Chapter 6

Data Collection Methods for Monitoring and Evaluation

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Introduction

Data collection is a critical component in the implementation of monitoring and evaluation strategies. It can be used to understand different trends, track progress of a project and demonstrate results for monitoring and evaluation. Researchers need to carefully plan and have knowledge on different methods that can be used in the monitoring and evaluation of projects, programmes and policies. The purpose of this chapter is to provide practical explanations of various data collection methods that can be used in monitoring and evaluation of projects. There is a wide variety of data collection methods available and the chapter has been written with the understanding that it is not possible to exhaust all the methods of collection for monitoring and evaluation of projects. To this end, references that point the reader to available resources on a number of methods especially the ones that may not be covered in this chapter are given.

In view of the above, this chapter provides descriptions and explanations on how and when various methods can be used. It also provides an overview of their advantages and disadvantages. The chapter highlights both qualitative and quantitative data collection methods. The data collection methods discussed in this chapter include: focus group discussions, direct observation, stakeholder analysis, document review, transects, semi-structured interviews and questionnaires. These methods can be used on their own or as a combination. What is crucial is to ensure that key questions are formulated and indicators for the intended monitoring and evaluation exercise are identified.

Focus Group Discussions

This is a method of data collection in which a facilitator guides a discussion with the use of an interview guide on a particular topic. The participants consist of a small group of between six to twelve carefully selected participants. The purpose of focus group discussions is to collect rich and in-depth qualitative data on participants' behaviour, beliefs, experiences, attitudes and perceptions towards certain phenomena. This method is helpful in gathering data from communities on how a particular project is performing or on what perceptions a community has on a given project. In focus group discussions, participants are usually composed of a homogenous group like those of the same sex, age group or social status or similar experiences. Heterogonous groups are discouraged because they inhibit participants from fully expressing their opinions in the presence of others. For example, in a project where the participation of women in a community is observed to be low, the evaluator may wish to conduct a focus group discussion with only female members of that given community. Another example in this regard is where one is dealing with a patriarchal society. In this case, a mixed focus group discussion of men and women

may not yield much data. This also applies to focus group discussions with participants of the same sex but different age groups. Studies conducted on water projects in Zambia and Zimbabwe show that young women could not take a lead in local water project meetings attended by older women for fear of being perceived as being disrespectful (Mwale, 2016; Dikito-Wachtmeister, 2000). Due to local norms of appropriate behaviour, young people waited to be invited to speak by the elders or asked for permission to speak. Therefore, in as much as the young people may have important points to share in the discussions, the fact that they are put in a heterogonous group limits their participation.

Depending on the nature of topics or dynamics within the participants, focus group discussions can take about 60 to 90 minutes. Just like any other interview, before beginning the discussion, the facilitator needs to fully introduce and explain the purpose of the discussion and encourage the participants to freely express themselves by sharing their views and opinions. The discussion can be recorded. However, it is recommended that the facilitator is accompanied by a well-skilled note-taker to ensure that all the deliberations are captured. Focus group discussions can be used at any point of monitoring or evaluation of projects. For instance, at the end of a project for small scale farmers, a focus group discussion can be conducted to identify the strengths and weaknesses of a project outcomes and impacts by getting the views and perceptions of farmers. However, in situations where participation in a homogenous group is low, the facilitator needs to make sure that a select few do not dominate the discussions. The facilitator is advised to probe the participants further in order to allow an atmosphere of discussions. Probe questions may include the following:

- Can you elaborate on that?
- Why do you think that is so?
- What do you mean by that?
- Would you give an example of that?

In project evaluation, focus group discussions can also be used to complement quantitative data collected or provide interpretations to quantitative data (CDC, 2008a).

Direct Observation

When preparing for fieldwork, researchers spend a lot of time designing questionnaires or interview guides. However, a lot of rich data can be collected simply by observing situations. The process of directly observing what is happening constitutes the method of direct observation. United Nations (2005) states that direct observation is, 'using your eyes to observe people and their environment, situations, interactions or phenomena and recording what you see as data'. This means that observation

provides researchers an opportunity to take note of people's behaviour, activities and their physical surroundings in their natural setting. Once a decision has been made on the use of observation as a method of data collection, it is critical to also decide which kind of observation will be used. There are two main methods of observations: overt (people knowing that they are being observed) or covert (people being unaware that they are being observed and the researcher's identity is concealed) In the former, one may need to get informed consent and this may affect the way people behave, ultimately influencing the data collected. The latter is appropriate in situations where it is highly likely that people's behaviour will change once they're aware that they are being observed thereby, altering data collected significantly.

Direct observation can be used when you need to collect direct reliable information. For instance, visiting farms to check if the farmers are putting into practice what the area agricultural extension officer taught them or to observe if a new community water facility under a community project is being used. The method can be used to confirm who uses the facility, when do they use it and how often they use it. Observation can prove to be better than asking people's views through a semi-structured interview or focus group discussion. Nevertheless, observation can also be conducted during a focus group discussion where participants' reactions, responses or disposition tell of underlying disagreement or agreement between participants in the discussion. Direct observation can also be used 'when trying to understand an on-going process or situation (CDC, 2008b). When evaluating a corruption-related project, you can monitor or watch a situation as it unfolds and this helps counter subjectivity in certain participant responses where what they say is not matched with what they do (Mwale, 2016).

Regardless of the method chosen, the evaluator should ensure that ethics are upheld and no harm is caused to the people being observed during the process. Observation may seem to be a straightforward method of data collection, but it is imperative to bear in mind *what* exactly will be observed once you set out to go in the field. This can be captured through videos and photographs. For instance, would you be interested in environmental features, project documents, people's interactions? You may also decide on a sample as it would be very overwhelming to observe all the people or components of a project. You may also require an observation *checklist* that will help identify exactly what you want to observe. Direct observation can also be used as an 'on-the-spot' check for both quantitative and qualitative research and serve as triangulation for the responses or explanations given by participants. In evaluating a community project through gender audit, certain variables can directly be observed during meetings and a checklist can include things like: how many females are now chairing community meetings? What leadership skills are they exhibiting? How is their interaction? How free are they to speak out? In order to ensure that there

is improved quality in direct observation, it is suggested that the steps highlighted in Focus Box 1 below be followed.

Focus Box 1: Steps in Using Direct Observations

- Step 1: Determine the focus – you may have to narrow down the sample and not whole population.
- Step 2: Develop direct observation forms – list items to be observed and provide adequate space to record observations
- Step 3: Select the sites – decide where the observations will be carried out and whether it will be based on one or more sites.
- Step 4: Decide on the best timing – Wrong timing can distort findings. For instance, if credit institutions are observed during the non-planting season, an inaccurate picture of loan processing may result.
- Step 5: Conduct the field observation – Establish rapport with those being studied, allow sufficient time for the exercise and if possible have more than one observer to reduce bias.
- Step 6: Complete forms - Take notes as inconspicuously as possible. Recording during observation may be good but may make some people self-conscious or disturb the situation.

Adapted from USAID (2011)

Stakeholder Analysis

Stakeholder analysis is part of the participatory monitoring and evaluation of development projects. Stakeholders can be defined as 'persons, groups or institutions with interests in a project or policy or who may be directly or indirectly affected by the process or the outcome (WHO, 2005). Stakeholder analysis is therefore the identification of a project's key stakeholders, an assessment of their interests, and the ways in which these interests affect project risk and viability (Macarenhas-Keyes, 2017). In the process of identifying stakeholders, it is crucial to consider the disabled, elderly, women and the poor, all of whom are generally considered as marginalised and vulnerable groups as they may also be affected by the project but may not have a voice to speak out. Unlike other methods of data collection which can be conducted in the middle or end of a project, stakeholder analysis should always be conducted at the start of a project. This is because knowing the actual stakeholders, their interests, understanding the power relationships and their influence in a project helps to determine who should participate, why they should, how and when. Macarenhas-Keyes (2017) suggests that one way in which a stakeholder analysis can be conducted is to:

a) Draw up a stakeholder table as shown in Table 1 below:
b) Identify and list all potential stakeholders.
c) Identify their interests in relation to the problems being addressed by the project and its objectives.
d) Briefly assess the likely impact of the project on each of these interests (positive, negative, or unknown).

e) Indicate the relative priority which the project should give to each stakeholder in meeting their interests.

The process of stakeholder analysis should also consider categorising stakeholders for easy monitoring and evaluation and this can be incorporated in a table. Stakeholders can be grouped into two main ways:

1. ***Primary Stakeholders –*** These benefit from or are adversely affected by an activity. This term describes people whose well-being may be dependent on a resource or service or area (e.g.: a forest) that the project addresses.
2. ***Secondary Stakeholders*** - includes all other people and institutions with an interest in the resources or area being considered. Secondary stakeholders are the means by which project objectives can be met, rather than an end in themselves, Blackman (2009:20-21).

Table 1: Stakeholder Analysis Table

Stakeholders	Stakeholder Interests	Impact on Interests	Stakeholder Priority
Primary			
Secondary			

The table above helps in the process of conducting a stakeholder analysis, where stakeholders are identified and clarified. The process is vital as it will not only provide a good foundation for engaging the relevant stakeholders (potential winners and losers) in a project but that the approaches and interventions to be taken will equally be clarified.

Document Review

Document review may be said to be a non-interactive method of data collection simply because it involves collecting and reviewing existing hard copy or electronic documents. The documents reviewed may be published or unpublished, internal to an organisation or external. The documents may contain qualitative or quantitative data. When conducting a document review for purposes of monitoring or evaluating a project, some of the specific documents of interest may include: official governmental or organisational reports, scholarly publications, legal, regulatory and policy documents, census reports, meeting minutes, financial records, newspaper articles or newsletters among others.

It is a good idea to start a monitoring or evaluation process with a document review as it provides a better understanding of the philosophical, historical and operational aspects of a project, programme or policy. For example, document review of an evaluation of a waste management programme of a city may help in the stakeholder analysis, in that it will help determine whether the implementation of a programme is on course as initially planned. Apart from that, document review can also be used when designing various data collection instruments like questionnaires and interview guides as well as answering evaluation questions such as; what is the number of organisations or individuals involved in the city waste management? How many personnel (with what positions) are there and what is the overall cost for the programme? A number of issues should be adhered to when conducting document review. These may include: deciding what documents the evaluator will access, where and how the evaluator will access them; compiling documents that are most relevant to the evaluation questions, understand who produced, how, when, why the documents were produced to better understand the context (CDC, 2009).

Transects

In a participatory research project, transects are a mapping activity which give an evaluator hands-on experience and provide an accurate picture of the area under study. It is similar to direct observations. Transects are basically walks which can be used for monitoring and evaluating projects and in the process used to verify earlier collected information of a particular local situation. In most cases, transects are used for projects concerned with the communities' land use or social aspects. Depending on the objectives of the monitoring and evaluation, a transect walk can either be a straight or meandering path, involving one or more observers. However, it is recommended that different observers be involved like the community leaders, extension officers, representatives of farmers and any other relevant stakeholders (Guijt and Woodhill, 2002). This is encouraged mainly due to the fact that the named stakeholders will, more often than not, have a good understanding of the community and would in many cases be able to explain things along the way, as the evaluator asks questions while observing and listening. It is therefore, important to clarify the following before embarking on this activity:

1. Has the transect route been identified?
2. What is the purpose of the study and what will be observed?
3. When will the transect walk be conducted?
4. Which local analysts/stakeholders will accompany the evaluator/observer?

Once everything has been clarified, it is important to note that a record of the things observed during the transect walk should be taken. The notes (findings of a transect) will then be used by the

evaluator with the help of the local stakeholders to draw a diagram depicting what was observed and this also acts as a validation process. Below is an example of a diagram drawn after a transect walk concerning a project evaluating land uses.

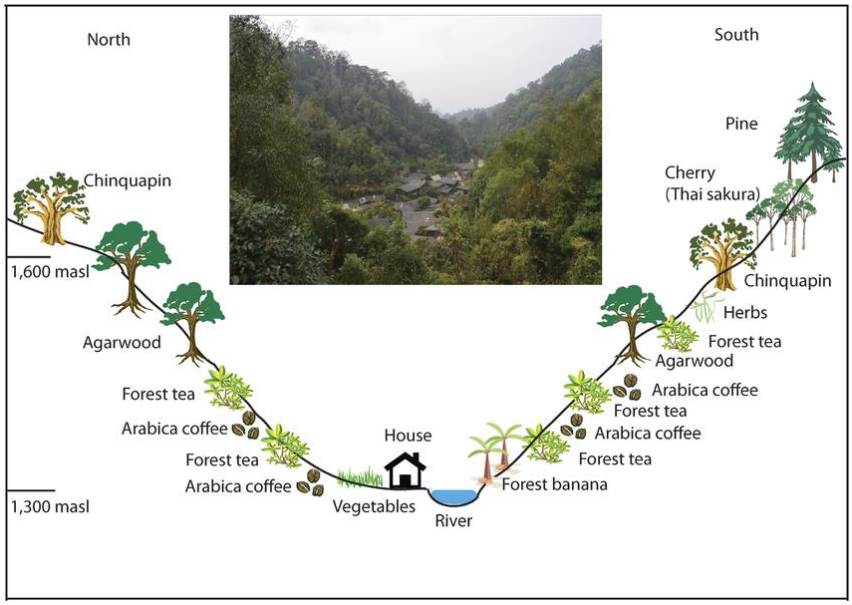

Figure 1: Land Use Transect of Mae Kam Pong village, Thailand (Amnaj, 2014).

As shown above, the figure depicts the natural vegetation, cultivated land with vegetables, human settlement, water source, forest fruits among others.

Semi-structured Interviews

A semi-structured interview is a qualitative data collection method that uses partially pre-determined open-ended questions contained in an interview guide. This research method allows the researcher to follow the interview guide but at the same time gives an opportunity to probe further, by straying from an interview guide when needed and in the process questions may change from general topics to specific variables.

During the interview, the interviewees are free to express themselves as they do not have preconceived choices of responses. From a monitoring and evaluation standpoint, semi-structured interviews are important for developing in-depth understanding of a qualitative phenomenon (Guijt & Woodhill, 2002). Such interviews give rich descriptive data and assist one to gain a deeper understanding

of issues by examining participants' knowledge, values and attitudes, perceptions, opinions as well as understanding their experiences. Therefore, through participants' opinions, semi-structured interviews can also be used to gauge how project interventions work and assess whether their impacts are either positive or negative. When conducting semi-structured interviews, like focus group discussions, the interviewer needs to help and facilitate a comfortable and relaxed atmosphere in order to develop rapport, which is critical for the interviewees to express themselves clearly. When planning to use a semi-structured interview, one can use the following guidelines in the Focus Box 2 below to help in the process.

Focus Box 2: Guidelines for Semi-structured Interviews

1. Write down the topics and questions you consider useful for your interview and avoid questions that can be answered by 'yes' or 'no' response.
2. When designing an interview guide, use terms that interviewees can understand given their characteristics in terms of their education and knowledge, age, language and cultural background etc.
3. Prepare and provide an overview of the purpose of the study and ethical considerations (anonymity and confidentiality, volunteerism etc.) to your interviewee.
4. Get permission for recording or note taking.
5. When beginning the interview ensure that you start with 'warm-up' questions (including those to do with job title and responsibilities, time with the organisation).
6. Develop rapport with the interviewee by being aware of your non-verbal communication like body posture, eye contact, smiles, nodding and establish a relaxed and comfortable atmosphere.
7. The key questions should be open-ended to solicit detailed responses e.g. "Tell me how the women's club started in this community?"
8. Avoid using leading questions such as; "When you said that most women do not participate in local community leadership roles, did you mean they are not interested?" Instead you can ask, what did you mean when you said women do not participate in…?
9. Probes can help generate more in-depth responses but also being silent once the interviewee pauses to encourage them to continue.
10. When ending an interview, always endeavour to find out if there is anything else the interviewee may want to talk about or if they are willing to be contacted later in case of further questions.

Adapted from Zorn (2011)

The success or failure of semi-structured interviews will be depend on whether participants have some knowledge and/or experience on the subject matter in order to give detailed explanations of change unlike a questionnaire which may just solicit 'yes' or 'no' answers.

Questionnaires

A questionnaire is simply a form with a set of close-ended (structured) questions used for collecting statistical (quantitative) data from a large sample size. A number of monitoring and evaluation studies use questionnaires to try and understand specific performance or indicators. In certain cases, researchers choose to include open-ended questions like those used for semi-structured interviews or focus group

discussions in the questionnaire. When that happens, caution should be taken to plan ahead on how data will be analysed. The choice in terms of the type or number of questions in a questionnaire can move from being simple to complex. This can determine the quality and quantity of data collected, which will inevitably influence whether the research questions will be answered or not. As a way of illustration, a questionnaire can be a very good source of data if you need to find out if small-scale farmers who participated in conservation farming training are utilising the information. In this case, the participants would be the actual farmers who participated in the training but a decision should be made whether a sample or all of them will be interviewed. The sampling decision may be influenced by the availability of human and financial resources, time and actual total population because the smaller the population, the more likely that all of them will participate. Unlike focus group discussions or face-to-face interviews; questionnaires can be administered through telephone, email or post. The tips below provide more guidance on how to go about developing and administering the questionnaires.

- Define the purpose and objectives of your study in order to collect correct data from your evaluation questions.
- Develop clear and simple questions while avoiding the use of jargon or abbreviations.
- Questions should be put in a logical manner to bring about better flow of responses e.g., from general to specific or from less sensitive to more sensitive questions.
- Demographic questions focused on age, sex, marital status, education, occupation, etc., are important for establishing casual relationships. However, it is important to only use those relevant for a particular study.
- Decide on your sample size that is adequate enough to be representative of the study population. Sometimes this can be a portion or the whole study population.
- A pilot study should be conducted to test whether: the questions are clear and capturing the right information, the topic or some of the questions are too sensitive, the time it takes to interview one respondent is good (too long may be boring). The pilot may also act as a gauge for research skills, especially when using research assistants.
- The interviewer should have good reading and writing skills, good interviewing skills and have an idea on how data will be analysed as that will help in how questionnaires will be designed.
- If a questionnaire is self-administered, the researcher should ensure that the respondent is able to read and write (Burgess, 2001; CDC, 2008c).

Table 2: Advantages and Disadvantages of Various Data Collection Methods

Methods	Advantages	Disadvantages
Focus Group Discussions	• Quick and cheaper to collect data as it allows interviewing a group of people at the same time. • Group interaction and dynamic can enhance the quantity and quality of data collected. • Good source of information on participants' beliefs, opinions and perceptions on the topic of the researcher's interest. • Generates an opportunity to understand factors that influence opinions or behaviour and differences in participants' perspectives. • The flexibility of focus group discussions allows the facilitator to probe issues in more detail and this brings about new and broad range of ideas.	• They can be difficult to arrange, manage and control. • The discussion can be dominated by some influential members inhibiting others from contributing. • Not suitable for sensitive topics like sexual behaviour or HIV/AIDS, especially if the group is heterogeneous. • There is great temptation for some members to support popular ideas even when they do not believe in them thus collecting less reliable data. • The success of a focus group discussion depends more on a well-trained interviewer and a good atmosphere that encourages interaction.
Direct Observation	• Data collected is very reliable as you can observe what is happening in a natural setting unlike being told by respondents. • Does not depend on the availability and willingness of respondents to provide information. • Observation can be conducted even by novice researchers as it is less demanding in terms of skills compared to interviews or group discussions. • It allows the researcher to observe people's natural behaviour and determine whether what they say matches with what they do.	• Limited to studying the present and not past problems or events. • Does not help in understanding factors influencing people's behaviour simply because opinions, attitudes or perceptions cannot be studied by observations. • Satisfactory results of a study may not be attained by use of observation only instead; interviews may be conducted to seek clarification among other things. • Prone to observer bias as direct observation increases chances of people changing their behaviour.
Stakeholder Analysis	• Cheaper to use as less resources are required to conduct it.	• The process of agreeing who the stakeholders are can be overwhelming and time-consuming and complex.

	• Increases support, cooperation and success chances for a given project, programme or policy. • Data collected helps to identify interactions between different stakeholders thus avoid duplication of work and enhance ways to merger stakeholders. • Researchers facilitate the inclusion of stakeholders that would otherwise be overlooked.	• Needs to be conducted on a regular basis as actual stakeholders, their interests and relationships may change overtime. • The exercise can be subjective. • Mere fact of identifying stakeholders does not guarantee their commitment to the project, programme or policy so other methods like interviews may be needed to complement it.
Document Review	• Relatively cheaper than collecting your own raw data which may be expensive to do. • Reliable source for detailed background information. • Does not need participants, that may be difficult to find and unwilling to be respondents. • Information in documents can easily be referred to and verified in less time. • Document review is flexible and can be done anytime at the researcher's convenience.	• Documents may contain out-dated or incomplete data. • Documents are susceptible to tampering especially where the document is electronic. • One has little or no control over the quality of data contained in documents. • Documents may not provide enough information to answer all research questions. • Relevant documents may be classified, thus inaccessible or not available for use by researchers.
Transects	• Increases indigenous and local knowledge on land use or natural resources among others. • Appropriate for communities with low-literacy levels. • Transects are more participatory and this enhances a sense of ownership of programmes and projects by stakeholders. • Very useful in data validation as actual situation is captured in a diagram.	• In order to have a good transect diagram, the researcher needs to have good participatory, observation and graphic skills. • Like direct observation, transects rely on current observable situations and not past events. • Unavailability of local participants/analysts makes the exercise difficulty or impossible.
Semi-structured interviews	• Appropriate for sensitive topics as it enhances privacy and confidentiality. • The flexibility in asking questions helps the researcher to probe and get clarification on all important topics resulting in detailed and rich information. • The mere fact that this method is semi-structured and not fixed allows free flow of responses making the interview more natural compared to a questionnaire.	• Prone to interviewer bias • Interviewer needs to have good research skills including communication, probing and experience to successfully conduct interviews. • The interviewer needs to have basic knowledge of the topic under research.

		• Not possible to have a complete replica of an interview due to the flexibility nature of the method where some questions are unstructured.
Questionnaires	• Questionnaires are very good in enhancing privacy and confidentiality of respondents as they can complete the instrument anonymously. • Anonymity in completing questionnaires enables the researcher to collect data on sensitive topics. • Respondents can complete the questionnaire at their convenience unlike interviews which demand the interviewer and participant to have a discussion together at the same time. • Able to collect data from a very large sample size quickly.	• Have low response rate due to a number of reasons including illiteracy or busy respondents, large number of questions and anonymity resulting in no follow-ups. • Unable to probe or follow-up on unclear responses or those that need explanations thus little detail is collected and increased chances of misinterpretation. • Questionnaires are less participatory and limit non-verbal communication from respondents which is also a very good source of information.

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Conclusion

Participatory monitoring and evaluation for projects, programmes and policies requires a well-planned data collection methodology. This chapter attempted to describe and explain a number of data collection methods that can be used, how they can be used and when they can be used. It also gave examples of their main advantages and disadvantages. The chapter has shown that data collection methods can be combined but this should be done in line with well identified research objectives. When combined, disadvantages of a particular method may be reduced by advantages of the other. Choices of data collection methods vary and can range from more participatory to less-participatory methods, group discussions, large sample size or individual interviews, document review or participant interview, as well as methods which require a skilled interviewer to those which can be conducted by anyone without any experience. The methods discussed in this chapter include: focus group discussions, direct observation, stakeholder analysis, document review, transects, semi-structured interviews and questionnaires. Ultimately, the choice of a research method should be determined by the research questions the interviewer is attempting to answer. In the process of collection of data, ethics should be adhered to and one needs to have an idea on how data will be analysed.

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