Planning, Monitoring and Evaluation Training Manual for Higher Education HIV/AIDS and SRH Interventions in Ethiopia

Higher Education Institutions’ Partnership Sub-Forum against HIV/AIDS in Ethiopia, Ministry of Education

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Addis Ababa, Ethiopia
Higher Education Institutions’ Partnership Sub-Forum against HIV/AIDS in Ethiopia
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Table of Contents

Acknowledgement..................................................................................................................i
Table of Contents .................................................................................................................. ii
Acronyms and Abbreviations ................................................................................................ iv
Introduction .................................................................................................................................. 2
Need for the training .................................................................................................................. 2
Intended Trainees/Audiences .................................................................................................... 2
Training Objectives .................................................................................................................... 2
Structure of the Training Manual .............................................................................................. 3
Section I: Basic Concepts of Monitoring and Evaluation .............................................................. 1
What is Monitoring? .................................................................................................................... 5
What is Evaluation? ..................................................................................................................... 8
Commonly Used Terms in Monitoring and Evaluation ............................................................... 11
Types of Monitoring and Evaluation Activities ........................................................................ 13
Section II: Programs/Projects and Program Theories ................................................................. 18
What is a Program? ..................................................................................................................... 19
Program Dynamics and the Role of M&E ............................................................................... 19
Program Vs Project .................................................................................................................... 20
Program Theories ..................................................................................................................... 20
Frameworks to Describe Program Theories ............................................................................ 21
Section III: Planning .................................................................................................................. 26
What is planning? ...................................................................................................................... 27
Why Planning? .......................................................................................................................... 28
Scope and Features of Planning ............................................................................................... 28
Approaches to Planning ............................................................................................................ 28
Types of planning ....................................................................................................................... 30
Planning Tools .......................................................................................................................... 31
Steps in the Planning Process .................................................................................................... 33
Section IV: Monitoring Program Functionality ............................................................................ 36
Dimensions of program functionality ....................................................................................... 37
Elements of program monitoring ............................................................................................... 39
Data quality in performance monitoring ................................................................................. 41
Section V: Indicators for Program Monitoring and Evaluation .................................................. 43
Indicators Defined ..................................................................................................................... 44
Why Indicators? ................................................................. 44
Types of Indicators ................................................................................. 45
Formulating Indicators: Essential Steps .................................................. 49
Section V: Designing and Managing Program Evaluations ...................... 52
Section VII: Designs for Program Evaluation ........................................ 59
Commonly used designs for process/implementation evaluation ............ 60
Designs for Outcome/Impact Evaluation ................................................ 60
Recommended Readings ........................................................................ 68
Glossary of Terms ................................................................................ 69
Annex: Recommended Training Schedule ............................................. 71
## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>CDC</td>
<td>Centre of Disease Control and Prevention</td>
</tr>
<tr>
<td>FHAPCO</td>
<td>Federal HIV/AIDS Prevention and Control Office</td>
</tr>
<tr>
<td>FMoE</td>
<td>Federal Ministry of Education</td>
</tr>
<tr>
<td>FMoH</td>
<td>Federal Ministry of Health</td>
</tr>
<tr>
<td>HCT</td>
<td>Counseling and Testing</td>
</tr>
<tr>
<td>HEI</td>
<td>Higher Education Institution</td>
</tr>
<tr>
<td>HEI-PSFAHA</td>
<td>Higher Education Institutions’ Partnership Sub-Forum Against HIV/AIDS in Ethiopia</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MERG</td>
<td>Monitoring and Evaluation Reference Group</td>
</tr>
<tr>
<td>PME</td>
<td>Planning, Monitoring and Evaluation</td>
</tr>
<tr>
<td>SRH</td>
<td>Sexual and Reproductive Health</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>The Joint United Nations Program on HIV/AIDS</td>
</tr>
<tr>
<td>UNFPA</td>
<td>The United Nations Population Fund</td>
</tr>
</tbody>
</table>
Introduction

Need for the training

The success of a public health intervention in achieving intended changes among targeted beneficiaries highly depends on the ability of the program/project to adjust its components based on information generated within its internal and external environment. With the purpose of establishing such a process of informed decision making, different social programs are nowadays giving emphasis to Monitoring and Evaluation (M&E). However, many of them usually suffer from limited human capacity for the design and implementation of M&E activities at different levels.

The Higher Education Institutions’ Partnership Sub-Forum against HIV/AIDS in Ethiopia (HEI-PSFAHA) has prepared a strategic plan (SPM-I) to provide guidance for the planning and implementation of institution level HIV/AIDS and Sexual and Reproductive Health (SRH) interventions. Realizing the goals and objectives of SPM-I and at the same time demonstrating achievements to relevant stakeholders require an appropriate technical design and strong implementation capacity for HEI level Planning, Monitoring and Evaluation (PME). In line with this, the forum has designed a framework for standardized comprehensive PME of HIV/AIDS and SRH interventions.

The purpose of this training is therefore to equip HEIs HIV/AIDS and SRH focal persons and coordinators with the necessary knowledge and skills for the implementation of the designed PME framework.

Intended Trainees/Audiences

The primary targets for this training manual are HIV/AIDS and SRH coordinators and focal persons at HEIs in Ethiopia. A major assumption is that trainees will be adults with an intermediate level of knowledge in quantitative methods including statistics, epidemiology or other related courses with or without prior training in M&E. With appropriate adaptation, generic concepts discussed in the manual could also be used in M&E trainings targeting other programmatic areas.

Training Objectives

On effective completion of this training, participants are expected to:

- Define planning, monitoring and evaluation
- Differentiate different monitoring and evaluation activities
- Discuss program dynamics and the role of M&E systems in program management
- Use program logic model to describe program theories
- Discuss essential steps in setting indicators for M&E of HIV/AIDS and SRH interventions
- Develop annual plans for HIV/AIDS and SRH interventions in HEIs
- Meaningfully participate in evaluations of HIV prevention programs
- Implement the PME framework for HIV/AIDS and SRH interventions in HEIs

**Structure of the Training Manual**

This training manual is prepared with eight sections discussing wide range of concepts relevant to planning, monitoring and evaluation of HIV/AIDS and SRH interventions. Each section includes brief notes, examples and exercises.

**Section I** describes basic concepts of M&E including definitions of commonly used terms in the field and description of different types of M&E activities. In **section II**, programs are defined as complex systems of actions and the role of M&E systems is discussed as part of such complex systems. The section also provides a discussion of frameworks that can be used to describe program theories with a particular focus on the program logic model. **Section III** presents different concepts about planning. The section includes topics on types of planning and detailed steps of the planning process.

**Sections IV and V** discuss specific topics relevant to the design and implementation of M&E activities. Section IV presents concepts on monitoring program functionality including the dimensions of program functionality and routine program monitoring activities. Section V discusses indicators for program M&E. The section provides a set of basic steps recommended to formulate M&E indicators. Characteristics of good quality indicators are also discussed with appropriate examples from the PME framework for HIV/AIDS and SRH interventions in HEIs.

**Section VI and VII** are dedicated to topics in program/project evaluation. In section VI, the process of designing and implementing evaluation studies is discussed. The section discusses a six steps evaluation framework developed by the Centers for Disease Control and Prevention (CDC). The section also discusses standards for program evaluation that define quality. Section VII discusses experimental, quasi-experimental and non-experimental study designs applicable to evaluation.

**Section VIII** introduces the PME framework for HEIs HIV/AIDS and SRH Interventions in Ethiopia.
### Section I: Basic Concepts of Monitoring and Evaluation

#### Introduction

The last three decades represent a period of increasing professionalization of Monitoring and Evaluation in different social programs. As a young profession, however, the field still suffers from lack of standard definition of basic concepts. In this section, concepts and terms most commonly discussed in the field are defined and presented. Definitions discussed here represent the most widely accepted views of thought leaders, professional associations and organizations actively contributing to the development of the field.

#### Section Objectives

At the end of this section, participants are expected to:

- Define monitoring
- Define evaluation
- Discuss the differences between monitoring and evaluation
- Differentiate monitoring and evaluation
- Identify and define different types of monitoring and evaluation activities

#### Lessons

- Monitoring Defined
- Evaluation Defined
- Differences between Monitoring and Evaluation
- Relationships between Monitoring and Evaluation
- Purpose of Monitoring and Evaluation
- Types of Monitoring and Evaluation Activities

#### Exercises

- Differentiating monitoring and evaluation activities
- Identifying different types of monitoring and evaluation activities
Exercise 1: Differentiating Monitoring and Evaluation

Monitoring and evaluation are two related but different activities. The words are commonly used together; however, many authors are at the same time interested in discussing how different the concepts are. An activity considered as evaluation by an individual may be considered as a monitoring activity by another one.

- What is monitoring?
- What is evaluation?
- How are the two concepts related?
- How are the two concepts different?

Before discussing widely accepted definitions and a working definition for this manual, it will be advantageous for participants to pass through an exercise that helps them to explicitly describe how they differentiate the two activities.

Exercise Guide: Work in groups of five

Step 1

- Based on your previous readings, define and differentiate program monitoring and program evaluation

Step 2

- Read the hypothetical intervention described below.
- Read each monitoring and evaluation activity listed below
- Have a thorough discussion among group members and classify each of the M&E activities as monitoring or evaluation based on definitions you developed in step 1. Take notes on observed differences among group members.
- Take notes on why each activity is classified as Monitoring or Evaluation.
- Report your answers to the wider group during discussion

Intervention Description

Through financial support from the Centers for Disease Prevention and Control (CDC), Jimma University’s HIV Prevention and Control Office has been implementing peer education project for the last five years. The project intends to prevent new HIV infection in the university by influencing the behavior of students through their peers. The project targets to reach 6000 students every year by training 1000 peer educators. The project envisions the realization of “zero new infection for university students”
Question: Monitoring or Evaluation Activity?

1. A tool to measure level of knowledge about HIV was adapted from Ethiopian Demographic and Health Survey. The tool was used to assess level of knowledge among students during project initiation and throughout the implementation period, on annual basis. The data was used to see how the proportion of students with comprehensive knowledge about HIV changes over time.

   Monitoring   [ ]    Evaluation   [ ]

   Why? __________________________________________________________________________

2. The project team in collaboration with researchers from the school of public health designed regular surveys to assess the prevalence of HIV among different cohorts of students on a regular basis. The data was interpreted to verify whether all factors to which the students are being exposed have influenced HIV incidence.

   Monitoring   [ ]    Evaluation   [ ]

   Why? __________________________________________________________________________

3. The overall situation was examined in the light of different projects underway in the university and Jimma town, to determine to what extent and in what way, each of the projects including the peer education project affected HIV incidence among students.

   Monitoring   [ ]    Evaluation   [ ]

   Why? __________________________________________________________________________

4. A team of experts identified a university reasonably comparable to Jimma University in all aspects except lacking peer education. The magnitude of risky sexual behavior was measured before and after project implementation among students in both universities. The results of these observations were compared to see whether changes in magnitude of risky sexual behavior occurred and whether such changes occurred in differing ways in the two groups attempting to see the contribution of the project for the differences.

   Monitoring   [ ]    Evaluation   [ ]

   Why? __________________________________________________________________________
5. The project management team and trained peer educators register the number of students reached through peer education to see if they reached the targeted number of students at different time points throughout the life of the project.

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>Evaluation</th>
</tr>
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<tbody>
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</tbody>
</table>

Why? ________________________________________________________________

6. During the first year of the project, it was reported that students from some departments are not interested to participate in peer educator facilitated informal discussions about HIV prevention. The project team gathered information through FGD with students, interview with peer educators and direct observation of peer education activities. The data was analyzed to know why students in those departments are not interested to participate. The findings were used to design a modified implementation modality for students from those departments.

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Why? ________________________________________________________________

7. The project team wishes to know whether peer education is making a difference. They collected various types of data using the registry of participants and knowledge and behavior assessment tools. Focus group discussions were also held. All the data was filed but never used or consulted.

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>Evaluation</th>
</tr>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Why? ________________________________________________________________

Planning, Monitoring and Evaluation
What is Monitoring?

Program monitoring is defined in various ways by different organizations and scholars in the field of Monitoring and Evaluation. Below are some definitions from widely used books and organizations involved in the monitoring and evaluation of different social programs.

Program Monitoring is the systematic documentation of aspects of program performance that are indicative of whether the program is functioning as intended or according to some appropriate standard. It may be related to program processes, program outcomes or both.  

Rossi, et al., 2004

Monitoring is the routine tracking and reporting of priority information about a program / project, its inputs and intended outputs, outcomes and impacts.  

UNAIDS, MERG

Monitoring continuously tracks performance against what was planned by collecting and analyzing data on the indicators established for monitoring and evaluation purposes. It provides continuous information on whether progress is being made toward achieving results (outputs, outcomes, and goals) through record keeping and regular reporting systems. Monitoring looks at both program processes and changes in conditions of target groups and institutions brought about by program activities.  

UNFPA

Common concepts in definitions of monitoring

The above definitions though differ in the way they are stated, share some very important concepts that lay grounds for the design and implementation of program monitoring activities for different social programs including the prevention and control of HIV.
Monitoring is a systematic process

Monitoring programs requires a set of predetermined methods. Program implementers need to develop procedures on how data will be captured, collected, analyzed and used while developing their monitoring and evaluation plan. Haphazardly conducted observations to program components won’t allow organizations to meet the general purpose of program monitoring.

Monitoring is a continuous process

A typical feature of program monitoring is “follow-up” of program performance over a period of time. Monitoring requires repeated observations of aspects of a program by following comparable methods of measurement. A onetime survey or any other method of data collection on a program cannot be meaningfully interpreted to serve a purpose of program monitoring.

Monitoring involves collection, analysis, interpretation and use of data

Program monitoring goes beyond simple collection of program related data. The data has to be analyzed and interpreted, preferably starting from its point of collection, and get used to inform decision making. A common pitfall in M&E systems of social programs is focusing only on collection and reporting of data. The return from investments on M&E activities comes only after the use of information for action; data that is not used at the end is a simple wastage of limited M&E resources.

Monitoring involves the comparison of performance with a set of expectations

Tracking “progress” is an essential concept in definitions of program monitoring. This requires comparison between what is actually achieved, performance, with a certain set of expectations. Expectations are commonly stated as program goals, objectives, targets and other related descriptions of the desired future. Standards are also used as references for program monitoring. The presence of well described program objectives and service related standards is therefore a requirement for an effective program monitoring.
Putting the important concepts discussed by different organizations and authors, we will consider monitoring as a systematic and continual collection, analysis, interpretation and use of data on key aspects of an intervention and/or its expected results to inform decision making.

Program monitoring includes a group of activities that follows up different aspects of a program related to the components of a program logic model. Activities usually undertaken as part of program monitoring include:

- Follow-up of information about the availability and utilization of program resources
- Measurement of the volume and quality of services provided
- Follow-up of social problems targeted by programs
- Comparison of performance with planned targets and other standards

In summary, program monitoring provides answer to two categories of questions related to the performance of a program:

- What is a program doing?
- How do social conditions targeted by the program change over time?

In answering the first set of questions, program monitoring collects information about resource used, activities performed and the number of beneficiaries reached. Routine input/output monitoring activities including routine management information systems are usually targeted at answering these questions.

And in relation to the second set of questions, monitoring documents how a social problem targeted by the program changes over time as the program gets implemented. Routine management information systems are limited to what is happening within the
program implementation environment that they cannot answer these questions. As a result, special regular survey of target populations is required.

Most of the information needs of program management teams are usually related to the above two sets of questions and thus addressed by a strong monitoring system. However, there are questions that cannot be answered even by very strong monitoring systems. Monitoring won’t answer questions like:

- What explains successful implementation of program activities?
- Why did a program fail to implement its activities?
- What are the reasons behind reduction in the magnitude of a social problem targeted by a program?
- How did a program contribute to observed changes in social conditions?
- How do program contributions compare with program investments?

In cases where such types of questions have to be answered to inform decision making, M&E teams will require a set of activities referred as program/project evaluation.

**What is Evaluation?**

Like program monitoring, program evaluation is also defined in many different ways by different scholars and organizations. Some of these definitions are presented below to provide a good insight of how the M&E community defines the word, before introducing a working definition for this manual.

Program evaluation is a time-bound exercise that attempts to assess systematically and objectively the relevance, performance and success of ongoing and completed programs and projects. Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or program managers, and to provide information on whether underlying theories and assumptions used in program development were valid, what worked and what did not work and why.

*UNFPA*
Program evaluation is the application of social research methods to systematically investigate the effectiveness of social intervention programs in ways that are adapted to their political and organizational environments and are designed to inform social action in ways that improve social conditions.

Rossi, et al., 2004

To evaluate consists fundamentally in making a value judgment regarding an intervention, a service or regarding any one of their components, purposing to help in decision making.

(Contandriopoulos, et al., 1997)

Evaluations answer M&E questions that require detailed explanations behind patterns observed in a monitoring. Questions answered by evaluations include:

- What have we achieved and how?
- How relevant were components of a program in addressing beneficiaries’ needs?
- What were the reasons behind observed levels of program implementation (success/failure)?
- Did social problems get solved? What was the contribution of a specific intervention for observed achievements?
- How efficient is a program?

**Evaluation: a working definition**

Program Evaluation is a systematic process of data collection and analysis, about activities and/or effects of a program, looking to provide explanations for observed levels of program implementation or changes in social conditions under intervention with the purpose of informing decisions.

**Relationship between monitoring and evaluation**

The concepts monitoring and evaluation are interrelated to each other in different ways. In most instants, the words are used together rather than one at a time. The relationship
between the two concepts is mainly related to three attributes: purpose, methods and complimentarity.

Table 1: Relationship between Monitoring and Evaluation

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Relationship between M&amp;E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Both monitoring and evaluation have a primary purpose of improving the quality of decisions at different levels by furnishing relevant information in a timely manner.</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>In both cases, there is a process of collecting, analyzing, interpreting and using program related data.</td>
</tr>
<tr>
<td><strong>Complimentarity</strong></td>
<td>In practice, monitoring and evaluation activities are implemented in an integrated manner. Activities commonly referred as “Monitoring” usually include some explanatory components which are theoretically features of evaluation. Evidences from program monitoring describe situations and evaluations explain observed patterns, together providing the full picture of how a program is functioning. Program evaluations also use most of the data generated through routine monitoring.</td>
</tr>
</tbody>
</table>

**Differences between monitoring and evaluation**

Despite the relationship there exists between monitoring and evaluation, the two concepts are distinct. Table 2 summarizes the differences between the two concepts.

Table 2: Differences between Monitoring and Evaluation

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Monitoring</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Continuous</td>
<td>Episodic</td>
</tr>
<tr>
<td>Objective</td>
<td>Describing</td>
<td>Explaining</td>
</tr>
<tr>
<td>Method</td>
<td>Follows trends, compares actual performance with targets</td>
<td>Compares achievements with counterfactual</td>
</tr>
<tr>
<td>Performed by</td>
<td>Mostly internal</td>
<td>Internal and External</td>
</tr>
<tr>
<td>Uses</td>
<td>Alerts when to take action</td>
<td>Provides detailed information on what types of actions to take</td>
</tr>
</tbody>
</table>
Commonly Used Terms in Monitoring and Evaluation

The most frequently discussed terms in M&E arise from the application of concepts of monitoring and evaluation to different components of programs/projects. There are five elements commonly considered as components of a program’s logic model or simply a program. These are inputs, activities, outputs, outcomes and impacts. The application of monitoring and evaluation to these different components of a program makes up the different categories of M&E activities. In this section definitions of these commonly discussed concepts will be provided.

Table 3: Program components: definition and examples

<table>
<thead>
<tr>
<th>Program components</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>Resources dedicated to executing program activities including human, technological, financial and other material resources</td>
<td>- Peer educators - HCT counselors - HIV Test kits - Condoms</td>
</tr>
<tr>
<td>Activities</td>
<td>Program procedures that are executed to obtain desired effects.</td>
<td>- Providing HIV counseling and testing - Distributing condoms</td>
</tr>
<tr>
<td>Outputs</td>
<td>Automatic consequences of activities performed and resources utilized</td>
<td>- Number of students tested for HIV - Number of condoms distributed</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Effects (intermediate) expected among target populations as a result of receiving interventions in a program</td>
<td>- Change in attitude - Condom utilization</td>
</tr>
<tr>
<td>Impact</td>
<td>Ultimate effect expected among target populations as a result of receiving interventions in a program</td>
<td>- Reduced incidence of HIV - Reduced rate of unwanted pregnancy</td>
</tr>
</tbody>
</table>
The five components defined and described with examples in table ___ represent the most widely way of describing different components of a program’s logic model. However, there are also other sets of terms some other organizations use to represent these components. These include:

- Structure, processes, intermediate results and final results (Donabedian, 1990)

It is not a must to follow one set of terms but it is important to avoid mixing terms as this may cause confusion for readers of written reports. Table ___ presents the relationship between different terms used by different authors.

**Table 4: Program components termed by different organizations**

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Resources/Input</td>
<td>Structure</td>
</tr>
<tr>
<td>Activities</td>
<td>Activities/Processes</td>
<td>Processes</td>
</tr>
<tr>
<td>Output</td>
<td>Short term outcome</td>
<td>Intermediate results</td>
</tr>
<tr>
<td>Outcome</td>
<td>Medium term outcomes</td>
<td>Final results</td>
</tr>
<tr>
<td>Impact</td>
<td>Longer term outcomes</td>
<td></td>
</tr>
</tbody>
</table>

**Which components are measured in monitoring and which ones are measured in evaluation?**

Some authors and organizations in the field of M&E consider measurements related to program implementation (input, activities and outputs) as relevant to monitoring and that of expected program effects (outcome and impact) as relevant to evaluation. However, in recent years there is increasing agreement that all the program components can be monitored and all can be evaluated.

The application of monitoring and evaluation to the five components of a program presented in the table creates the different types of M&E discussed below.
Types of Monitoring and Evaluation Activities

1. Input/output Monitoring

Input/output monitoring involves tracking of priority information about the availability and quality of resources availed and the volume of services produced in a program. Monitoring of inputs and outputs is usually undertaken as part of routine program monitoring integrated with implementation of routine operations and projects.

Input/output monitoring provides information about

- The type and volume of resources availed and used in a program
- What services are provided to different groups of beneficiaries in a program
- Number of people served and volume of products produced

Routine management information system in an organization is most of the time established to service information for input/output monitoring. It provides regular information about resources and immediate products of program activities with the purpose of alerting when decision makers have to take actions.

2. Process Evaluation

Is a type of program evaluation designed to determine the level of implementation of program activities and explains why and how the program reached observed level of implementation. In most cases, such types of evaluations provide explanations to observations from input/output monitoring whether it is success or failure. Process evaluation focuses on the internal dynamics of programs in an attempt to understand its strength and weaknesses.

Central to process evaluations are explanations to observed degree of implementation. This requires exploring how user, organization or context related factors affect the way program activities are implemented.

3. Outcome Monitoring

Outcome monitoring is the regular tracking of information related to a program’s expected effect upon targeted beneficiaries. Expected effects in outcome monitoring are those considered as intermediate ones expected to lead to the achievement of what is considered as impact.

Outcome monitoring describes if there are changes in the levels of outcome indicators among target beneficiaries; however, there is no intention to attribute observed changes to a specific program or component of a program. The program may or may not have contribution to the observed changes. And even when the program is known to contribute
for the observed changes, it is not possible to measure the extent of contribution just from outcome monitoring activities.

Outcome monitoring describes how the situation related to intermediate results changes over time. Behavioral surveillances regularly measuring the levels of knowledge, attitude and practice related to HIV/AIDS are good examples of outcome monitoring activities. These regular surveys show if there is any change among target populations in characteristics that potentially lead to an impact like HIV transmission. Apart from describing trends, there is no possibility to attribute observed changes to a single intervention; these trends represent the cumulative effect of all factors of which interventions could be just one of them.

In situations where there is a need to assess the level of contribution of a specific intervention for observed changes, an outcome evaluation should be conducted.

4. Outcome Evaluation

Outcome evaluation is a type of evaluation that explains the relationship between a program being evaluated and trends in outcome levels among the target population. Assessment of causal relationship and effect size are hallmarks in outcome evaluation.

Outcome evaluations determine if there is change in the target population and assess how much of the observed change is attributable to the program/intervention.

5. Impact Monitoring

Impact monitoring is a special type of outcome monitoring that focuses on expected long term accumulative effects of interventions considered as impact. For health related programs, impact monitoring follows up information on epidemiologic indicators of disease frequency and quality of life in the target population.

Impact monitoring activities describe how a social condition is affected by the interaction between different program/user/context related factors influenced the magnitude and consequence of a social problem targeted by an intervention.

HIV/AIDS and SRH intervention related impact indicators in Ethiopia are usually monitored among the general population through regular surveillance surveys including the Demographic and Health Survey. Additional sources of data for outcome monitoring in the general public include HIV sentinel surveillance surveys and HIV prevalence data from blood bank and HCT site reports. These datasets can be used to see trends in HIV prevalence and the incidence of different SRH related impact indicators but not the contribution of specific interventions to observed changes.
6. Impact Evaluation

Impact evaluation is a special type of outcome evaluation that assess the worth of a program or any of its components in terms of achieving expected changes in disease incidence, prevalence or improving the life of beneficiaries. Methodologically, impact evaluation resembles other outcome evaluations; however, unlike outcome evaluations which focus on intermediate level changes, impact evaluation focuses on social conditions that programs intend to achieve ultimately.

In complex programs like HIV prevention and SRH interventions where there are numerous potential influences from different sources, impact evaluation is the most difficult and expensive type of program evaluation.

Exercise 2: Identifying different types of monitoring and evaluation activities

Look at the M&E activities described in exercise 1. Classify each of the M&E activities under the different types of M&E activities discussed above.

Which organizations should do which M&E activities? The M&E Pipeline

All M&E activities are important. However, it is not feasible and cost effective for all programs/projects with different size and scope to conduct all types of M&E activities discussed before. All programs/projects need to perform input/output monitoring integrated with their intervention implementation. Whether to do an outcome/impact monitoring and evaluation should be decided based on the level of program maturity, presence of uncertainties in the program logic and the availability of resources to conduct rigorous evaluations which are usually expensive and demand evaluation expertise beyond an organization’s M&E capacity.
Other Classifications of Evaluation

In addition to the classification of M&E activities presented in the previous sub-section, evaluations are also classified based on different characteristics including the purpose of the evaluation and the distance between program implementation and the person leading the evaluation process.

Table 5: Types of evaluations

<table>
<thead>
<tr>
<th>Classification Characteristic</th>
<th>Types of Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of the evaluation</td>
<td>Formative Evaluation</td>
</tr>
<tr>
<td></td>
<td>Summative Evaluation</td>
</tr>
<tr>
<td>Distance between program implementation and the person leading the evaluation</td>
<td>Internal Evaluation</td>
</tr>
<tr>
<td></td>
<td>External Evaluation</td>
</tr>
<tr>
<td>Program area on which measurements in the evaluation focus</td>
<td>Process/Implementation Evaluation</td>
</tr>
<tr>
<td></td>
<td>Outcome/Impact Evaluation</td>
</tr>
</tbody>
</table>
Formative Evaluation

Formative evaluation is a type of evaluation which takes place during the early stages of program planning and implementation with the purpose of furnishing information for further improvement of interventions. Formative evaluation is conducted primarily to help program planners and implementers by providing information for fine-tuning of program components.

Summative Evaluation

Summative evaluation is a type of evaluation which is conducted at latter stage in the program life with a primary purpose of providing summary judgments about a programs worth. The results of a summative evaluation might lead to decisions about whether to continue the current program or terminate it. Summative evaluations primarily serve the information needs of stakeholders in a position to make major decisions about the program including funding sources and government authorities.

Internal Evaluation

Internal evaluation is an evaluation designed and implemented under a primary responsibility of a person or team with substantial connection with program implementation. This type of evaluation usually addresses the information needs of internal people and its purpose is supplementing monitoring activities for program improvement.

External Evaluation

Evaluations where the primary responsibility of designing and implementing different aspects of the evaluation is assigned to a person or team relatively distant from program implementation are referred as external evaluations. External evaluation is mostly indicated when objectivity is a concern because of issues related to the purpose of the evaluation, conflicting interests of multiple stakeholders and/or evaluation expertise beyond the organization’s capacity is required.
Section II: Programs/Projects and Program Theories

Introduction

Programs constitute the object of monitoring and evaluation. As patients are the objects that medical practitioners deal with and communities are for community health workers, programs are what monitoring and evaluation practitioners and professionals deal with. Understanding programs is therefore an essential step in studying monitoring and evaluation. This section of the manual describes what programs are and how their different components interact with each other in a dynamic environment to form their current status.

Section Objectives

At the end of this section, participants are expected to:

- Define programs
- List and describe the components of a program
- Discuss program dynamics and the role of M&E systems in program management
- Use different frameworks to describe program theories

Lessons

- Programs defined
- Components of a program form
- Program dynamics and the role of M&E
- Program theories
- Frameworks to describe program theories

Exercises

- Constructing a program logic model
**What is a Program?**

Programs are operationally viewed as sets of related routine operations that are managed together to achieve defined objectives. Such operational definitions represent only the technical aspects of programs without considering complexities arising from the social aspect.

In reality programs are complex systems of actions through which stakeholders mobilize available resources to bring changes among targeted beneficiaries. These systems are shaped by the environment in which they exist both inside and outside of the boundaries of institutions considered as owners of the program. Programs have a form with three components: structure, processes and finalities.

**Structure:** is the sociotechnical network of people, knowledge and other resources that enable the execution of program activities. In reality this includes a network of countless contributors with countless relationships much more beyond organizational resources commonly identified by most people trying to operationally describe a program.

**Process:** is the set of interacting and interdependent activities accomplished by both actors and beneficiaries.

**Finality:** is the operational end result of program processes. In reality, there exists no end result for a program; results are connected one after the other creating a chain of endless results. However, program stakeholders decide which level of result credibly represents an end result. This point in the results chain is considered as finality of the program.

**Program Dynamics and the Role of M&E**

The three components of a program form, structure, process and finality, change continuously as a result of information coming from the changing environment. This process of transformation is known in the field of M&E as program dynamics. Transformation is considered as an inherent characteristic of any program. Sociotechnical networks available for execution of program processes, strategies and activities that make up program processes and intended changes described as objectives change through time and as the context changes.

The inherent nature of transformation in the three components calls for a mechanism through which institutions influence the direction of change. Systemization of the transformation process is what is considered as the role of an M&E system.

Institutions are therefore expected to have an M&E system in order to influence the nature, magnitude and direction of change that happens in the three program form components.
**Program Vs Project**

Programs and projects share a lot of similar characteristics. The main source of difference for the two categories of intervention arrangements basically lies in the nature of social problems they intend to solve. Programs intend to address a continuing need of a society while projects target to solve temporary needs of societies other groups of beneficiaries. These basic differences in the nature of targeted needs, differences are seen in the way resources are arranged.

Project is a group of activities intended to produce a certain unique product or service over a fixed time frame. It is temporary endeavor with a definite beginning and end. On the other hand, a program is a group of related routine operations managed together in a coordinated way to obtain benefits that wouldn’t be achieved from managing them separately. As opposed to projects, programs have wider scope and usually are longer term endeavors.

**Table 6: Programs Vs Projects**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Program</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of need addressed</td>
<td>Temporary</td>
<td>Continuing</td>
</tr>
<tr>
<td>Scope</td>
<td>Wide</td>
<td>Limited</td>
</tr>
<tr>
<td>Duration</td>
<td>Long term</td>
<td>Usually short time</td>
</tr>
<tr>
<td>Timeframe</td>
<td>Usually not determined</td>
<td>Definite beginning and end</td>
</tr>
</tbody>
</table>

**Program Theories**

Program theories are sets of assumptions that guide the way specific programs or interventions are implemented and expected to bring about change (Donaldson, 2001). These sets of assumptions can be classified into three categories: program’s organizational plan, service utilization plan and the impact theory (Rossi, 2004).

**Program’s organizational plan** is the set of assumptions on how the arrangement of resources in a program is expected to enable the execution of program activities or delivery of services. For a peer education intervention in a HEI, for example, implementers assume that the availability of trained peer educators among university students will lead to the creation of discussion forums about HIV/AIDS and SRH issues among students. This and other related assumptions make up the program’s organizational plan.
**Service utilization plan** is the set of assumptions taken by the program about uptake of services/products availed. Once services are ready for delivery, will expected beneficiaries utilize services? Programs take assumptions about this question. For example, a university may establish a payment based condom outlet with the purpose of improving condom use during casual sex. This action as a component of a broader SRH intervention takes the assumption that students accept using a condom outlet within a university campus and students afford to pay for condoms. These sets of assumptions about potential users’ behaviors are collectively referred as service utilization plan.

**Impact theory** is the set of assumptions that a program takes regarding the relationship between program outputs, outcomes and impacts. Once people received an intervention, how are they expected to benefit? What series of changes are expected from them so that they will finally enjoy the positive social change intended by the program? Assumptions about these linkages are known as impact theory or theory of change for some authors.

**Frameworks to Describe Program Theories**

Putting all the assumptions discussed earlier to communicate the full picture of a program requires a systematic approach to simplify complex and broad concepts into operationalized elements and relationships. A common way of doing this in program planning and M&E is by using frameworks.

Programs cannot be fully represented by a framework because of their complexity. However, the major components and assumptions could be described to serve specific communication or other M&E related purposes, particularly to develop a common understanding among major stakeholders. There are different frameworks that could be used to describe all or part of a program’s theories. These include but are not limited to conceptual framework, results framework, program logic model and logical framework matrix. Program logic model is a simple and clear framework very commonly used in program and project M&E.

**A Program Logic Model**

A program logic model is a visual and systematic way of illustrating program theories by showing the relationship between different components of a program (Taylor-Powell, *et al.* 1998). It is used to describe the implementation theory (theory of action) of a program, the theory of change (impact theory) and the relationship between them.

Program logic models help program planners, implementers and M&E practitioners to present and share their understanding of the relationships among the resources available to operate a program, activities to be accomplished and changes expected to be achieved among beneficiaries (Kellogg Foundation). In a graphical way, it presents the logical
relationship between strategic program elements (inputs, activities, outputs, outcomes, impact).

Program logic model is usually presented as a picture or a tabular summary of a program showing how we have to run the program, what we are doing, and what we are trying to achieve. It shows the relations among needed resources to make the program operational, planned activities and changes or results the program intends to achieve illustrating the program’s reasonableness. Logic models can be constructed for programs or projects or one or more components of a program or a project.

**Elements of a PLM**

**Problem statement and goal** in a PLM briefly describes the nature and extent of the problem that needs to be addressed and the desired future state the program intends to see.

**Inputs, activities, outputs, outcomes, and impacts** are program components, as defined in Section I of this manual. Inputs are required to implement program activities; activities produce outputs and outputs are expected to lead to the achievement of changes among target populations considered as outcomes and impacts.

**Assumptions and context** are optional components of a PLM to describe the environment in which the implementation and impact theories are expected to function and the role of key external determinants of success. These are related to the social, political and economic factors that exist in the area where the program is being implemented and have influence on the potential success of the program.

<table>
<thead>
<tr>
<th>Our problem is</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>We use these resources</td>
<td>For these activities</td>
<td>To produce these outputs</td>
<td>Leading to these outcomes</td>
<td>Achieving this impact</td>
<td></td>
</tr>
</tbody>
</table>

**Required Work**  

**Expected Results**

Figure 2: Skeleton of a Program Logic Model
Steps to Construct a PLM

Constructing a PLM usually is a team work. Program experts and other stakeholders familiar with the program should be involved. There are some basic steps that teams involved in PLM development should consider despite the wide range of flexibility and back and forth that happens during the process.

**Basic Steps to Construct PLM**

1. Describe the problem targeted by the program and the related program goal
2. Collect information on components of the program: inputs, activities, outputs, outcomes and impacts
3. Arrange components of the program and show the logical relationships between components
4. Inspect the model and refine it with relevant stakeholders
5. Regularly revise the logic model to reflect changes in program elements

**Problem statement:** The HIV infection rate continues to grow knowing HIV status is important to develop personal risk reduction strategies or to improve health status by accessing care, support and treatment services. People who do not know they are HIV negative may not be motivated to remain HIV negative, while those who are HIV positive may not use prevention interventions to reduce HIV transmission.

**Goal:** To contribute for the reduction of HIV/AIDS incidence

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**Figure 3: VCT Logic Model (Adapted from MESURE Evaluation)**

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Planning, Monitoring and Evaluation
Uses of PLM

Logic Model of a program can be used for different purposes as it clearly depicts the internal logic of the program operations. It can be used as a planning, monitoring and Evaluation, and communication tool.

1. **Logical Model as an M&E tool**
   - It contributes to the monitoring of the program’s activities by providing a clear follow up plan, so that successes may be reproduced and problems can be avoided.
   - It helps to focuses the program’s evaluation whenever it identifies the appropriate evaluation questions and the relevant data needed
   - Identify redundant, inconsistent or implausible linkages among program elements
   - Helps to identify important variables to measure; use evaluation resources wisely

2. **Logic Model as a planning tool**
   - It helps planners to specify goals, identify what resources are needed, identify indicators of progress and measurements of success,
   - Guides prioritization and allocation of resources
   - Helpful for program design or improvement

3. **Logic Model as a Communication tool**
   - It is a way to communicate what programs are all about and communicate the program’s potential value.
   - Logic models provide a common language and increase understanding among staff about their program. Constructing a PLM together with staffs and/or making it available to them will increases the possibility of creating uniform perceptions about what a program is expected to accomplish, why it does so and how.
   - It guides and helps focus work and increases intentionality and purpose among actors
   - It facilitates funding and makes replication easier.
   - PLM promotes communication about the program among providers, service users and other interested parties including evaluators.
Limitations of PLM

- It is a representation of reality; it doesn’t reflect the full picture of a program. Programs are too complex to be presented in a linear model like PLM.

- Logic model shows only expected changes; it doesn’t include effects (positive or negative) besides those initially expected.

- Linkages in a PLM represent assumptions; they may not necessarily reflect established causality.

- It is assumed the presupposition that the choice of intervention is the correct one. And doesn’t answer the question “Is what we are doing the most correct thing?”

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**Exercise 3: Constructing a program logic model**

Work as groups of 6 participants

Select one HIV/AIDS prevention and control intervention currently being implemented by HEIs.

Develop a PLM for the intervention.

Consider opinions and information from participants as a valid source of information for this exercise. In reality, this may require an in-depth desk review of program documents and consultation of all relevant stakeholders.
### Section III: Planning

#### Introduction

Planning is one of the five traditional functions of management. Planning is a universal function and every organization whether it is big or small should develop a plan to cope with future uncertainties. In this section participants will be introduced the basic elements and concepts of planning and steps in developing operational plans.

#### Section Objectives

At the end of this section participants will be able to:
- Define planning
- Differentiate types of planning
- Apply different tools in planning for healthcare
- Develop operational plans for HEI projects
- Participate in development of strategic plans

#### Lessons

Lessons
- What is Planning?
- Why Planning?
- Scope and Features of Planning
- Types of Planning
- Commonly Used Planning Tools
- Steps in Planning Process

#### Exercises

- Setting SMART Objectives
What is planning?

A review of planning literatures reveals a variety of definitions in use. Indeed, there is little consensus among planning experts as to the definition of planning in general and health planning in particular and the concept is continuously being redefined. In this section we will see the different definitions given by different authors.

Some commonly referred definitions:

Planning is a process whereby a coordinated and comprehensive mechanism is developed for the efficient allocation of resources to meet a specific goal or goals. *(Richard K. Thomas)*

Planning is the process of mapping a route from point A to point B. *(Health Systems in Action)*

Planning is a systematic approach to attaining explicit objectives for the future through efficient and appropriate use of resources available now and in the future. *(Andrew Green)*

Planning is deciding in advance what to do, how to do it, when to do it, where, why and who will do activities.

**Common concepts in the definition of planning**

First, planning represents a process. In fact, the process may be viewed by some as more important than the outcome. Planning implies that attempts are made to coordinate the various aspects of the system being addressed. Further, planning activities are comprehensive in their approach in that they consider all relevant variables. Ultimately, the intent of the planning process is to achieve certain identified goals and to do this through the efficient allocation of available resources.

Planning asks and answers the following questions:

- Where are we now? (The current situation)
- Where are we going? (Mission, vision, goal, objectives)
- How will we get there? (Strategies, activities)
- When? (Time it takes)
- With what (Resources required)
- How will we know we are getting there? (M&E)
Why Planning?

Planning provides directions and serves to bring about coordination among various components of an organization and reduces overlapping and wasteful activities by clearly defining what is expected from each segment of the organization. It also helps to cope with future uncertainty and changes by foreseeing and identifying potential future anticipated risks and challenges and focus our attention on predetermined objectives. Planning serves to instill discipline into the operation of the organization. It also provides us with an opportunity to develop performance standards to facilitate controlling by establishing standards.

Scope and Features of Planning

The scope of planning can be wide or narrow depending on the targets of the plan. Planning could be practiced for specific activities/projects with limited scope or wider programs covering a country or a continent. Planning may also target the general population, an organization or single program in an organization. Based on the targets of the plan we can classify planning as community-wide planning, and organization level planning.

Basic features of planning include

1. Planning is a continuous process involving decision making about the future.
2. Planning is future oriented and it is flexible as it is based on anticipated future conditions, which always involve a certain level of unpredictability.
3. Planning is systematic and action oriented and involves selection of suitable course of action.
4. Planning is needed and practiced at all managerial levels regardless of the size (small or complex) and type (non-profit or profit making) of organization
5. Planning is collective undertaking requiring the participation of all actors

Approaches to Planning

In a sector where there are hierarchies of institutions or departments, planning could be conducted in a top-down or a bottom-up approach. Both of these approaches have their own strengths and weaknesses making them suitable to different categories of institutions and programs. The selection of an approach to planning therefore requires a clear understanding of the size and composition of staffs at different levels of an organization and the nature of programs/projects expected at different levels.
**Top – Down Planning**

In Top-down planning approach, planning decisions happen at the highest level in an organization’s structure which may be central offices for multilevel organizations and at senior management level for a single organization. Goals and objectives are formulated and strategies and activities are identified at the highest level. The role of lower level organizations and workers are expected to play no role in influencing planning decisions; they are expected to implement what is already decided at the top.

<table>
<thead>
<tr>
<th><strong>Advantages</strong></th>
<th><strong>Disadvantages</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Aligns plans with expectations of funding agencies</td>
<td>• Doesn’t consider variations between settings at lower levels</td>
</tr>
<tr>
<td>• Makes standardization easy</td>
<td>• Difficult to engage partners and target groups</td>
</tr>
<tr>
<td>• Cost-effective if successful</td>
<td>• Difficult to change even if it isn’t working</td>
</tr>
<tr>
<td>• Easy to evaluate implementation and results</td>
<td>• Lack of ownership at lower levels</td>
</tr>
</tbody>
</table>

**Bottom-up Planning**

In Bottom – Up approach to planning, planning decisions are made at the lowest levels and are then passed on to each next higher level for aggregation. It then reaches the central organization or senior management level for approval. In bottom up planning a larger number of employees are involved.

<table>
<thead>
<tr>
<th><strong>Advantage</strong></th>
<th><strong>Disadvantage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Easier to involve partners</td>
<td>• Take staff time and costs</td>
</tr>
<tr>
<td>• Possibility to use free resources</td>
<td>• No full control if target population participate and influence planning decisions</td>
</tr>
<tr>
<td>• Easier to engage target group and identify their needs</td>
<td>• More difficult to evaluate</td>
</tr>
<tr>
<td>• Easier to adapt to differing needs of different organizations or departments</td>
<td></td>
</tr>
<tr>
<td>• Easy to obtain ownership and commitment at lower levels</td>
<td></td>
</tr>
</tbody>
</table>
Table 7: Top – down and Bottom-up Planning approaches

<table>
<thead>
<tr>
<th>Top-down planning approach</th>
<th>Bottom-Up Planning approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflexible</td>
<td>Flexible</td>
</tr>
<tr>
<td>No employee participation</td>
<td>Participatory</td>
</tr>
<tr>
<td>May result lack of motivation</td>
<td>High level of motivation among employees</td>
</tr>
<tr>
<td>Employees feel they are not valued</td>
<td>Employees feel valued/recognized</td>
</tr>
<tr>
<td>Facilitates standardization</td>
<td>Standardization is threatened</td>
</tr>
<tr>
<td>Central priorities maintained at lower levels</td>
<td>Central priorities may not be considered at lower levels</td>
</tr>
</tbody>
</table>

Types of planning

There are several types of planning that can help you map the best way to reach your goal. The commonest types are strategic planning and operational planning. They are the most frequently used, and are not mutually exclusive. In brief, the strategic plan establishes the general direction and broad goals of the organization over longer period of time. And the operational plan details the activities that will allow the organization to achieve its short-term goals.

Strategic planning

Strategic planning is comprehensive planning with wider scope and reflects long term needs and directions of the organization. It focuses on broad and long-lasting issues related to the organization’s long-term effectiveness and survival.

Usually strategic planning is the responsibility of organization’s top management such as: Board members or senior managers. However, the process should involve and include inputs from all levels of the organization as well as stakeholders, for example major donors, and beneficiaries of the organization’s services.

Strategic planning has many benefits for an organization. The following are some of its benefits:

- It stimulates forward thinking and clarifies future direction
- Helps to solve major organizational objectives
- To survive in the increasing competition
- It helps to build teamwork and improve managerial skills
- To influence rather than being influenced
- Strategic planning facilitates funding
**Operational planning**

Operational planning is a process of setting detailed activities and strategies to accomplish strategic plan goals. It is a short range plan that emphasizes on current operations of various parts of the organization. Operational plan has a shorter time span and limited scope. Operational plan should be aligned with the strategic plan and define activities and objectives that will contribute to achievement of the strategic objectives the strategic plan. The operational plan is more detailed than a strategic plan and deal with the implementation and scheduling of actual work activities than with the selection strategies.

**Planning Tools**

There are various tools and techniques that we can use in planning process. Some of the tools are important to assess the current situation and others are important to reach at a consensus on different issues about the plan. The following are the commonly used planning tools.

**SWOT Analysis**

SWOT analysis is a strategic planning tool that matches internal organizational strength and weakness with external opportunities and threats. It is an important technique to understand the situation at which the organization operates.

**Example:** if we take one Higher Education Institution HIV/AIDS and SRH intervention office and do SWOT analysis, the analysis result could be reported as follows.

- **Strength:** availability of resources and trained human power
- **Weakness:** lack of support from senior management
- **Opportunities:** clear and supportive government policies
- **Threats:** lack of awareness of students about the service

**Table 8: Skeleton of SWOT Analysis Matrix**

<table>
<thead>
<tr>
<th></th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>(1) strength</td>
<td>(3) Opportunities</td>
</tr>
<tr>
<td>Negative</td>
<td>(2) Weakness</td>
<td>(4) Threats</td>
</tr>
</tbody>
</table>
PEST Analysis

Pest analysis is more or less similar to SWOT analysis. But PEST analysis focuses on the external environment that may affect the organizations activities and performance. It analyzes the political, economic, social and technological situation.

Group Exercise

Form a group of 5 participants each (participants who come from the same organization should be in one group)

Think about the HIV/AIDS and SRH interventions in your respective Universities and do SWOT analysis.

Use SWOT matrix to present your findings.

Consensus Methods

There are different tools that are used synthesize various individual judgments (opinions) and reach at a consensus in structured, transparent and replicable way. These tools are used in strategic planning for priority setting, objective and strategy setting. Delphi method and Nominal Group Techniques are the commonly used methods.

The Delphi method is a structured communication technique, originally developed as a systematic, interactive method which relies on a panel of experts. Its assumption is that group decision is better than individual decision making. The method involves the following procedures:

Experts are requested to answer questionnaires in two or more rounds. After the first round, a summary of all answers is prepared by a facilitator anonymously and distributed to the experts with the request that they may modify their original answers if they think they should in light of the replies of other members of their panel. When they reply back, in the next round, experts should provide reasons for their judgments/answers. It is believed that during this process the range of the answers will decrease and the group will converge towards the same answer. Finally, the process is stopped after consensus is reached or agreed criteria are fulfilled. And conclusions are drawn from the opinions and justifications.

Nominal group technique (NGT) is a method that enables a group to generate and prioritize a large number of issues within a structure that gives everyone an equal voice.

Nominal group technique involves a group of persons independently answer specific answers to questions about different issues about the plan using cards. Each member is asked to present and the answer and the answer will be listed on the chart and the process
continues till all issues of interest are addressed. Discussion on the issues for clarification and editing, combining of related items and elimination of duplication will be done. Participants independently review the final list of items and identify a certain number of items which they considered the most important and establish scores in a descending order. Then the votes are tallied to determine the items with the highest total score. And finally discussion will be held to assure group consensus.

**Steps in the Planning Process**

**Step 1 - Situational Analysis**: refers to a collection and analysis of both the internal and external environment of an organization in order to understand the organizations current strength and weaknesses. Situational analysis gives us improved understanding of the current situation at which the organization operates. It answers the question “where are we now?” We use the previously mentioned tools such as: SWOT and PEST analysis to conduct situational analysis.

The outcome of situational analysis includes: A common reference point for the rest of the planning and lays a foundation for selecting priority issues to be addressed by the plan.

**Step 2 – Prioritizing of the problems**: the second step in planning process is identifying priority problems, since resources are scarce and it is not possible or feasible to tackle every problem at a time. The problems will be identified from the result of the situational analysis.

Commonly used criteria for health problem prioritization includes:

- Magnitude of the problem: the public health burden imposed by the problem
- Degree of severity: the consequent suffering, death and disability it cause
- Feasibility: practicability in terms of cost, social acceptability and local sustainability
- Government concern: political acceptability with consideration of equity and consistency with government plan and budgetary system
- Community concern: how much does it relate to community perceived health needs?

**Step 3 - Setting Goals and Objectives**

**Goal**: A generalized statement indicating the desired position of an organization or health system at some point in the future. Good goal statement should be short and concise.
**Objective:** represent what a program needs to achieve in order to accomplish its ultimate goal. It is the basis for monitoring of program implementation and progress toward achieving program goal. Unlike goal, a program can have multiple objectives. Objectives answer the question “where do we want to go?”

Objectives to be used for monitoring and evaluation of programs should be clearly stated and fulfill SMART criteria.

- **Specific:** objectives should state about specific issues. The more the specific the objective is the greater the feasibility of measuring it. Objective statements should use only one action verb.
- **Measurable:** the objective statements of a program should quantify resources, activities or the expected changes to allow M&E. It is impossible to determine whether objectives have been met or not unless it can be measured.
- **Achievable:** it should be feasible to accomplish the stated objectives within a given time frame and with available program resources.
- **Relevant:** Objectives should be related to the program activities and the program goals. Objectives which are not related directly to goals can’t show us whether the program can attain its ultimate purpose.
- **Time-bound:** Objectives should provide a time frame indicating when the objective will be met.

**Exercise: Setting SMART Objectives**

Select one of the SRH interventions being implemented in your institutions.

Formulate at least three SMART objectives for the selected program.

**Step 4 - Strategy and Activity Planning:** Strategies are the tactics or techniques that should be devised or adopted and utilized to facilitate the achievement of objectives and targets. Strategies are ways of achieving objectives and targets. Potential strategies often include: Technology to be applied and procedures to be used. For each chosen strategy, the corresponding activities to be undertaken and the resources needed should be detailed. To schedule the activities we can use different tools, Gantt chart is the commonly used tool for scheduling.
**Step 5 - Budget Planning:** An itemized summary of estimated or intended expenditures for a given period of time. The amount of budget should be taken into consideration while we plan all the activities. There are two types of budgeting, program budgeting and line item budgeting. In program budgeting, the budget is allocated as a lump sum which can be spent for different activities in flexible way. Whereas, in line item budgeting fixed amount of money is allocated for an item.

**Step 6 - Develop an M&E Plan:** Planning for monitoring and evaluation activities to track progress should be performed together with strategy and activity planning. The process of developing M&E plan involves selecting indicators for routing monitoring, identifying the data needed, data sources and collection procedures and frequency of collection, and deciding the information user and use. Moreover the plan should show the estimated cost for the planned M&E activities.
### Section IV: Monitoring Program Functionality

#### Introduction

A functional social program is characterized by an efficient use of available resources, timely delivery of program outputs and effectiveness in achieving valued outcomes among targeted beneficiaries. Ensuring the achievement of these criteria of functionality requires generation and use of appropriate information for decision making. Program monitoring provides most of the information that decision makers in a program usually require to inform their basic and routine decisions. This section therefore describes the structure, procedures and tools that are important to establish a system that generates and utilizes information about the processes and results of a program in a continuous manner.

#### Section Objectives

At the end of this section, participants are expected to:

- Describe important elements of program monitoring
- Discuss functional elements of routine monitoring system
- Discuss components of data quality

#### Lessons

- Dimensions of program functionality
- Elements of program monitoring
- Data quality in program monitoring

#### Exercises

- Identifying appropriate dimensions for M&E of HIV/AIDS and SRH Interventions
Dimensions of program functionality

What characterizes a well-functioning program or project? People involved in the design and implementation of social programs respond to such a question in different ways. Reaching intended number of beneficiaries, delivering adequate package of services to the already reached, executing activities with low cost, avoiding barriers to utilization of services, achieving intended change among beneficiaries and other related attributes are commonly mentioned as criteria of functionality. No single aspect is however adequate to define functionality of programs/projects/interventions.

Program functionality can be viewed as a combination of two broad concepts that encompass the above listed and related aspects: access and quality. These concepts are discussed in the works of Roy Penchansky and Avedis Donabedian who influenced the field of M&E in terms of how program functionality is measured.

<table>
<thead>
<tr>
<th>Program Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
</tr>
<tr>
<td>Availability</td>
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<tr>
<td>Accessibility</td>
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<tr>
<td>Accommodation</td>
</tr>
<tr>
<td>Affordability</td>
</tr>
<tr>
<td>Acceptability</td>
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<tr>
<td>Quality</td>
</tr>
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<td>Efficacy</td>
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<td>Effectiveness</td>
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<td>Efficiency</td>
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<tr>
<td>Optimality</td>
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<tr>
<td>Acceptability</td>
</tr>
<tr>
<td>Legitimacy</td>
</tr>
<tr>
<td>Equity</td>
</tr>
</tbody>
</table>

The concept of access is mainly concerned with the ability of a program or any of its components to ensure the delivery of essential components of an intervention to a large enough size of target populations. In health services, it could be viewed as a set of
dimensions describing the potential and actual entry of a given population group to the health care delivery system.

Quality particularly that of healthcare is defined by Avedis Donabedian as the application of science and technology in a way that maximizes its benefits to health without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which care provided is expected to achieve the most favorable balance of risks and benefits.

Both access and quality are multidimensional by themselves encompassing different measureable aspects of programs referred as sub-dimensions. Though they may have overlaps which may seek the interest of academics, there is a clear difference in the focus of the concepts. While access is primarily concerned with reaching adequate number of beneficiaries with adequate volume of services, quality is primarily concerned with the process and content of program components delivered to people who are already reached.

---

**Dimensions of Quality (Avedis Donabedian)**

**Efficacy** is the ability of the science and technology of healthcare to achieve desired outcomes under best circumstances/specified circumstances.

**Effectiveness** is the degree to which attainable outcomes are attained in reality. It is the result of appropriate implementation of services/interventions.

**Efficiency** is the ability to achieve attainable outcomes of care at a lower cost.

**Optimality** is the balancing of improvements in health against the cost of such improvements.

**Acceptability** is the level of conformity to the wishes, desires and expectations of service users.

**Legitimacy** is the conformity of healthcare to social preferences as expressed in ethical principles, values, norms, laws and regulations.

**Equity** is the level of conformity of healthcare to a principle that determines what is just and fair in the distribution of healthcare and its benefits among members of the population.
Elements of program monitoring

Monitoring access to and quality of interventions targeting HIV/AIDS and SRH in HEIs requires routine monitoring of program processes as well as follow-up of social conditions (outcomes and impacts) that programs intend to influence. Both categories of monitoring activities require different data capturing, processing and utilization mechanisms to be in place.

Routine monitoring of program processes (inputs and outputs) involves capturing data on the content and quantity of services provided and the characteristics and volume of beneficiaries served during implementation of program activities. This data is collected in a continuous manner usually in a standardized way across multiple implementers to make meanings out of repeated observations. When collected and analyzed in a timely fashion, routine monitoring of program processes alerts decision makers when there are situations deserving their attention. Routine monitoring of program processes is expected from any institution implementing a social program. It represents the minimum set of M&E activities expected at all levels of implementation.

**Components of routine input/output monitoring**

1. A clearly defined set of input and output indicators
2. Mechanism of data capturing during program implementation
3. Collection and aggregation of data at the level where data is captured
4. Data sharing (reporting and dissemination) to all relevant stakeholders
5. Data use mechanisms at different levels

---

*Dimensions of Access (Roy Penchansky)*

**Availability:** the relationship of the volume and type of existing services and resources to the volume and type of clients' needs.

**Accessibility:** the relationship between the location of services and that of clients

**Accommodation:** the relationship between the manner in which services are organized to accept clients and clients' ability to accommodate to these factors.

**Affordability:** the relationship between prices of services and providers’ ability to pay.

**Acceptability:** the relationship of clients' attitudes about personal and practice characteristics of providers to the actual characteristics of existing providers.
The other set of monitoring activities that some organizations may require is monitoring of social conditions that a program intends to influence. Such monitoring activities are known as outcome monitoring when applied to intermediate level results and impact monitoring when the social condition being monitored is considered as an ultimate result of the program. In both cases, unlike monitoring of program processes which is limited to the collection, analysis and use of data collected during service delivery, there is a need to collect data on social conditions of targeted beneficiaries. In HIV/AIDS and SRH, the commonly used approach to monitor program outcomes and impacts is through regularly administered population surveys usually as part of surveillance systems.

Monitoring program outcomes and impacts is different from routine monitoring of program processes both in the nature of information it tracks and the method involved. Table 9 shows a comparison of routine program monitoring with monitoring of program outcomes and impacts.

Table 9: Monitoring Program Processes Vs Outcome/Impact Monitoring
(Adapted from UNDP M&E Handbook)

<table>
<thead>
<tr>
<th>Features of Program Process Monitoring (Input/output Monitoring)</th>
<th>Monitoring Program Outcome/Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of the problem or situation before the intervention;</td>
<td>Baseline data to describe the problem or situation before the intervention</td>
</tr>
<tr>
<td>Benchmarks for activities and outputs</td>
<td>Indicators for outcomes</td>
</tr>
<tr>
<td>Data collection on inputs, activities and immediate outputs</td>
<td>Data collection on outcome indicators in a continuous fashion to see trends</td>
</tr>
<tr>
<td>Systematic reporting on provision of inputs and delivery of outputs</td>
<td>Systematic reporting with qualitative and quantitative information on the progress of outcomes</td>
</tr>
<tr>
<td>Directly linked to a discrete interventions</td>
<td>Usually done in conjunction with strategic partners</td>
</tr>
<tr>
<td>Designed to provide information on implementation, administrative and management issues</td>
<td>Captures information on success or failure of strategies in achieving desired outcomes</td>
</tr>
</tbody>
</table>
Data quality in performance monitoring

Data quality in program monitoring is the level to which data collected and reported across different levels of program implementers serves intended purposes to intended users. Most important characteristics of data that determine the level of fit between the data and its intended purpose are the levels of accuracy, completeness and timeliness. In this manual we consider these characteristics as components of data quality.

Data Accuracy

Data accuracy is the level to which data correctly represents an aspect of a program intended to be measured. For quantitatively reportable indicators, data accuracy is usually measured as the level of congruence between reported data and source documents from which the report is compiled.

Example: Assume that the number of peer educators trained during the second quarter of 2013 in a university, as recorded in the training registration book, is 120. If the number is reported as 110 in the quarterly report submitted to the HEI-PSFAHA, what is the level of accuracy for this particular data element?

Data accuracy = 100% - %age of error where,

\[
\%age\ of\ error = \frac{|Number\ reported - Number\ recorded|}{Number\ recorded} \times 100\% 
\]

\[
%age\ of\ error = \frac{|120 - 110|}{110} \times 100\% = 8.3\% 
\]

Data accuracy = 100% - 8.3% = 91.7%

Level of data accuracy, when measured for a single quantitative variable like in the above example, reflects to what extent reported data is in agreement with its source. Over reporting and underreporting, both lead to reduction in data accuracy and affect the quality of decisions when used to inform decision making.

When multiple indicators are involved in a report, data accuracy can also be measured as the proportion of data elements that fulfill criteria for accuracy.

\[
Data\ accuracy = \frac{Number\ of\ data\ elements\ accurate}{Number\ of\ data\ elements\ assessed\ for\ accuracy} \times 100\% 
\]
Data completeness/Report Completeness

Report completeness is the level to which all required data elements are included in a report. As a characteristic of a single report submitted by one reporting institution, report completeness can be assessed as the proportion of required data elements that are actually included in the report. This type of completeness is usually referred as **Content Completeness**. The other dimension of completeness is what is commonly known as **Reporting Completeness** which is applicable at institutions receiving reports from multiple institutions. Reporting completeness is measured as the proportion of institutions required to submit reports that actually submitted their reports.

\[
\text{Content Completeness} = \frac{\text{Number of required data elements reported}}{\text{Number of required data elements in a report form}} \times 100\%
\]

\[
\text{Reporting Completeness} = \frac{\text{Number of reports received}}{\text{Number of reports expected}} \times 100\%
\]

**Reporting Timeliness**

Data is most useful when availed for decision makers at a time while there is still time to act. Reporting timeliness is the level to which reporting institutions submit their reports within agreed upon timeframe. Reporting timeliness can be measured as the proportion of expected reports that are received timely.

\[
\text{Reporting Timeliness} = \frac{\text{Number of reports received timely}}{\text{Number of reports expected}} \times 100\%
\]

In the process of decision making, quality of data is as important as the level of information use by decision makers. Poor quality data discourages program implementers, policy makers and other stakeholders from making informed decision making. Even in cases where decision makers tend to use available information to inform their decisions, the likelihood of making the right decisions will be low in situations where data quality is poor.

Similar to other program components, data quality has to be monitored and actions need to be taken with the purpose of continuous improvement. It is usually recommended to make data quality assessment an initial step in the process of using routine data for action.

**Group Exercise**

Identify appropriate dimensions for M&E of HIV/AIDS and SRH Interventions.
### Section V: Indicators for Program Monitoring and Evaluation

#### Introduction

Measurement is an essential component of both monitoring and evaluation activities. As measurement findings lay the ground for making decisions, developing an appropriate set of indicators is critical for any social program. Failure at this stage in the process of establishing a monitoring system or designing an evaluation for a program not only risks the utility of information by decision makers but may also lead to wrong decisions hampering program performance. Therefore, adequate emphasis should be given to identify indicators of good quality for program M&E.

In this section, the commonly employed procedures of indicator selection and characteristics of good indicators are discussed in detail. The section also provides a discussion of different categories of indicators.

#### Section Objectives

At the end of this section, participants are expected to:

- Define indicators
- Differentiate types of indicators
- Discuss essential steps in setting M&E indicators
- Discuss characteristics of a good indicator
- Develop indicators of good quality for a specific program/project

#### Lessons

- Indicators defined
- Types of indicators
- Formulating indicators: essential steps

#### Exercises

- Setting indicators for program/project M&E
- Assessing the quality of indicators for a given situation
Indicators Defined

What are indicators?

Indicators are signals that reveal progress (or lack thereof) towards objectives; means of measuring what actually happens against what has been planned in terms of quantity, quality and timeliness.

UNDP

Indicator is quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.

OECD

Indicators are variables with the purpose of measuring change in a phenomena or process.

USAID

An indicator is a quantitative metric that provides information to monitor performance, measure achievement and determine accountability.

UNAIDS

The word indicator as applied to program M&E is defined by different organizations and authors. Despite the different expressions used in these definitions, their central concepts are more or less similar. The Evaluation Office of the United Nations Development Program (UNDP), in its handbook for M&E defined indicators as signals that reveal progress (or lack thereof) towards objectives; means of measuring what actually happens against what has been planned in terms of quantity, quality and timeliness.

UNDP

An indicator is a quantitative or qualitative variable that provides a simple and reliable basis for assessing a more general phenomenon of interest related to the functionality of a certain program or project including access and quality or their sub-dimensions.

OECD

Most of the time, indicators are not the exact measures of a program’s functionality. They only vary coherently with the phenomenon of interest requiring some sort of interpretation. We measure indicators and try to speak about access to or quality of program components through interpretation. The relationship should be considered as valid among stakeholders so that measurements and interpretations will be credible.

USAID

Why Indicators?

Program characteristics including the level of implementation of intervention components and achievement of desired changes among targeted beneficiaries are usually so complex and broad to understand. In the absence of agreed upon measures, observation on these complex and broad phenomena can be interpreted in different ways among relevant stakeholders. The use of indicators for program M&E allows to standardize how progress towards
success or the lack thereof can be diagnosed. Indicators also provide a yardstick whereby program implementers and other stakeholders can compare themselves to others doing comparable work by allowing comparisons of performance over time, over different geographic areas and across programs.

**Types of Indicators**

Indicators could be classified based on different criteria including the component of a program related to the indicator, the nature of relationship between the indicator and the subject under measurement, the nature of information provided and the number of variables involved in the indicator.

1. **Classification based on related program component**

In the sub-section on program logic model, programs are discussed as composed of five logically connected components: input, activity, output, outcome and impact. Based on the relationship of indicators with these components, indicators could be classified as input, process, output, outcome and impact indicators.

**Input indicators** are measures of the amount and quality of resources availed for implementation of program activities.

**Process indicators** are indicators related to the characteristics of program procedures including the adequacy of content and the appropriateness of methods involved in the delivery of services.

**Output indicators** measure the amount of work done usually expressed in terms of number of users served, amount of products produced or volume of services delivered. Most of the time output indicators are measures of the volume of work done regardless of its quality.

**Outcome indicators** are indicators measuring the effect of an intervention on its beneficiaries. These indicators are different from impact indicators in that they are considered only as intermediate results leading to the achievement of ultimate results; they are not considered as ultimate results by themselves.

**Impact indicators** are indicators measuring the level of achievement of what is considered as an ultimate effect of a program on its beneficiaries. Applied to HIV/AIDS and SRH interventions, these indicators include measures of social conditions including quality of life, morbidity, mortality, happiness and other related concepts.
Examples of input, process, output, outcome and impact indicators

<table>
<thead>
<tr>
<th>Category of Indicators</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Input Indicators        | • Number of condoms available for distribution  
                          • The presence of audiovisual equipments for SRH education  
                          • Number of VCT counselors in a university |
| Process Indicators      | • Average waiting time to see student counselor  
                          • The proportion of HIV patients who get screened for active TB during their last visit |
| Output Indicators       | • Number of condoms distributed  
                          • Number of students counseled |
| Outcome Indicators      | • The proportion of students with comprehensive knowledge on HIV  
                          • Proportion of students who consistently use condom during casual sex |
| Impact Indicators       | • Incidence of HIV  
                          • Quality of life of patients with HIV infection  
                          • Proportion of students who had unwanted pregnancy during the last one year |

2. Indicator – phenomenon relationship

Measurements in M&E have a purpose of understanding a certain phenomenon that makes up the subject of measurement. Based on the relationship between the indicator and the phenomenon that users of the indicator want to understand, indicators could be classified as direct indicators and proxy (indirect) indicators. This classification requires understanding what the indicator is and how measurements will be interpreted to speak about the phenomenon of interest. Depending on this relationship, a single measure can be considered as a direct indicator of one phenomenon while it could be a proxy indicator of another phenomenon.

**Direct indicators** are indicators which directly represent the phenomenon that information users want to understand. An example of a direct indicator could be “number of students who get tested for HIV through HCT” if the intention is just to know the volume of clients in order to decide future resource needs like how many counselors or test kits are required.
While direct indicators like the example on HCT look to be very easy to measure and interpret, most of the time information users want to understand a more general phenomenon beyond simply knowing the volume of clients. As a result, in most contexts, it is not realistic to formulate and measure direct indicators; even whenever it is possible, it may be very expensive to do so. Thus, M&E tend to use indicators which speak about a subject only indirectly or by proxy, very often. Such indicators are known as **Proxy Indicators** or **Indirect Indicators**.

Indirect indicators are much more commonly employed in M&E of HIV/AIDS and SRH interventions compared to direct indicators.

### Why proxy (indirect) indicators?

- Direct indicators may not be applicable
  - Behavioral change
- It may be too sensitive to use direct indicators
  - Using monthly expenditure as a proxy to monthly income
- Proxy indicators may be less costly
  - Service uptake as a proxy for acceptability of a service

### 3. Classification based on the nature of information

Some indicators provide quantified measures of a phenomenon while others simply describe contents. Based on the nature of the information they provide indicators could be classified as quantitative or qualitative. **Quantitative indicators** are indicators which provide numeric measures of a phenomenon. These include absolute numbers or counts of events, ratios, means of variables measured on a scale, percentages and rates calculated from count data and the likes.

**Examples of quantitative indicators**

- Percentage of female students with knowledge on at least two modern contraceptive methods
- Number of students tested for HIV
- Prevalence of HIV among university students
Qualitative indicators on the other hand are indicators measured non-numerically. Qualitative indicators are used only when quantitative indicators are not applicable like in situations where the content of an intervention is the subject of interest rather than its quantity.

**Examples of qualitative indicators**

- Youth friendliness of a student clinic
- The presence of enabling environment for the provision of comprehensive SRH services to university students

4. **Classification based on the number of variables involved**

Based on the involvement of multiple variables under a single indicator, indicators could be classified as simple or composite.

Most indicators of social programs including those targeting HIV/AIDS and SRH involve a single variable as a measure of program functionality. Such indicators are known as **Simple indicators**.

**Examples of simple indicators**

- Number of students reached by SRH peer educators
- Proportion of female students who had unwanted pregnancy during the last one year

For some phenomena, assessment of multiple aspects becomes important in order to fully understand the bigger picture. In such situations, it is advisable to have multiple indicators measured and reported separately. However, reporting burden could force the M&E system to develop one summary indicator composed of multiple constructs. Indicators developed in such a way are referred as **Composite Indicators**. As it can be understood from their name, composite indicators are constructed from multiple variables and reflect average level of performance on multiple dimensions of performance.

**Examples of composite indicators**

- AIDS Program Effort Index
- Quality of care index
Formulating Indicators: Essential Steps

Formulating indicators requires a systematic process of defining what has to be measured, why and how. In programs involving multiple stakeholders, the process usually happens in a politically charged environment. Addressing all the information needs of every involved stakeholder without any compromise is almost always unrealistic; there has to be a process of prioritization, negotiation and alignment with reporting requirements at different levels.

Formulating indicators for M&E requires the involvement of experts with relevant expertise and representatives of major players in the program area. Once established and assigned with the responsibility of formulating indicators, teams could set their steps.

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**Essential steps in formulating M&E indicators**

1. Define what has to be measured
2. Define why and for whom measurement is required
3. Select indicators from standard sources
4. Formulate additional indicators
5. Prioritize and select optimum number of indicators
6. Define characteristics of selected indicators
7. Regularly revise list and definition of indicators

---

**Step I: Define what has to be measured**

As discussed before, indicators are most of the time intended to measure a more general phenomenon. Teams responsible to identify indicators should not embark to selection of measures without a clear understanding of what the indicators are expected to speak about. This step in the indicator selection process requires the team to define what they wanted to get measured.

**Step II: Define why and for whom measurement is required**

Identifying who is going to use data collected in an M&E system helps to facilitate information use and ensure that no data is collected without a clearly identified purpose. Decision makers who will be using the results of measurements on dimensions identified in step 1 should have a clear picture of how measurement results will be used to inform
their decisions. Identifying who will be using measurement results and for what purposes allows teams to identify an indicator that can fully address the information needs of decision makers.

**Step III: Select relevant indicators from standard sources**

Once teams have a clear understanding of what has to be measured, why and for whom, it will be possible to identify indicators that can serve intended purposes. Already available sources of standard indicators including international organizations and national information systems serve as a good source of already tested indicators already in use by other organizations. Whenever possible, identifying indicators from these standard sources improves the comparability of the indicators. Such standard sources for HIV/AIDS and SRH interventions in Ethiopia include the Health Management Information System (HMIS), Demographic and Health Survey (DHS) and Behavioral Surveillance Survey (BSS).

**Step IV: Formulate additional indicators**

Using indicators from recognized sources of standard indicators is a preferred way of identifying appropriate indicators to ensure comparability of measures across different organizations and programs. However, such sources may not always include what is important at local levels. In such situations, teams should formulate additional locally relevant indicators.

**Step V: Prioritize and select optimum number of indicators**

Managers and program implementers tend to demand as much information they can get as possible. Availing information on a long list of M&E indicators however is constrained by limited resources available for collection, analysis and sharing of data. Teams responsible for the selection of indicators are therefore required to prioritize and selection an optimum number of indicators among a long list that is in most cases a result out of steps IV and V discussed above. Characteristics of good indicators should guide the prioritization process in this step.

The optimum number of indicators is the one that balances the level to which information needs of stakeholders are addressed to the limits of resources available for M&E.

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**Good Indicators are**

- Sensitive and specific
- Reliable
- Measurable
- Quantitative when possible
- Understandable
- Comparable
Step VI: Define characteristics of selected indicators

Teams responsible for formulation of indicators are always in a better position to clearly define what a selected indicator is, how it gets measured, how it is expected to be reported and most importantly how to measurement results should be interpret. Describing this information about each of the selected indicators makes the final step for teams assigned with the responsibility of indicator selection.

What should description of indicators include?

- Title
- Indicator definition/formula
- Purpose of the indicator
- Method of measurement
- Reporting requirements
- Data disaggregation
- Clues for interpretation and use

Group Exercise:

Step I: Setting indicators for program/project M&E
- Identify one SRH related intervention
- Identify two indicators that can be used to monitor and evaluate the intervention (Follow the steps discussed above)

Step II: Assessing the quality of indicators for a given situation
- You will be provided with indicators set by other groups
- Review the indicators and comment on the quality of the indicators based on the criteria for good quality indicators discussed before
## Section V: Designing and Managing Program Evaluations

### Introduction

Evaluations are conducted to understand the usefulness of social programs with a goal of solving social problems. They are initiated for different purposes in different contexts either to determine how well programs are implemented, or how programs are effective and efficient. In this section participants will be taken through the basic steps in initiating, planning and undertaking program evaluations.

### Section Objectives

At the end of this section, participants are expected to:

- Describe the basic steps in conducting program evaluation
  - Identify and engage stakeholders
  - Describe program components
  - Formulate evaluation questions
  - Identify possible data sources and data collection methods in evaluation
  - Interpret evaluation results and ensure use by intended users
- Meaningfully participate in evaluations of HIV prevention programs

### Lessons

- Engage stakeholders
- Describe programs under evaluation
- Focus the evaluation
- Gather credible evidences
- Justify conclusions
- Ensure uses and share lessons learned

### Exercises

- Identifying stakeholders for HEI HIV prevention programs
- Formulating evaluation questions
- Identifying data sources and data collection methods
Steps to Follow in Conducting Program Evaluations

Different evaluations will have different approaches and methods based on the type and purpose of the evaluation and the context in which the program evaluation is conducted. There is no generic step to follow in conducting program evaluations. However, there are basic steps which could be applied for most program evaluations. CDC (1999) recommends six steps in conducting program evaluations.

![Framework for Program Evaluation (Source: CDC)](image)

**Figure 4: Framework for Program Evaluation (Source: CDC)**

**Step One: Engage Stakeholders**

Key evaluation stakeholders are the ones who utilize the evaluation findings for decision making. Early engagement of stakeholders during the evaluation process will ensure that their questions and concerns are addressed by the evaluation and make the evaluation
findings credible and useful. For any evaluation there are varieties of possible stakeholders which include: policy makers, program funders, program managers, program staff, beneficiaries, etc.

We can classify stakeholders into three: individuals who are involved in implementing the program, those served or affected by the program and primary users of the evaluation. This classification, although it is not mutually exclusive, is useful to identify and engage key groups of stakeholders in the evaluation process.

**How to involve stakeholders**

Identifying potential key stakeholders and involving them in the evaluation process is usually a difficult task. To identify stakeholders, we have to understand who cares about the program, which individuals support the program, which individuals are antagonistic toward the program, and who utilize the evaluation finding.

The level of importance of different stakeholders for the evaluation can be different and so the level of involvement. Some stakeholders should be directly involved throughout the evaluation process. And for other stakeholders, it may be enough to update them about the progress of the evaluation.

Stakeholders could have diverse interests and values about the program and could have a variety of questions to be answered by the evaluation. However, no evaluation can answer all questions raised by stakeholders. For this reason there is a need to narrow list of stakeholders and focus on the primary stakeholders. Stakeholders’ analysis matrix is the best tool to identify key stakeholders by depicting the stockholders role in the program, role in the evaluation and primary users of the evaluation findings.

**Table: Stakeholder Analysis matrix**

<table>
<thead>
<tr>
<th>List of stakeholders</th>
<th>Role in the program</th>
<th>Role in the Evaluation</th>
<th>How do they plan to use the evaluation result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
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<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Group Exercise

• Form groups of 5 people in each

• Identify one HIV/AIDS prevention intervention in on which most group members are working.

• Identify possible stakeholders and prioritize the primary ones

• Describe the stakeholders’ role in the program, their potential role in an evaluation and describe how each stakeholder would like to use the evaluation findings (Use stakeholder analysis matrix)

Step Two: Describing the Program under Evaluation

A program description is a summary of the intervention being evaluated. It is necessary to understand programs under evaluation to better evaluate it. The descriptions should be sufficiently detailed to ensure understanding of the program theory, goals, objectives and strategies. The description should include: what is the nature of the problem that the program is trying to solve, how the program is able to bring the desired change, its stage of development, and how it fits into the larger organizational and the surrounding context. In describing the program we can use logic models to show the internal linkage of the program components.

Step Three: Focusing the Evaluation

Evaluations should focus on most critical areas of the program and issues of greatest concern to the stakeholders. It is not feasible and necessary to know everything about a program by doing program evaluation. The following are important elements we should consider in focusing an evaluation: clarifying users and uses of the evaluation findings formulating evaluation questions and selecting evaluation design that best fits to answer the evaluation questions.

Clarifying users and uses of the evaluation findings: Users of the evaluation are persons who are primary recipients of the evaluation findings; similarly evaluation use means, the specific ways in which information generated from the evaluation will be applied.

The uses and intended users of the evaluation findings should be stated clearly during proposal development in such a way that intended use and users will be clear. If it is
stated in vague and broad terms, the chances of the evaluation to address the needs of primary stakeholders will be minimal.

Formulating evaluation questions: Evaluation questions are a set of questions that are developed by evaluation sponsors, other stakeholders and evaluators that define the issues which the evaluation will investigate. Evaluation questions should be formulated by the primary users of the evaluation, but negotiating between stakeholders to prioritize the most important questions and to refine the focus is advisable. There are different types of evaluation questions which include: process questions, outcome questions and impact questions.

**Table 10: Types of Monitoring and Evaluation questions**

<table>
<thead>
<tr>
<th>Types of questions</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Process questions  | Questions focus on examining the program implementation process | - Are HEIs HIV/AIDS and SRH intervention packages being implemented according to agreed guidelines? How? Why?
- Are there adequate resources to carry out the HIV/AIDS and SRH interventions? |
| Outcome questions  | Questions which focus on assessing changes on the target population and the contribution of an intervention being evaluated | - Is there any observed change in the target population? Does the HIV/AIDS and SRH intervention being evaluated explain the observed change?
- Is the observed behavioral change in the target population due to the peer education program? |
| Impact questions   | Focus on assessing long-term effects of the program and the contribution of an intervention being evaluated | - Did HCT contribute to reduction in HIV transmission?
- To what extent was condom distribution activity able to reduce HIV incidence? |
Group Exercise: Formulate Evaluation Questions

- Form groups of five in each
- Select one HIV/AIDS Prevention intervention implemented in all HEIs
- Develop process, outcome and impact evaluation questions for the intervention you have selected

Step Four: Gathering Credible Evidence

Data collected for the evaluation should be of highest quality (reliable and valid), and should fully answer the evaluation questions. The data collected should be believable by stakeholders especially intended primary users. It is highly unlikely that stakeholders will base their future decisions on evaluation results if they feel that the data is not credible.

To assure credibility of data, stakeholders should agree on the source of data, the instruments used to collect the data, the design of the evaluation and interpretation of the findings.

Most of the time evaluations use multiple data sources. And triangulate the data to reduce the chance of bias and get a more comprehensive understanding of the topic under study because each method of data collection has its own advantage and limitations.

Group Exercise

- Be in your previous groups
- List the possible data collection methods and data sources to answer evaluation questions you formulated during the previous group work
- Discuss the advantages and limitation of each data collection method and data source
Step Five: Justify conclusions

This step of evaluation involves analysis and interpretation of information using scientifically accepted procedures; judgment about the merit, worth, relevance or implementation fidelity of the program based on pre-stated criteria or standards and forwarding recommendations on what actions should be taken regarding the program.

Step Six: Ensure use and share lessons learned

To ensure utilization of evaluation findings we should do the following: disseminate the evaluation findings and follow up.

Disseminating findings

Dissemination of the evaluation findings is the process of communicating procedures and the lessons learned from an evaluation to relevant audiences in a timely, unbiased, and consistent fashion so that potential users can use the information for decision making.

Dissemination is not a onetime activity; it should be carried out throughout the evaluation process to update relevant stakeholders.

Follow-up

Follow-up refers to the technical and emotional support that users need during the evaluation and after they receive evaluation findings. Reaching at a conclusion and reporting the result of an evaluation is not the end of the evaluation process. Follow-up is usually necessary to remind intended users to base their future decisions on the evaluation results.

Standards for Quality Program Evaluation (Source: JCSEE)

- Utility: evaluation serves the information needs of intended users.
- Feasibility: be realistic, prudent, diplomatic
- Propriety: behave legally, ethically, and with regard for the welfare of those involved and those affected.
- Accuracy: reveal and convey technically accurate information.
## Section VII: Designs for Program Evaluation

### Introduction

Evaluation designs are protocols of the study. Selecting appropriate evaluation design is one of the most important steps in conducting program evaluation. Therefore, there is a need to carefully select evaluation designs capable of answering the evaluation questions appropriately. The focus of this section is therefore, on discussing the commonly used evaluation designs.

### Section Objectives

At the end of this section, participants are expected to be able to:

- List and define evaluation designs
- Discuss the strength and weakness of the different designs
- Identify threats to internal validity associated with different evaluation designs
- Identify evaluation design for a particular evaluation context

### Lessons

- Evaluation Designs: Definition
- Commonly used designs for process/implementation evaluation
- Designs for outcome and Impact evaluation

### Exercises

- Identifying evaluation designs to answer evaluation questions formulated in previous exercise
Evaluation Designs

Definition

Evaluation design is the skeleton (structure) of an evaluation study. It is a specific plan or protocol for conducting any evaluation study. Study designs are usually framed by evaluation questions and the type of evaluation required.

Commonly used designs for process/implementation evaluation

Process evaluation is a type of evaluation which explores the internal workings of the program. As stated in Section I, it supplements monitoring of inputs and outputs by assessing the underlying facilitating and hindering factors for successful implementation of the program. The commonly used evaluation designs are case study and survey designs.

Case study

A case study is a method for learning about complex instances, based on a comprehensive understanding of that instance obtained by extensive description and analysis of those instances taken as a whole and in its context. Case study is an in-depth study and uses multiple data sources as opposed to studies with many observations. Case study usually answers one or more questions which begin with "how?" or "why?". It is commonly used in process evaluations because it explores the different factors that explain program implementation levels.

Case study emphasizes on contextual analysis of a limited number of events. In case study design selecting cases is a crucial step. The cases in case study design can be a person, a program, country or another unit involved in the implementation of an intervention being evaluated. Usually it uses limited number of subjects. Depending on the number of cases being studied, a case study can be classified as single case study or multiple case study.

Designs for Outcome/Impact Evaluation

The crucial issue in outcome and impact evaluation is to demonstrate that the program caused a desired result. Evaluation designs we choose for such types of evaluations should enable us to demonstrate cause-effect relationship between the program and the observed change. Commonly used evaluation designs which are capable of showing this relationship, with varying levels of confidence can be classified into three groups: Experimental, Quasi-experimental and Non-experimental.
I. Experimental Designs

Experimental evaluation designs are rigorous designs in which participants are randomly assigned to treatment or control groups. Experiments can be conducted in a clinical or non-clinical (Community or Field) settings. The advantage of experimental study design is that it produces data of highest quality keeping the role of confounders minimal. The principle in experimental designs for program evaluation resembles controlled experiments by basic science researchers.

Randomization in Experimental designs

Randomization is assigning participants to a treatment or control group randomly. It is a peculiar characteristic of experimental study designs. Randomization ensures that any variable that could confound the results of the intervention is evenly distributed between the treatment and the control groups. The main benefit of this technique is simplicity in interpreting results. The net effect of the program being evaluated can be measured by the difference between levels of outcome/impact observed in the two groups.

Limitations and challenges associated with experimental designs

Although experimental study designs produce high quality information and considered as the best approach, they have their own limitations:

- One of the most important limitations of experimenting on people is ethicality of the designs, for example, if the program is potentially beneficial, it is unethical to deny the benefit to people in control groups.
- Sometimes it can be politically difficult to provide an intervention to one group and not another.
- Most of the time experimental designs need highly qualified experts experienced in research and evaluations, and require huge resources and time to accomplish.
- People in the control group who were denied a program benefit may seek it through alternative sources, or those being offered a program may not take up the intervention.
- It may be difficult to ensure that assignment of subjects to treatment and control group is truly random.
Types of Experimental Study designs

Experimental, Pre-post Design: a type of experimental design in which measurement is taken in both treatment and control groups before the commencement of the program and after the end of the program.

\[
\begin{array}{c}
R \\
O_1 \quad X \quad O_2 \\
O_3 \quad O_4 \\
\end{array}
\]

Where, “O”\(_{1-4}\) represent the observations/measurements

“X” represents the intervention

“R” random assignment of treatment and control groups

Experimental, Post-test only Designs: In this type of experimental design measurement is taken from control and treatment groups only after the end of the intervention.

\[
\begin{array}{c}
X \\
R \quad O_1 \\
O_2 \\
\end{array}
\]

Where, “O”\(_{1,2}\) represent the observations/measurements

“X” represents the intervention

“R” random assignment of treatment and control groups
II. Quasi- experimental Designs

In most instances, random assignment to treatment and control groups is not possible for program evaluation. In such cases it is impossible to apply pure experimental study designs for conducting evaluations. But constructing comparison group is still a possibility.

*Quasi-experiments* are defined as experiment resembling studies without random assignment of program target groups to the intervention and non intervention groups. In quasi-experiments, we must come up with other strategies for equating groups to rule out alternative explanations that an observed result is not due to one or more uncontrolled extraneous confounding variables. Quasi-experiments are not as strong as randomized experiments for establishing firm evidence of cause and effect relationship. If conducted well, however, quasi-experiments can provide moderately strong evidence to evaluate program outcome/impacts.

**Types of Quasi-Experimental Designs**

**Quasi-experiment: Pre - post:** are quasi experiments with measurement both before and after the program implementation.

The design can be diagramed as follows:

![Diagram](image)

Where, “O”₁⁻⁴ represent the observations/measurements

“X” represents the intervention

“NR” represents non-random assignment of subjects to the intervention and control groups
**Quasi-experiment:** **Post test only** Measurements are taken only after the end of the program.

The design can be diagramed as follows:

```
NR           X           O1
---------------
O2
```

Where, “O”\(_{1-2}\) represent the observations/measurements

“X” represents the intervention

“NR” represents non-random assignment of subjects to the intervention and control groups

### III. Non-experimental Designs

Non-experimental designs don’t need control or comparison groups. Such type of designs can be used in evaluation when it is not possible to randomly select a control group, identify a suitable comparison group or if the intervention has a short life span with minimal possibility for confounding factors to affect results. In such cases non experimental study designs are advantageous. Moreover, non experimental study designs are used when budget, time, data or other constraints do not permit the use of other evaluation designs.

As with quasi-experimental methods, this evaluation design is relatively cheap and easy to implement. However, the reliability of results is often reduced as the methodology is less robust.

**Types of non-experimental study designs**

**Non-Experimental Pre-Post designs:** Measure indicators before and after intervention. The difference between the two measurements will be considered as outcome or impact of the intervention.

There is an assumption that the program is the only contributor for the observed changes. In most instances, this assumption cannot be considered as a valid assumption. As a
result, such designs require additional evidences supporting attribution or contribution of the intervention for the observed changes. Qualitative methods are commonly used to supplement findings from non-experimental designs.

This type of designs can be represented diagrammatically as follows:

\[ O_1 \quad X \quad O_2 \]

Where, “\( O_1 \)" represents the observations/measurements

“\( X \)" represents the intervention

**Non-Experimental Post-test only designs:** Measurement is taken only once at the end of the program. It is difficult to control for confounding factors and we don’t know what the status of the indicators was before the intervention is commenced.

One time surveys usually provide this type of information about program effectiveness.

The design can be diagramed as follows:

\[ X \quad O_1 \]

Where, “\( O_1 \)" represents the observations/measurements

“\( X \)" represents the intervention
**Time-series Designs**

Involves a series of measurements on outcome indicators at a certain interval before the program begins and continuing measurements after the program ends so that it become possible to learn about the condition that the program aims to change. A time series design gives us a unique opportunity to assess the long term effect of the program or whether the outcome observed faded away in the long term or not.

Time series data enables us to interpret the pre-post changes in light of additional evidence. It show whether the measures immediately before and after the program are a continuation of earlier patterns or whether it is actual program effect.

The design can be diagramed as follows:

```
O_1 O_2 O_3  X  O_4 O_5 O_6
```

Where, “O” \(_{1-6}\) represent the observations/measurements

“X” represents the intervention

**Threats to internal validity associated with different designs**

There are different threats associated with different designs specially quasi-experimental and non-experimental designs. The commonest threats to internal validity include:

**History:** History refers to any external or historical event that occurred during the course of the study that may be responsible for the changes instead of the program itself.

**Maturation:** When the change in the outcome is due to social, biological, or behavioral changes occurring among participants or program staff during the intervention rather than by the program itself.

**Instrumentation:** Instrumentation refers to an improvement or decline because of the measure itself. Bias due to changes in the characteristics of measurements, observation methods or data collection processes affecting the reliability and validity of instruments.
**Testing**: A threat to validity that involves an improvement in scores on the post-test due to taking the pretest and the improvement may be due to familiarity with the test rather than the program.

**Mortality (Attrition)**: Mortality refers to people dropping out of the study during its course.

**How to choose appropriate evaluation designs**

There are various issues that should be considered in choosing one type of design over the other while conducting outcome/impact evaluation. The first issue is the strength of evidence required to address cause-effect relationship; sometimes stakeholders may need an evaluation to establish causality with high degree of certainty and at another time demonstrating result may be sufficient.

The other issues to take into account in selecting evaluation designs includes: ethicality of the design; stage of program implementation; feasibility of establishing control group; time duration to conduct the evaluation and the amount of resources available for the evaluation.

**Group Exercise**

- In the previous exercise you have formulated evaluation questions for HEIs HIV/AIDS interventions; in this exercise you are expected to choose the appropriate evaluation design to meaningfully answer your evaluation questions.
- Explain the reason for choosing the design.
- Which threats of internal validity will be associated with the design?
Recommended Readings


### Glossary of Terms

**Evaluation:** is a systematic process of data collection and analysis, about activities and/or effects of a program, looking to provide explanations for observed levels of program implementation or changes in social conditions under intervention with the purpose of informing decisions.

**Impact:** is the ultimate effect expected among populations as a result of receiving interventions in a program.

**Impact Evaluation:** is a type of evaluation that assesses the worth of a program or any of its components in terms of achieving expected changes in disease incidence, prevalence or improving the life of beneficiaries.

**Impact Monitoring:** is the regular tracking of information related to a program’s long term accumulative effects of interventions.

**Indicator:** is quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a program.

**Input:** resources dedicated to executing program activities including human, technological, financial and other material resources.

**Monitoring:** is a systematic and continual collection, analysis, interpretation and use of data on key aspects of an intervention and/or its expected results to inform decision making.

**Outcome:** is effect (intermediate) expected among target populations as a result of receiving interventions.

**Outcome Evaluation:** is a type of evaluation that explains the relationship between a program being evaluated and trends in outcome levels among the target population.

**Outcome Monitoring:** is the regular tracking of information related to a program’s expected effect upon targeted beneficiaries.

**Output:** is immediate and automatic consequences of activities performed and resources utilized.

**Process:** is the set of interacting and interdependent activities accomplished by both actors and beneficiaries.
**Process Evaluation:** is a type of evaluation designed to determine the level of implementation of program activities and explains why and how the program reached observed level of implementation

**Programs:** are sets of related routine operations that are managed together to achieve defined objectives

**Program Theory:** are sets of assumptions that guide the way specific programs or interventions are implemented and expected to bring about change

**Project:** is a group of activities intended to produce a certain unique product or service over a fixed time frame
## Training on Planning, Monitoring and Evaluation for HEIs HIV/AIDS and SRH Coordinators

### Day 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator / presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 09:00</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td>09:00 – 09:15</td>
<td>Opening</td>
<td></td>
</tr>
<tr>
<td>09:15 – 10:00</td>
<td>Introduction of participants</td>
<td></td>
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<tr>
<td></td>
<td>Expectations of participants</td>
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</tr>
<tr>
<td></td>
<td>Pre-test</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td>Health Break</td>
<td></td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Training Introduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group Exercise: Differentiating Monitoring and Evaluation</td>
<td></td>
</tr>
<tr>
<td>12:00 – 14:00</td>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td>M&amp;E: Definitions</td>
<td></td>
</tr>
<tr>
<td>15:30 – 16:00</td>
<td>Health Break</td>
<td></td>
</tr>
<tr>
<td>16:00 – 17:30</td>
<td>M&amp;E: Basic Concepts and Commonly Used Terms</td>
<td></td>
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</tbody>
</table>
## Training on Planning, Monitoring and Evaluation for HEIs HIV/AIDS and SRH Coordinators

### Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator / presenter</th>
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<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>M&amp;E: Basic Concepts and Commonly Used Terms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group Exercise: Classifying Monitoring and Evaluation Activities</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td>Health Break</td>
<td></td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Program Theories and Frameworks</td>
<td></td>
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<tr>
<td>12:00 – 14:00</td>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td>Group Exercise: Constructing a program logic model</td>
<td></td>
</tr>
<tr>
<td>15:30 – 16:00</td>
<td>Health Break</td>
<td></td>
</tr>
<tr>
<td>16:00 – 17:30</td>
<td>Presentation of group work on program logic model</td>
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</tbody>
</table>
## Training on Planning, Monitoring and Evaluation for HEIs HIV/AIDS and SRH Coordinators

### Day 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator / presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td><strong>Health Break</strong></td>
<td></td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group Exercise: Setting SMART Objectives</td>
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<tr>
<td>12:00 – 14:00</td>
<td><strong>Lunch Break</strong></td>
<td></td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td>Presentation of Group Work</td>
<td></td>
</tr>
<tr>
<td>15:30 – 16:00</td>
<td><strong>Health Break</strong></td>
<td></td>
</tr>
<tr>
<td>16:00 – 17:30</td>
<td>Monitoring Program Functionality</td>
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<td></td>
<td>Group Exercise: Identifying dimensions of program functionality</td>
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</table>
## Training on Planning, Monitoring and Evaluation for HEIs HIV/AIDS and SRH Coordinators

### Day 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator / presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>Indicators for M&amp;E&lt;br&gt;Group Exercise: Setting Indicators for M&amp;E</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td><strong>Health Break</strong></td>
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<tr>
<td>11:00 – 12:00</td>
<td>Indicators for M&amp;E&lt;br&gt;Group Exercise: Assessing the Quality of Indicators</td>
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<tr>
<td>12:00 – 14:00</td>
<td><strong>Lunch Break</strong></td>
<td></td>
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<tr>
<td>15:30 – 16:00</td>
<td><strong>Health Break</strong></td>
<td></td>
</tr>
<tr>
<td>16:00 – 17:30</td>
<td>Designs for Program Evaluation&lt;br&gt;Group Exercise: Identifying appropriate evaluation design</td>
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</tbody>
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## Day 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Facilitator / presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>PME Framework for HIV/ AIDS and SRH Interventions in HEIs</td>
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<tr>
<td></td>
<td>- Planning</td>
<td></td>
</tr>
<tr>
<td>10:00 – 10:30</td>
<td>Health Break</td>
<td></td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Discussion on Planning section</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Small Group Discussions</td>
<td></td>
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<tr>
<td></td>
<td>- General Discussion</td>
<td></td>
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<tr>
<td>12:00 – 14:00</td>
<td>Lunch Break</td>
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<tr>
<td>14:00 – 15:30</td>
<td>PME Framework for HIV/ AIDS and SRH Interventions in HEIs</td>
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<td>- M&amp;E</td>
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<tr>
<td>15:30 – 16:00</td>
<td>Health Break</td>
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<tr>
<td>16:00 – 17:30</td>
<td>Discussion on M&amp;E section</td>
<td></td>
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<td>- Small Group Discussions</td>
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