

SAMPLING PROCEDURES

RANDOM SAMPLE

Make a list of all elements (e.g. participants, beneficiaries or communities).

Number the list.

If the list contains 25 or fewer individuals/communities/elements:

number a chit or a small piece of paper for each item in the list. Each piece should be from the same kind and colour of paper and they should all be the same size;

fold all the chits in half, put them into a bowl, or hat, and mix them well;

select the number of chits to be included in the sample. For instance, if the sample will contain five individuals, select five chits.

Mark the list according to the numbers on the selected chits—these individuals constitute the sample. If the list contains 25 or more individuals/communities/elements:

get someone to mark the list as the sample is selected;

place a random number table in front of you;

take a pencil in your hand, close your eyes and raise the pencil over the page, then drop the pencil to the page.

Open your eyes and read to the right of the number the pencil is pointing to, taking as many digits as necessary to count to your entire list. That is if there are between 10 and 99 items on your list, each number is a two-digit number, so read two digits. If there are between 100 and 999 items, each number in the list is a three-digit number, so read three digits.

Read out loud, in order going down the page, a random number for each element in your sample. The person assisting you should mark the list at each number you call out, as this will be an element in your sample.

If you reach the bottom of a column, move to the right according to the number of digits you are selecting and start reading downward again from the top of the column (i.e., if you are taking three digits, move three columns to the right).

After moving to the right, the table may not contain enough digits for your list—for example, only two columns of digits may be left in the table and you need three for a list of 100 to 999 items. If this happens, start again.

STRATIFIED SAMPLE

Make a list of all eligible participants.

Arrange the list according to the factor for stratification, from smallest values to highest values of the stratifying factor. The values chosen to group the stratifying factor must not overlap, and the levels must include all possible values of the stratifying factor in the population.

Decide how many individuals will be taken from each stratum. As long as there is a good likelihood that individuals in the sample will, in fact, participate in the information gathering, it is easiest to take the same proportion of individuals from each stratum. There is no rule to decide this, but some guidelines include the following:

sample enough persons from each stratum to have meaningful and representative estimates of means and standard deviations.

consider the cost of using a particular proportion—taking a high proportion to get enough individuals from a small stratum will require taking a large and possibly expensive number of individuals from a large stratum if the same proportion is used for both.

Use the methods for simple random sampling within each stratum to obtain the actual sample.

SYSTEMATIC SAMPLE WITH A RANDOM START

Obtain an estimate of the total population size.

Determine the necessary sample size (or the number represented by the sampling fraction) and divide it by the total population size. This will provide the sampling interval.

Choose a random number between 1 and the sampling interval. That is, if the sampling interval is five, choose a random number between 1 and 5.

Select participants, starting with the random number, say 3, according to the sampling interval: 3, 3+5, 3+10, 3 +15, 3+ 20, etc. until the sample size has been obtained.

BUDGET CATEGORIES

Personnel

1 team leader for evaluation
 1 field supervisor per field team
 field workers
 expert help, such as a nutritionist, focus group moderator, statistician, etc.

Transportation

vehicle rental (1 per team)
 drivers (1 per team)
 fuel, oil, maintenance

Accommodation and meals

During training (meals, snacks)
 During fieldwork
 During analysis and report writing (if done away from home)

Monitoring and evaluation supplies (for training, fieldwork, analysis, report writing and dissemination)

Paper, notebooks, pencils, erasers	(all activities)
Photocopies	(all activities)
Flipcharts and transparencies	(training, analysis, report writing and dissemination)
Computer and printer supplies	(optional; mainly for in-house production and printing of materials)
Tape recorders and cassettes	(optional; mainly for FGDs)

Other expenses

Honoraria for field assistance	(if appropriate)
Facility costs	(if needed for dissemination workshop)
Printing summary of findings	

Administrative expenses

Secretarial and related support
 Financial support
 Overhead allowance

EVALUATION DESIGNS

ON-GOING PROJECT EVALUATION

- Done while the programme is still in progress.
- Enables management to make decisions on the future of the programme: to continue as planned/be revised and adjusted/be discontinued?

END OF PROJECT EVALUATION

- Carried out at the end of the implementation phase.
- Provides information which can be used in the formulation of policies and/or planning of new and future programmes.

IMPACT EVALUATION

- Done some time after completion of a programme.
- Provides valuable information on programme sustainability, effectiveness and impact.

SPOT CHECK EVALUATION

- Is a brief ad hoc evaluation done because of an urgent need during programme implementation.
- Enables specific decisions to be made regarding the programme.
- Provides a quick realistic picture of programme status as part of the accountability process.
- Can enable quick implementation of corrective measures.

DESK EVALUATIONS

- Evaluations that do not involve field visits but depend largely on secondary sources for information.
- They are either internal or external evaluations.

SELF EVALUATIONS

- Internal evaluations done by programme personnel or implementors.
- Largely uses secondary sources of information.
- They are shallower and less objective than in-depth evaluations.
- Mainly used in small programmes.
- They assist programme personnel to reflect on implementation against the stated objectives and assumptions.

PROGRAMME COMPONENTS

INPUTS	ASSUMPTIONS	OUTPUTS	ASSUMPTIONS	OUTCOMES	ASSUMPTIONS	IMPACT

WORK PLAN

Tasks to be performed	Who is responsible	When	Where	Resources required	Remarks

UNIT 5 DATA COLLECTION

PURPOSE OF THE UNIT

This unit describes various methods of data collection and helps participants to distinguish between qualitative and quantitative methods of data collection. The unit also assists participants to identify the key issues in designing data collection instruments and their administration.

OBJECTIVES

By the end of this unit, participants should be able to:

- determine which data collection methods to use during monitoring and evaluation;
- describe the characteristics of various data collection methods;
- design data collection instruments;
- identify key issues in the administration of data collection instruments.

UNIT OVERVIEW

Session 1: Quantitative and Qualitative Methods of Data Collection (150 minutes)

Session 2: Designing Data Collection Instruments (120 minutes)

Session 3: Administration of Data Collection Instruments (60 minutes)

TIME

5 hours

ADVANCE PREPARATION

Photocopy handouts and prepare overhead transparencies.

Handouts: 5.1 Methods of Data Collection
5.2 Focus Group Discussions and Interviews

Transparencies: 5.1 Types of Questions

Materials: cards, flipchart, masking tape, pens, markers, transparencies, overhead projector, transparency pens

PROCEDURE

Session 1 Quantitative and Qualitative Methods of Data Collection 150 minutes

Step 1: Start this session by showing the objectives of the unit and explain where we are in the steps or process of monitoring and evaluation. Give a brief overview of the unit.

Step 2: Put two cards on the wall, on one written Quantitative Methods and on the other written Qualitative Methods. Give participants cards and ask one group to write as many different quantitative methods as they can and the other group to write the qualitative methods they know. Process this information. Make sure the following comes out:

<u>Quantitative Methods</u>	<u>Qualitative Methods</u>
Administering oral or written interviews	Focus group discussion
Reviewing project documents and reports	Observing
Population-based surveys	Interviewing
Reviewing medical and financial records	Ethnographic survey
Completing forms and tally sheets	Time lines
Direct measurement (chemical analysis)	Social mapping
Observing	Case studies
Lot quality assessment	Content analysis

Step 3: Explain to participants that qualitative data is in the form of words, such as description of events, transcripts of interviews, life stories and written documents. On the other hand, quantitative data come in numbers and provide answers to questions such as how much, to what extent and how many.

Emphasize the point that both kinds of data are usually needed in both monitoring and evaluation and each supports and is complementary to the other. Point out that it is possible to do a quantitative analysis on qualitative data, e.g., 70% of the key informants agreed with this.

Step 4: Ask participants what they understand about any three quantitative and qualitative methods such as:

Reviewing documents	Focus group discussion
Surveys	Interviews
Direct measure	Mapping

Step 5: Divide participants into four groups: monitoring, mid-term evaluation,

summative evaluation, and process evaluation. Ask participants to determine when it would be appropriate to use either quantitative or qualitative methods and which ones.

Refer participants to **Handout 1.1** and ask them for each of the questions that monitoring or evaluation tries to answer, which method should they use to collect the data which answers these questions. Allow 30 minutes for this activity and then share their responses in plenary.

Remind participants that it is important to use a combination of different data collection techniques during monitoring and/or evaluation. This will help to maximize the quality of data collected and reduce the chance of bias. Conclude this session by distributing **Handout 5.1** on some methods of data collection.

Session 2 Designing Data Collection Instruments 120 minutes

Step 1: Ask participants to identify which data collection instruments they would use for various data collection techniques. The following should come out:

- Questionnaire
- Interview schedule
- Observation checklist
- Focus group discussion guidelines

For each instrument they mention, ask for the strengths and limitations of using each one under different conditions.

Step 2: Tell participants that to develop good questions for any instrument, they need to consider all of the following:

- the objectives of the study;
- the information they need from the indicators that have been previously identified;
- the sub-questions that answer the evaluation questions;
- the wording or phrasing of the questions.

Step 3: Tell participants there are three types of questions: open-ended (unstructured), close-ended (structured) and semi-structured. Ask them what they understand by these terms and write their responses on the flipchart. Divide participants into 3 groups and assign one type of question to each group and ask them to do the following:

- Advantages and limitations of each type;
- Examples of that type of question.

Allow 10 minutes for this activity and share their responses in plenary. Show **Transparency 5.1** with the advantages and limitations of different types of questions and compare participants' responses with the ones on the transparency.

Step 4: Ask participants to identify characteristics of a poor data collection instrument. The following points should come out:

- The instrument is too long
- It is inappropriate for the target group
- Vague or leading questions
- Irrelevant questions
- It measures more than one idea per question
- It is not user/gender-friendly

Not well-formatted

Step 5: Ask participants to explain what steps they should follow in designing a questionnaire or a focus group discussion guide. The following points should come out:

Think about the content—use your objectives and indicators as a starting point

Formulate questions

Formulate one or more questions that will provide information needed for each indicator

Check whether each question measures one thing at a time

Avoid leading questions

Formulate control questions to cross check responses on difficult questions

Avoid words with double or vaguely defined meanings and emotionally leading words

Sequence the questions

user/respondent friendly, simple language and make the questionnaire as short as possible

Include an introduction and identifying information for each instrument

Format the questionnaire—layout, spacing, instructions, paging, coding

Translate if necessary

Step 6: Ask participants what comes to their minds when they see the words "Data Coding." Make sure the following points come out:

A code is a tag or identifier given to responses of both closed- and open-ended questions.

Codes are often given numeric values such as 1 for male and 2 for female. Alternatively, M could be used for male and F for female.

Each code should be specific to that question and remains the same for all respondents for that question. It is essential, both for data entry and interpretation, that codes are kept consistent throughout the data collection instrument and for the set of collection instruments. For example, if yes = 1 and no = 2 for question number 1 then yes should = 1 for all remaining questions and in other instruments.

The meaning of all codes should be recorded in a single place such as a data coding book. Always have a backup copy.

Step 7: Explain to participants that once the instrument has been developed, there is a need to pre-test and possibly translate it. The purpose is to identify any problems or weaknesses in the instrument or in the wording. It should be tested in a population similar to that of the programme and under similar field conditions. Pre-testing evaluates the following:

The level of understanding of questions/wording by respondent;

Language or dialect;

The ease with which the instrument is administered;

Adequacy of instructions for the interviewer and of the training;

Sensitive questions for either interviewer or respondent;

Adequacy of recording space for open-ended questions;

Length of time.

After pre-testing, finalize the instrument and prepare for training and administration of the instrument.

Step 8: In conclusion, point out that once the data has been coded, it needs to be put into a format that makes analysis possible.

Session 3 Administration of Data Collection Instruments 60 minutes

Step 1: Start this session by explaining to participants that once the instruments have been developed, pre-tested and revised, they are ready to be administered. Remind participants of the data collection methods that can be used, but note that during this session, only two of the most commonly used methods will be discussed in detail, namely interviews and focus group discussions.

Step 2: Divide participants into two groups—the focus group discussion group and the interview group. Ask participants to answer the following questions:

What are the steps involved in conducting a focus group discussion/interview?

Who is involved in conducting a focus group discussion/interview and what skills do they need? What are their roles?

What training is required for someone who needs to conduct a focus group discussion/interview?

How would an interviewer or a person conducting a focus group discussion identify data collection bias and how can it be prevented?

Allow 30 minutes for this activity and share their responses in plenary.

Step 3: Ask participants how they can make interviews less threatening. The following points should come out:

- C being culturally sensitive (do not do something culturally unacceptable or embarrassing)
- C being gender sensitive (for example, it may be improper for a man to interview a married woman on his own in certain cultures)

Remind participants that if they need to write answers on a questionnaire or use a tape recorder during an interview or focus group discussion, they should first explain this to the respondents and ask for permission to do so.

Furthermore, people are usually uncomfortable in giving personal details to strangers. It is necessary to use local people or be accompanied by someone who is well-known and respected in the community while assuring respondents about confidentiality.

Finally, remind participants to avoid lengthy interviews which can induce interviewee fatigue.

Step 4: Ask participants to change groups and tell one group to plan a role-play using a focus group discussion on attitudes of the community towards exclusive breast-feeding, and the other an interview on assessing weaning practices of children under one year. Allow 15 minutes for the preparation and five minutes for each role-play. After the role-play ask the group the following questions:

What did you see in this play?

Was the method correctly presented?

What could have been improved?

Distribute **Handout 5.2** on Focus Group Discussions and Interviews. Tell participants to read it during their free time.

Step 5: Conclude this session by reminding participants of the need to carefully organize the logistics that accompany the administration of data collection.