Module 3: Developing monitoring and evaluation frameworks

3.1 Preparing for monitoring and evaluation

This reading material is reproduced for training purpose based on National Education Sector Development Plan: A result-based planning handbook.

Details of the reading material can be accessed at http://unesdoc.unesco.org/images/0014/001447/144783e.pdf.
Planning for monitoring, review and evaluation

1. Introduction

This section describes the main aspects of monitoring and evaluation that should be clarified when designing education policies and development plans or projects.

We are all accountable for the work we do. We are accountable for the use of the resources that we are given. We are accountable to a variety of people, but foremost to the people and communities we serve, though we are also accountable to those who provide resources.

We also need to learn lessons. We need a system that is reflective and analytical, examining performance both:

- On an on-going day-by-day, month-by-month basis so that we can change direction and improve what we are doing; and
- On an occasional basis, perhaps annually or every three years, when we can examine our effectiveness and the changes that have occurred so that we can build lessons from such experience into our future plans.

In response to these two needs for accountability and feedback, three main questions should be addressed when preparing education development plans or programmes:

- What can enable us to judge and measure whether an objective or an expected result is achieved and an activity implemented?
- How can we assess the achievement of an activity, an output or an objective?
- What level of result are we going to assess?

In general terms, monitoring and evaluation consists in measuring the status of an objective or activity against an “expected target” that allows judgement or comparison. This target is an indicator. This implies that one has to define at the stage of planning some indicators that can enable measurement whether and how an output or an activity is delivered in comparison with the initial targets.

The second question concerns how to assess the status of each level of the programme. This can be done by regular monitoring of the achievement of your activities. On the other hand, you may need an external and objective point of view to assess the impact of your activities, which can be done by a more formal form of assessment, an evaluation.

It is very important to plan M&E from the outset: e.g. when doing a strategic plan or planning a programme or a project. A system is needed that will help answer the questions of:

- **Relevance**: does the organization or project address identified needs?
- **Efficiency**: are we using the available resources wisely and well?
- **Effectiveness**: are the desired outputs being achieved? Is the organization or project delivering the results it set out to deliver?
- **Impact**: have the wider goals been achieved? What changes have occurred that have targeted individuals and/or communities?
- **Sustainability**: will the impact be sustainable? Will any structures and processes so established be sustained?

The following sections describe in more detail the above aspects that need to be thoroughly raised, discussed and formalized when preparing a plan, a programme or a project. However, one has to make clear from the outset that credible indicators cannot be constructed without a reliable information system. Without the production of reliable statistics, the quality of monitoring and evaluation will be questionable at the stage of the plan implementation. In other words, one must start by establishing a reliable information system in order to ensure the quality of the monitoring and evaluation.  

2. **Performance indicators**

An indicator is a number or ratio (a value on a scale of measurement) that can be obtained from a series of observed or calculated facts and that can reveal relative changes as a function of time. Indicators are used to measure performance; they play a crucial role in monitoring and evaluation:

- they specify realistic targets for measuring or judging if the objectives have been achieved
- they provide the basis for monitoring, review and evaluation so feeding back into the management of the organisation or project and into lesson learning and planning for other subsequent work
- the process of setting indicators contributes to transparency, consensus and ownership of the overall objectives and plan.

Indicators are called **Objectively Verifiable Indicators (OVIs)** according to the LFA in order to emphasise that they are not just subjective judgements; rather, they need to be constructed so that when different observers measure performance, they will come to the same conclusion. Indicators are more likely to be objective if they include elements of **quantity, quality and time (QQT)**.

The following briefly introduces the general types of performance indicators that can be used to assess progress towards the achievement of different types of expected results and to answer the question: *How do we know whether we are achieving/ have achieved our goal?*

**Direct and indirect indicators**

**Direct indicators** (often statistical). These indicators are used for objectives that relate to a directly observable change resulting from activities and outputs. A direct indicator is simply a more precise, comprehensive and operational restatement of the respective objective.

**Indirect or proxy indicators** may be used instead of, or in addition to direct indicators. They may be used if the achievement of objectives: (i) is not directly observable like the quality of life, organisational development or institutional capacity; (ii) is directly measurable only at high cost which

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1 Carrizo et al. 2003. Information tools for the preparation and monitoring of education plans.
is not justified; (iii) is measurable only after long periods of time beyond the life span of the project. However, there must to be a prima facie connection between the proxy and the expected result.

**Qualitative and quantitative indicators**

The QQT maxim for constructing an indicator generally works well. But its rigid application can result in performance and change that is difficult to quantify or to be given appropriate value. Special effort and attention needs to be given to devising qualitative indicators. A balance of indicators is needed, with some that focus on the quantitative and others on qualitative aspects.

**Quantitative indicators** may relate to:

- the frequency of meetings,
- the number of people involved
- growth rates
- the intakes of inputs; e.g. grants, buildings, teachers
- the adoption and implementation of the outputs, etc.

In many instances where the expected result may be qualitative (change of attitudes, capacity building, etc), a non-statistical approach may be the only way possible to develop an indication of “progress”.

**Qualitative indicators** largely focus on the “process of change” - asking stakeholders what they did as a result of their participation in activities. This technique works especially well in instances where training seminars and workshops are the pursued outputs. However, when dealing with stakeholders, care needs to be taken to avoid a focus simply on “satisfaction”. Rather, the focus should be on what happened as a result of the participation. It should also be noted that narrative indicators can seldom be quantified easily over the short term. Qualitative indicators relate to:

- the level of participation of a stakeholder group
- stakeholder opinions and satisfaction
- aesthetic judgements; e.g. taste, texture, colour, size, shape, etc.
- decision-making ability
- the emergence of leadership
- the ability to self-monitor
- attitudinal and behavioural changes
- evidence of consensus.

Qualitative indicators are also sometimes called **narrative indicators**. For example, if the expected result is to “Enhance provincial capacities for organization and management of non-formal education”, then a valid narrative indicator might be through a follow-up questionnaire to be circulated among those individuals who participated in training activities to ask them what they did in their provinces as a result of the actions of the Ministry of Education. Such a questionnaire should not be a survey of client satisfaction. It could be sent out to stakeholders several times – at least once a year - in order to develop a “baseline” and thus begin to assess the continuum of change. Narrative indicators enable an organization to assess the interconnection of factors without recourse to extremely expensive statistical research. In this way, one could demonstrate “partial success” even if other factors may have prevented the overall “enhancement of national capacity”. This example also illustrates how a proxy indicator
could be combined with a narrative indicator. In this case, a reliable proxy indicator might be the number of new non-formal education centres. The proxy has not measured “enhanced capacity”; rather it has shown the impact.

3. Three classifications of evaluation

Depending on the nature of a programme and the purpose of an evaluation, there are different classifications of evaluation. The first classification can be made depending on who is conducting the evaluation:

- **internal**: when the evaluation concerns a programme implemented entirely within an institution, is carried out by the persons belonging to the same institution as those managing the programme, sometimes in cooperation with the assistance of external evaluators
- **self-evaluation**: is a form of internal evaluation done by those who implement the programme
- **external**: when the evaluation concerns a programme whose implementation involves persons from outside the institution, often carried out by evaluators independent of the institution

The second classification is made depending on the use of evaluation. An evaluation can be:

- **formative**: its main goal is generally to correct the course taken by a programme and its results are usually intended for those implementing it. Sometimes called mid-term evaluation because it is carried while the programme is still being implemented
- **summative**: leads to conclusions about the value of the programme so that lessons can be learnt for the future. Also called end-of-programme evaluation
- **ex-post**: conducted some time after the completion of the programme in order to draw conclusions on the impact and sustainability of the programme. Also another form of summative evaluation

The following three types of evaluation form the third classification that is being widely used in programme evaluation. However, it is recommended that some flexibility is applied when conducting the types of evaluation described below in combination with those mentioned above. These three types are: monitoring, review and evaluation.

**Monitoring**: It is not an evaluation per se, but is a process whereby the progress of activities is regularly and continuously observed and analysed in order to ensure that the expected result is achieved. It is done by regular collection and analysis of information for checking the performance of the programme activities.
Monitoring is usually done internally by those who are responsible for the execution of activities (programme managers) in order to assess:

- whether and how inputs (resources) are being used;
- whether and how well planned activities are being carried out or completed; and
- whether outputs are being produced as planned.

Monitoring focuses on efficiency, that is the use of resources, especially at the activity (and sometimes at the output level).

Major data and information sources for monitoring are: financial accounts and also internal documents such as mission reports, monthly/quarterly reports, training records, minutes of meetings, etc.

**Review**, as for monitoring, is a task performed usually by those who are responsible for the activities, but it is a more substantial form of monitoring, carried out less frequently, e.g. annually or at the completion of a phase.

Often called mid-term review, its results are designed for those who are implementing the activities as well as the providers of funds. Reviews can be used to adjust, improve or correct the course of programme activities.

Review focuses, in particular, on **effectiveness** and **relevance**. It assesses whether the activities have delivered the expected outputs and the latter are producing the expected outcomes, in other words whether there is indication that the outputs are contributing to the purpose of the project or programme.

Key data and information sources for review are typically both internal and external documents, such as annual status reports, survey reports, national statistics (e.g. statistical yearbooks), consultants’ reports, etc.

**Evaluation in many organisations is a general term used to include review. Other organisations use it in the more restricted sense of a comprehensive examination of the outputs of a programme, how it contributes to the purposes and goals of the programme.**
Evaluations are usually carried out both by insiders (those belonging to the same institution as the programme managers) and outsiders (external evaluators) in order to help decision makers and other stakeholders to learn lessons and apply them in future programmes. Evaluations focus, in particular, on **impact** and **sustainability**.

Evaluations may take place:

- at the end of a project phase or at the completion of a project (terminal or summative evaluations) to assess immediate impact; and/or
- beyond the end of the project (ex-post evaluations) to assess the longer-term impact of the project and its sustainability.

Key data and information sources for evaluation are both internal and external. They may include annual status reports, review reports, consultants’ reports, national and international statistics, impact assessment reports, etc.

The following table describes in a comparative way the differences between these three types of evaluation.

### Table 6: Comparison between monitoring, review and evaluation

<table>
<thead>
<tr>
<th></th>
<th>Monitoring</th>
<th>Review</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When is it done?</strong></td>
<td><strong>Continuous throughout the life of a programme or project</strong></td>
<td><strong>Occasional mid-way or at the end of a phase of programme or project</strong></td>
<td><strong>Occasional at the end or beyond the end of a phase or programme</strong></td>
</tr>
<tr>
<td><strong>What is measured?</strong></td>
<td>Checks mainly <strong>efficiency</strong> – inputs and processes to produce outputs</td>
<td>Checks the <strong>effectiveness</strong> and <strong>relevance</strong> of an objective or a programme</td>
<td>Checks the longer term <strong>impact</strong> and <strong>sustainability</strong> of the objectives and goals</td>
</tr>
<tr>
<td><strong>Who is involved?</strong></td>
<td>Generally only insiders involved</td>
<td>Involves insiders, with outsiders</td>
<td>Involves outsiders, with insiders</td>
</tr>
<tr>
<td><strong>What sources of information are used?</strong></td>
<td>Typically internal documents.</td>
<td>Both internal and external documents such as half-year or annual reports, status reports, internal statistics, etc.</td>
<td>Both internal and external, e.g. review reports, consultants reports, national and international statistics, etc.</td>
</tr>
</tbody>
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4. Objects of monitoring and evaluation

As described above, depending on the purpose and types of evaluation, the focus of evaluation can be different. This section explains the objects and focuses that are discussed and thought of on monitoring and evaluation during the phase of the preparation of a plan or a programme. Like any other system, the education sector has inputs, processes, outputs and outcomes as show in the figure below. These are the main objects of monitoring and evaluation.

**Figure 10: Education system and its environment**

**Environment**

![Diagram of the Education System and its Environment]

**Inputs** are human, financial and other resources necessary for producing outputs and achieving results. In the education system, they are teachers, equipment, buildings, textbooks, etc. These inputs go through a **process** (throughput) where they are mixed (input mix), combined and/or moved along to achieve results.

**Outputs** are the products and services that are generated as the tangible results in carrying out the planned activities. In an education system, they are, for example, the graduates and the knowledge acquired during their studies. Producing an output by itself can be meaningless. Such outputs are sought for the purpose of contributing to the achievement of an outcome.

**Outcomes** are the effects of utilizing the outputs. They are the overall changes in situations and/or benefits for the students, their families and/or the society as well, that can be qualitative and/or quantitative.
Systems are often analyzed in terms of relevance, efficiency, effectiveness, impact and sustainability: for example, one can wonder whether the inputs to the education system are relevant for addressing identified needs, to what extent the processes – utilization of resources - are efficient, and how far the anticipated outputs are effectively produced. Outcomes and results will be analyzed in terms of their impact and sustainability.

These are the focuses of monitoring and evaluation.

*Figure 11: The relationship between relevance, efficiency, and effectiveness.*

**Relevance** can be hypothetical or real:

- **Hypothetical** relevance is defined in relation to needs, e.g. whether a goal, an objective or an expected result of a programme or project reflects the actual needs of the beneficiaries or not. This is the focus of evaluation when appraising a programme before its approval, and sometimes during the programme review.
- **Real** relevance measures the extent to which the outputs produced and/or outcomes achieved respond to the needs of the population. This is the focus of evaluation when conducting a programme review, most often during a programme evaluation.

**Efficiency** describes the relation between the quantity of the outputs (products and services) produced and the quantity of resources used to produce them. Unit or average cost is often used to express the efficiency. This is the focus of evaluation during programme monitoring and review, and sometimes during programme evaluation.

**Effectiveness** describes the extent to which an objective has been achieved. It measures the level of achievement of an objective (or an expected result) of a programme or project pursued and of the effects (outputs and outcomes) achieved. This is the focus of evaluation during the programme review, and most often during the programme evaluation.

**Impacts** are the effects on the population and the environment by the pursuit and the achievement of an objective. The actions involved in the pursuit of an objective can change a situation in both predictable and unpredictable ways.

**Sustainability** is the extent to which the benefits delivered and changes brought about by a programme or a project continue after its completion. Programme evaluation, and project review to a lesser extent, focus on impact and sustainability.