥ በኋላ	መገለጫ
በአጭ ብቻ					
በቀዝቃዛውሃ					
በሞቀ ውሃ					
በውሃና በሣጫ					
በውሃ ውስጥ ማፍላት					
ሌላ ዘዳ					

8.0 አወሰሰደ

8.1 አሁን በመጨረሻው የወለደሽ ጊዜ አንቺ ለይዘት ለሰው / የስተገባትን ጤና ጠቃሚ ሆነ ለሆኑት ፡፡ አዎን  የሰው

አዎን ከሆነ በምን ጠቅላላ ጠቅላይ /  ጠቅላይ /  በዓመድ  በሌላ ነገር ጠቃሚ /  .....

8.2 በመጨረሻው የወለደሽ ጊዜ በሕጻኑ አፍ ውስጥ አንቺ ለይዘት ለሰው / ቅጥር ጠቃሚ ፡፡ አዎን  የሰው

አዎን ከሆነ ለምን .....

9.0 ጠቅላላ ለልማድና ለልማድ ያልሆነ /

9.1 አዲሲያቸው ከ 15 ዓመት በታች ከሆኑት ልጆቻችን ውስጥ አንጥላቸው የተደረገ ረጠላቸው ሰንት አሉሽ ፡፡ .....

9.2 አዲሲያቸው ከ 15 ዓመት በታች ከሆኑት ልጆቻችን ውስጥ መጥፍ ጥርስ የሚጠላው የወጣላቸው ሰንት አሉሽ ፡፡ .....

9.3 አዲሲያቸው ከ 15 ዓመት በታች ከሆኑት ሴት ልጆቻችን ውስጥ የተገዘሩት ሰንት አሉሽ ፡፡ .....

9.4 ጸሐይ ለልጆቻችን ጥሩ ነው ወይስ ጥሩ አይደለም

ጥሩ ነው  ጥሩ አይደለም  ጥሩም መጥፍም አይደለም  አላውቅም

10.0 በትበቶች

10.1 ለራስሽም ሆነ ለልጆቻችን በከትባት ልትከላከይ የሚችሉትን ጠቅላላዎች አንጻሩ ታውቋልሽ ፡፡

ፈንጣጣ  የባንባ ነቀርባ  ተሰባ  ሌሎች /የትኛው /



11.0 የቤተሰብ ፕላን /ደገቡ ቤቶች ብቻ/

11.1 ልጅ ብዙ ጊዜ አከታትሎ ከመጭለፅ መከላከያ አገልግሎት በመተባበል.....  
አዎን ከሆነ /ው/ .....

ከወንድ ጋር አለመገናኘት  ልጅ ከሚገኝበት መከላከል  ሌላ  
 ..... /ራሳቸውን ያከራክራሉ:: .....

ውስጥ ዘዴ አልተመሰረተም አንደሆነ

11.2 ብዙ ጊዜ አከታትሎ ልጅ ከሚገኝበት ለመቆየት ባልቻለ ለመቆየት ይህ ይመስላል::

አዎን አራት ቀን  አዎን ምናልባት  አይደለም አይመስለኝም  
 በጭራሽ አይደለም  አላውቅም

መግለጫዎች .....

11.3 ሌላ ራሳቸውን ልጆችን በብዛት አከታትሎ ከመጭለፅ ለመቆየት ልትወስድ  
ትፈልገዋል::

አዎን በጣም አፈላጊለሁ  አዎን ምናልባት  አይደለም አይ  
መስለኝም  በፍጹም አልፈልገውም  አላውቅም

መግለጫዎች .....

CHILALO AGRICULTURAL DEVELOPMENT UNIT  
Planning and Evaluation Section

Evaluation of Health  
Education Activities

### INSTRUCTION TO THE JUDGES

To measure the effect of health education programmes, it is necessary to have some kind of scale, the values of which indicate different degrees of knowledge and desirable behaviour as far as health practices and hygiene are concerned. With such a scale, it is possible to characterize the general level in this respect of a group of people (e.g. the inhabitants of a certain area) at a certain point of time with one single number (just as you can characterize it in other respects by, say, the birth rate or the death rate). It will then also be possible to make meaningful and simple comparisons between the values of a population at different points of time (e.g. before and after a health education campaign) or between different populations. It will also be possible to relate the change in the value to the costs of a campaign, etc.

Needless to say, the scale will not be of the same type as those generally encountered in the natural sciences, where the problem normally is only to give numerical values to different positions on physical continuums. In the social sciences, however, methods have been developed to construct scales fulfilling certain theoretical requirements (and thereby possible to treat with advanced statistical techniques) also in more complicated cases than those of the natural sciences. The one we are going to build with your help is normally referred to as a Thurstone-scale (after its inventor) or, to be exact, as one of the simpler forms of this group of scales. If this attempt is successful, it may be worth while making it more sophisticated later on.

Your task is the following. Attached you will find a number of answers to questions regarding different aspects of health and hygiene of children and mothers. The underlying questionnaire was given to a sample of mothers having at least one child below six years of age. Most of the questions were about behaviour, some of them about knowledge and two about attitudes. For each answer, you should choose a number not lower than 1 and not higher than 9 (only integers should be used) and write it on the corresponding line to the right of the answer. Choose the number in such a way that 1 indicates a very harmful practice (or, as far as knowledge is concerned, knowledge that would lead to very harmful practices, if applied), and 9 indicates practices (or knowledge) that are very conducive to good health. Number 5 should indicate practices or knowledge that are indifferent (i.e. neither harmful nor conducive to good health). Choose the scale values in such a way that the difference between two consecutive integers is always the same (i.e. a practice given the value 8 should be just as much better than one given a 7 as one given a 2 is better than one given a 1). Do not hesitate to use all the values of the scale from 1 through 9 (there is experimental evidence that persons in your situation tend to avoid the extreme values in favour of the middle ones).

Sometimes you will find your task difficult, e.g. because the answers of a question are given in different dimensions. Do not go too deeply into the particulars of this (or you will spend days with the task) but try to communicate your relatively immediate reaction (aim at the same kind of rather quick, professional decisions that you make hundreds of times a day in your ordinary job).

The validity problem, i.e. the problem whether the answers to the behaviour questions are correct or more or less conscious lies, is irrelevant for your task. Treat all the answers as statements of actual behaviour.

The questions of the attached form have the same order as they had in the questionnaire, although they may be slightly changed to make your task easier. The answers to each question are either in random or in logical order (e.g. increasing frequency). You may go back and change the scores you have already given, if you find that desirable as you go along with the form. If you have any comments, you can write them to the right of the scores. Try to complete the whole form on one occasion. Otherwise you run the risk of forgetting your earlier ratings.

When all the judges have completed their ratings, the average score of each answer will be calculated. Answers causing too much disagreement among the judges will be omitted. For the rest of the answers, scale values will be assigned that are equal to the average of the ratings of the judges.

When you have completed the form, please do not discuss it with those of your colleagues who are not yet through with it. There is overwhelming experimental evidence that people with judging tasks are influenced by knowledge of how other people judged.

If you have any questions, do not hesitate to contact me (telephone: office 486 49, residence 488 94).

Thank you beforehand for the help!

Goran Nyberg  
Head, Planning and Evaluation Section  
CADU

LIST OF ANSWERS

<u>2.1. Answer:</u>	<u>Question:</u>	<u>Score:</u>	<u>Quartile deviation:</u>
	"What do you think is better when you are ill, injections or tablets, or does it depend on the disease"?		
Depends on the disease		9	0.5
Tablets		4.5	1.5
Indifferent/Don't know		-	4.0
Injections		4.5	1.5
3.1.	"I am going to mention some diseases to you. What could you do to prevent these diseases"?		
	Diarrhoea in children:		
Cleanliness		9	0.5
Visit clinic		6.5	1.5
Massage		1	1.5
Take to wogesha (local medicine-man)		1	0
Vaccination		4.5	3.5
Boil the water		8.5	2.0
Injection		3	2.0
Teeth extraction		1	0
Medicine		-	4.0
(No statement		1)	
3.12	Scabies (all ages):		
Holy water		1	2.5
Cleanliness		9	0.5
Injection		2	1.5
Visit clinic		7	2.0
Medicine		4.5	3.5
(No statement		1)	
3.13	Tuberculosis (all ages):		
Visit clinic		7	2.5
Vaccination		9	1.0
(No statement		1)	
3.14	Tape worm (all ages):		
Medicine		3.5	2.5
Massage		1	3.0
Cook the meat		9	0
Visit clinic		6	2
Holy water		1.5	1
(No statement		1)	

<u>Answer:</u>	<u>Question:</u>	<u>Score</u>	<u>Quantile deviation:</u>
3.15	Round worm (all ages):		
Cook the meat		5	2
Medicine		4	2.5
Injection		2	2.5
Holy water		1.5	1.0
Boil the water		6.5	3.0
Visit clinic		6	2.0
Cleanliness		9	1.0
(No statement		1)	
4.11	"How often do you wash your whole body"?		
Several times a day		-	4.0
Once a day		9	1.5
Once a week		6.5	2.0
Once a month		2	2.0
Less often than once a month		1	0
4.12	"How often do you wash your hands"?		
Several times a day		9	0
Once a day		5.5	2.0
Once a week		1	2.0
Once a month		1	1.0
Less often than once a month		1	0
Comment to the judges on items 4.13 and 4.14: the study was planned in such a way that the youngest child cannot be more than 5 years old. Indicate if the scores should vary with age of the child within the age interval covered.			
4.13	"How often do you wash the whole body of your youngest child"?		
Several times a day		8	2.5
Once a day		9	0.5
Once a week		-	4.0
Once a month		1.5	1.0
Less often than once a month		1	0
4.14	"How often do you wash the hands of your youngest child"?		
Several times a day		9	0
Once a day		5	3.0
Once a week		1	2.0
Once a month		1	1.0
Less often than once a month		1	0

<u>Answer:</u>	<u>Question:</u>	<u>Score:</u>	<u>Quartile deviation:</u>
4.21	"Do you use soap for washing yourself and if so how often"?		
Never		1	1.5
Sometimes		4	3.0
Almost always		9	1.5
4.22	"Do you use soap for washing your children below 5 years of age, and if so, how often"?		
Never		1	1.5
Sometimes		2.5	3.0
Almost always		9	0.5
5.1	"What food do you think is good and what do you think is bad during the pregnancy period"?		
5.11	Meat:		
Good		9	0.5
Bad		1	0
Neither good nor bad		3	1.5
5.12	Eggs:		
Good		9	0.5
Bad		1	0
Neither good nor bad		3	1.5
5.13	Cow milk:		
Good		9	0
Bad		1	0
Neither good nor bad		3	1.5
5.14	Goat milk:		
Good		8	1.5
Bad		1	0.5
Neither good nor bad		3.5	2.5
5.15	Vegetables:		
Good		9	0.5
Bad		1	0
Neither good nor bad		3	2.5
5.2	(This question was given only to women who stated that they had been pregnant at least once during the long fasting period).		
	"The last time you were pregnant during the long fasting period, how often did you eat the following food items"?		
5.21	Meat:		
Never		1	1.0
As on non-fasting days		9	1.5
Less often than on non-fasting days		5	2.0

<u>Answer:</u>	<u>Question:</u>	<u>Score:</u>	<u>Quartile deviation:</u>
5.22	Eggs:		
Never		1	1.0
As on non-fasting days		9	1.5
Less often than on non-fasting days		5	2.0
5.23	Milk or butter:		
Never		1.5	1.0
As on non-fasting days		8.5	2.5
Less often than on non-fasting days		4	2.5
6.1	"How long did you breastfeed your last weaned child"?		
Less than 3 months		1	1.0
3-6 months		-	5.0
6-12 months		-	4.0
13-18 months		6.5	3.5
19-24 months		3.5	3.5
25-30 months		-	4.0
31-36 months		1	1.5
6.2	"Did you give that child anything more than breastmilk while you were still breast-feeding it"?		
No			- judgements incom- mensurable
	IF YES: "What and from what age"?		

Please write your scores in each of the below cells:<sup>1)</sup>

Food item	From: months:			
	0 - 2	3 - 5	6 - 11	12 and later
Milk (commercial and cow's)	_(5.0)	_(5.5)	7.5 (2.0)	9 (1.0)
Injera, bread	1 (0)	1 (0)	5 (3.0)	8 (2.5)
Injera + wat	1 (0)	1 (0)	_(4)	_(4.5)
Gruel	1 (0)	_(4.0)	_(4.0)	7 (3.0)
Porridge	1 (0)	1.5 (2.5)	6.5 (3.0)	8 (3.0)
Abish + butter	1 (0)	1 (0.5)	1 (2.5)	1 (3.5)

1) The quartile deviations are shown within parenthesis.

Answer:

Question:

Score:

Quartile deviation:

6.3.

"What did you give that child when you had no more breastmilk and from what age did you give it"?

Please write your scores in each of the below cells:

Food item	From: months:			
	0 - 2	3 - 5	6 - 11	12 and later
Cow milk	9 (2.5)	9 (2.0)	9 (0.5)	9 (0)
Injera, bread	1 (0)	1.5 (1.5)	5 (2.0)	8 (3.0)
Injera + wat	1 (0)	1 (0.5)	- (5.0)	- (4.0)
Porridge	1 (0)	2.5 (3.5)	6.5 (3.5)	8.5 (1.0)

6.4.

"When do you think it is good to start giving the following food items to your child"?

Please write your scores in each of the below cells:

Food item:	From: months:			
	0 - 2	3 - 5	6 - 11	12 and later
Eggs	1 (0.5)	- (6.5)	9 (2.0)	8 (2.0)
Meat	1 (0.5)	- (4.5)	9 (2.0)	8 (2.0)
Fruit or berries	1.5 (2.5)	- (5.5)	7.5 (2.0)	8 (3.0)
Cooked vegetables	1 (1.5)	- (6.5)	8 (2.0)	7.5 (2.0)
Fresh vegetables	1 (0.5)	- (4.5)	- (4.0)	8 (2.0)

6.5.

"Do you give your children below 5 years of age the following food items when you are fasting yourself"?

6.51

Milk:

Never	1	0
As on non-fasting days	9	1.0
Less often than on non-fasting days	4.5	2.0

6.52

Eggs:

Never	1	0
As on non-fasting days	9	1.0
Less often than on non-fasting days	4.5	2.0



<u>Answer:</u>	<u>Question:</u>	<u>Score:</u>	<u>Quartile deviation:</u>
6.53	Butter:		
Never		1	1.0
As on non-fasting days		8	3.0
Less often than on non-fasting days		5	2.0
6.54	Meat:		
Never		1	0
As on non-fasting days		9	1.0
Less often than on non-fasting days		5	2.0
7.1	"Do you boil your drinking water, and if so, how often"?		
Never		1	0
Sometimes		3	2.0
Almost always		8.5	1.0
7.2	"How do you clean the baby's bottle or cup"?		
With water and soap		7	2.0
With hot water		6	2.0
With cold water		-	4.0
By your hand only		1	0
Boil it in water		9	1
(Never clean it		1)	
8.1	"Did you(or somebody else) cover the end of the umbilicus at your last delivery"?		
Yes, with ashes		1	2.5
Yes, with a piece of textile		-	4.0
No		7	3.5
Yes, with butter		1	1.0
8.2	"Did you (or somebody else) put butter in the baby's mouth at your last delivery"?		
No		9	0
Yes		1	0.5
Questions 9.1 - 9.3 were actually phrased in another way, but your task is to score them as they are given below. The scores will then be transformed to suit the actual phrasings.			
9.1	To cut the uvula of a child	1	0
9.2	To have teeth extraction made on a child	1	1.0
9.3	To circumcise a girl	1	0.5
9.4	"Is the sun good or bad for your children"?		
Neither good nor bad		3	2.0
Good		9	0
Bad		1	0

10.1 <u>Answer:</u>	<u>Question:</u>	<u>Score:</u>	<u>Quartile deviation:</u>
	"Do you know of any diseases that you can protect yourself and your children from by vaccination"?		
Comments to the judges: score each of the diseases separately; respondents who know more than one will have their personal score calculated as the average of the scores of the diseases mentioned.			
Typhus		8.5	3.5
Smallpox		9	0
Tuberculosis		9	1
Other diseases, relevant (i.e. diseases that can be vaccinated against)		8.5	1.5
Other diseases, irrelevant (e.g. broken leg)		-	4.0
(Don't know any		1)	
11.1	"Have you heard of any way to avoid having children too often"?		
No		1	1.0
Yes, interruption		-	4.0
Yes, no sexual contact		4.5	2.5
Yes, other method, relevant (pill, loop, etc.)		9	0.5
Yes, other method, irrelevant (e.g. superstitious)		2	2.0
11.2	Comment to the judges: question 11.2 and 11.3 deal with attitudes (whereas all the other questions have dealt with knowledge or behaviour). Score them in an analogous way on a scale ranging from 1 (least favourable attitude) to 9 (most favourable attitude).		
	"Do you think your husband would like to try to avoid having children too often"?		
Yes, maybe		7	1.5
Don't know		5	3.0
Absolutely not		1	0
Yes, I am sure		9	1
No, I don't think so		2.5	1
11.3	"Would you yourself like to try to avoid having children too often"?		
No, I don't think so		2	1.5
Yes, very interested		9	1.0
Don't know		-	4.0
Yes, maybe		7	2.0
Absolutely not		1	1.0

Interviewer: .....

Date: .....

HOUSING CONDITION AND SANITATION IN SAGURE

1.0 PERSONAL DATA

- 1.1 Name of Head of household..... Sex: .....  
 Address: ..... Civil status: ..... Age: .....  
 Religion: ..... Occupation: .....  
 Ability to read and write: YES  NO  READ ONLY

2.0 HOUSING CONDITION

- 2.1 "Is the house owned or rented by you?"  
 OWNED  RENTED  OTHER  .....
- 2.2 "How many rooms do you have?" (OBSERVE) .....
- 2.3 "How many people sleep in each room?"  
 ROOM 1: ..... PERSONS ROOM 2: ..... PERSONS  
 " 3: ..... " " 4: ..... "
- 2.4 "How many beds do you have?" (OBSERVE) .....
- 2.5 "How many are sleeping in each bed?"  
 BED 1: ..... PERSONS BED 2: ..... PERSONS  
 " 3: ..... " " 4: ..... "
- 2.6 "Where do the others sleep?"  
 "On chika bench" ..... PERSONS. "On the floor" .....  
 PERSONS. "Other place (which)" ..... PERSONS
- 2.7 "Do any animals stay in the same room as the family members?"  
 NO ANIMALS  CATTLE  POULTRY  DOGS   
 SHEEP  GOATS  OTHERS  .....
- 2.8 "Do you have any separate kitchen?" (OBSERVE) .....
- 2.9 "How do you keep your house warm?"  
 CHARCOAL STOVE  FIREPLACE  OTHER  .....
- 2.10 "What kind of roof do you have?" (OBSERVE)  
 CORRUGATED IRON  THATCH (GRASS)  OTHER  .....

2.11 "Do you have whitewash on the walls?" (Observe) .....

2.12 "What kind of floor do you have?" .....

WOOD  CEMENT  CHIKA (EARTH)  OTHER

3.0 SANITATION

3.1 "From where do you get your water?"

"During rainy season"

ALELTU RIVER  OTHER RIVER  RAIN WATER

OTHER SOURCE  .....

"During the dry season" ALELTU RIVER  OTHER RIVER

OTHER SOURCE  .....

3.2 "How much water do you use in your household a day?" .....

..... litres.

3.3 "Do you boil your drinking water?"

NEVER  SOMETIMES  ALMOST ALWAYS

REMARKS: .....

3.4 "Do you think one should boil the drinking water?" IF YES,

"Why" .....

3.5 "Do you use any other way to get the water clean and safe for you and your children?" .....

"How" .....

3.6 "Do you have a special pit latrine?" .....

IF NO, "do you and your children use a special spot for your toilet needs or do you use any place you like?"

	"Defecate where?"		"Urinate where?"	
	CERTAIN SPOT (WHERE)	ANY PLACE	CERTAIN SPOT (WHERE)	ANY PLACE
ADULTS				
CHILDREN				

3.7 "Do you think a special pit latrine is good or bad?"

GOOD  BAD  INDIFFERENT/DON'T KNOW

IF GOOD OR BAD,

"Why is it good/bad?" .....

3.8 "Would you like to have a special pit latrine?" .....

IF YES, "Where would you like to have it?" .....

.....

3.9 "What do you do with your garbage (food waste)?" .....

.....

3.10 "What do you do with your refuse (other waste)?" .....

.....

CHILALO AGRICULTURAL DEVELOPMENT UNIT  
 Planning and Evaluation Section

Instruction to the Sanitarian.

1. Take the lists that have been made up of all inhabitants in Sagure village. Draw a line below the name of the last member of every household, so that it can be easily seen from the list where a new household begins.
2. Give a number to each household, starting with 1 (the first household in the lists) and ending by 450 (the last household in the lists.) It does not matter in which order you put the lists, the important thing is that every household gets a number between 1 and 450 (and, of course, that not two different households get the same number). Write the number at the right side of the page, opposite the first name of the household.

We are not quite sure that there are as many as 450 households in Sagure. If there are not, then of course the highest number will not be 450. Please tell nurse Gunborg how many households there are.

3. Do not open the attached envelope until you have finished the work of point 2 above. In the envelope you will find two lists of numbers, called "List A" and "List B" respectively. The numbers refer to those that you have just written on the census lists. List A contains the households that you are going to interview. Make a list of the addresses of these households. We call that list "Address-list A". (You do not have to interview all the households in the town, but only a sample of them. It will be possible from the sample to draw valid conclusions about all the households in town, by using statistical techniques. To make this possible, however, it is very important that you follow the instructions on this paper very thoroughly).
4. In List A you will find numbers as high as 450. If the number of households in Sagure is lower than 450, however, you can of course not use the highest numbers. For every number you for this reason can not use, take a new one from List B, starting from the top of that list and going downward. When this work is completed, address List A should contain 65 addresses. Check this. The numbers left on List B we call "the reserve".
5. Make a separate list of the addresses of the households in the reserve. Be sure you take them in exactly the same order they have on List B. This address-list we call "the reserve address-list".
6. Start making the interviews of the 65 households in address-list A. You can take the households in any order you want to, as long as you do not use the reserve address-list.

7. In each household that you interview, the person that you should ask is the head of household (the first person of the household listed in the census lists). If he is not in, ask his wife. If she is not in, ask another adult. If there are only children around, do not ask but come back later when you can find an adult at home.
8. Sometimes you will find that the household that you are looking for has moved from the address in the list. For statistical reasons, it is very important that you follow the instructions very carefully in such cases. What you should do is the following:

- a) you should not try to find the household at their new address, but instead interview the household that has moved in at the address of your list, Make a note of their names.

- b) Sometimes a household in the census lists has two house numbers (for instance "Asella road 74-76" or "Catar road 7 B-C"). This means that their house has two doors, each of which has a separate number. Let us call them "two-door households". If a two-door household on your interview list has moved, and another two-door household has moved in instead, you just interview them instead, If a two-door household has moved but two one-door households have moved in after them, you should only interview one of them (take which of them you like).

If two one-door households on your list have moved, and one two-door household has moved in after them, you should interview them instead and make a note of this on the questionnaire.

- c) By following this procedure, the only households we will miss are those having moved into entirely new houses. They will be so few, however, that this does not matter. We accept this as an error margin.

9. If a house on your list is empty, or if a household refuses to answer your questions, or if by any other reason the total number of interviews becomes less than 65, you use the reserve address list. For each interview that you could not make from address-list A, make one from the reserve address list. When you use the reserve address list, it is very important that you follow the order of the list. You may, however, mix interviews from the reserve address list with interviews from the address-list A, (for instance, if you first make ten interviews from "A" and then find one house empty, you may take the first household of the reserve address list and interview it before you interview the rest of address-list A, if you want to). The important thing is that you do not interview a household on the reserve address list before you have interview all the households that are listed before it.

The total number of interviews (ordinary + reserve) must be 65.

10. If you have any questions, ask nurse Gunborg or make a telephone call to me (Addis Ababa 486 49). Good luck !

## LIST OF CADU PUBLICATIONS

A. Project Preparation Period

1. Report No. I on the establishment of Regional development project in Ethiopia, October 1966
 

Part I	General Background
Part II	Project Outline
Part III	Appendices

 (A reprint of the Summary is also available)
2. Report No. II on the establishment of a regional development programme in Ethiopia, May 1967. (The building programme appears under separate cover)
3. Trials and demonstration plots at Kulumsa in 1966, July 1966
4. Reconnoitering survey of the water resources in Chilalo Awraja, March 1967.
5. Creation of a forestry administration in Arussi province, March 1967
6. Crop sampling in the Chilalo Awraja 1966, May 1967
7. Results of trials and observation plots at Kulumsa 1966/67, May 1967
8. Sagure, a market village, June 1967
9. Forest nursery and planning techniques, June 1967
10. Trials and demonstration plots at Kulumsa and Swedish Mission Asella in 1967, July 1967
11. Grain Marketing experiments 1967, August 1967

B. Implementation Period

1. Government Agreement on Plan of Operation
2. Some reflections on water erosion in Chilalo awraja, October 1967
3. The Taungya afforestation method, November 1967
4. Grow better Bahr-Zaaf in Ethiopia, January 1968
5. CADU Semi-annual report 1967/68, January 1968



6. Census in Sagure-Yeloma 1967, February 1968
7. The changing rural society in Arussiland: Some findings from a field study 1966-67, March 1968
8. CADU (Pamphlet in English and Amharic)
9. CADU plan of work and budget 1968/69 (with preliminary estimates for 1969/70)
10. Cultivation practices and the weed, pest and disease situation in some parts of the Chilalo awraja, March 1968
11. Introductory agro-botanical investigations in grazed areas in the Chilalo awraja, June 1968
12. Results of trials and observations on fields forage crops at the Kulumsa farm and in Asella 1967/68, June 1968
13. Crop sampling in the Chilalo awraja, Arussi province 1967, June 1968
14. General agricultural survey, August 1968
15. CADU statistical digest, May 1968
16. Descriptions of agricultural demonstrations 1968
17. Field trials and observations 1968/69
18. Feasibility study on a farm for breeding of grade cattle at Gobe, Arussi province, September 1968
19. Feasibility study on the electrification of Sagure town, September 1968
20. CADU Annual report 1967/68, September 1968
21. Census in Dighelu village, May 1968
22. A case study of peasant farming in Dighelu and Yeloma areas, Chilalo awraja, Ethiopia, January 1969
23. CADU Semi-annual report 1968/69, February 1969
24. Results of demonstrations 1968/69
25. CADU Plan of work and budget 1969/70
26. Tentative CADU programme 1970/75, Addis Ababa, March 1969
27. Feasibility study on sunflower protein concentrate and fafa mixing plant, May 1969
28. Results of trials and observations 1968/69
29. CADU Evaluation studies, Health education (Base-line study) May 1969

