Monitoring and Evaluation of Non-Formal Education

NFE Indicator Development

Margarete Sachs-Israel, UNESCO, January 2006
What is an indicator?

- An indicator is synthesized and analysable information.
- Indicators provide a ‘snapshot’ or profile of current conditions, describing the state of an education system at various levels.
- Indicators allow to monitor change over time; measure the strength and weaknesses of the system; evaluate the degree of inequality in the provision of services and thus report on the performance and effectiveness of the system.
- Indicators help to identify possible changes that need to be made to programmes or strategies.
Preconditions for the development of indicators

- The existence of a good information system
- The presence of an operational NFE strategy, policy and/or plan
- A link between the indicators list and information needs of information users at various levels
A framework to classify different types of NFE indicators

- Inputs: Learner and educator characteristics; facility characteristics; curricula/programme characteristics; Institutional characteristics; NFE Centre manager characteristics
- Processes: Learner and educator time allocation; teaching/learning methods;
- Outputs: Learner attainment effects; attitudinal changes; access effects; quality improvement; effective management; ratio completers/enrolment
- Outcomes: retention of minimum learning competencies; impact on economy, health, development, citizenship; employment; income; socio-cultural participation
What should be measured?

1. The different domains (inputs, processes, outputs, outcomes)
   - Quantitative aspects
   - Qualitative aspects
2. At different levels:
   - International
   - National
   - Programme
Quantitative indicators

- Measure the amount or value of inputs, processes, outputs or outcomes of a system. They are usually expressed in percentages, ratios or rates.

- Example: Enrolment ratios; participation rate in a given programme; literacy rate.

- An indicator can be expressed as a target: “to reach a 60% literacy rate by 2010”
Qualitative indicators

- Measure the quality of the inputs, processes, outputs and outcomes of a system, relative to a given standard and norms.
- Often, it is difficult to measure quality in a precise way. Therefore, in some cases, a proxy is used to measure quality.
- Ex. Quality of educator: This could be the quality of his initial training, his professional experience, his teaching method. An easy way to measure would be f.ex. the number of years as an educator, or the length of his training.
Main steps in developing an indicator document

- Step 1: Identifying objectives
- Step 2: Formulating research questions
- Step 3: Identifying a list of indicators
- Step 4: Identifying information required to calculate indicators
- Step 5: Identifying available sources of data
Steps continued

- Step 6: Calculating indicators
- Step 7: Verifying results and analysing the different indicators
- Step 8: Making the final selection
- Step 9: Choosing the layout of the document
Step 1. Identifying objectives

- Identify a shortlist of key NFE policy objectives
- Identify a shortlist of NFE programme objectives
- These objectives may be identified at national, sub-national or programme level.
Objectives

- Sometimes, objectives are very general. In this case, it is useful to define sub-objectives, which are more concrete and operational.

- Ex. Objective: Making the NFE sub-sector more efficient.

- Sub-objectives: Increasing the completion rate of learners.

- Increasing the average duration of programmes.
Example of objectives

- You can define different levels of objectives
- Example:
  - Priority strategy: Access and equity
    - Strategic objective: to enroll all out-of-school children (11-13) in NFE centres
      • Specific objective: to enroll XXXX out-of-school children by 2015
Exercise 1

- Define NFE objectives (national/programme):
  1. 
  2. 
  3. 
  4. 
  5.
Step 2 Formulating research questions

- When you have identified key objectives, they need to be related to key indicators. An easy way to do this is through the formulation of research questions, that need to be answered for each objective.

- Example: Objective: To increase the literacy rate.

- Research question: What is the demand for literacy programmes?
**Step 3. Moving from objectives to indicators**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Question</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing the intensity of enrolment</td>
<td>How many people are involved in NFE Courses?</td>
<td>Participation rate</td>
</tr>
<tr>
<td>Making the education system more efficient</td>
<td>Are they many drop-outs?</td>
<td>Ratio of enrolled/completed learners</td>
</tr>
<tr>
<td>Improving the management of resources and costs</td>
<td>Is the cost of an NFE programme at the same level for all providing agencies?</td>
<td>Cost by learner-contact hours by type of agency</td>
</tr>
</tbody>
</table>
Exercise 2

Objective

Research Question

Indicator
Step 4: Identifying information required to calculate indicators

- Information need: Do girls and women have equal access to NFE programmes?
- Objective: to ensure gender equity in NFE
- Indicator: Gender party index per type of NFE activity
- Information required: Disaggregated data by gender by type of NFE activity.
- This information can be obtained from the NFE-MIS questionnaire
Information need

Information need: Does supply match demand?

Objective: To expand alternative learning opportunities by 2010

In this case, two indicators must be used: for demand: the literacy rate/and/or the percentage of out-of-school children and for offer the number and capacity of all NFE programmes per geographical location.

The information to calculate demand must be taken from all source available (population census, enrolment rates, household surveys)

The information to calculate offer can be obtained from the NFE-MIS questionnaire.
Step 5: Identifying available sources of data

- It is important to make sure that all the data necessary to calculate an indicator is available.

- Typical data sources are: census, surveys, studies, information systems such as the NFE-MIS.

- If data is not available, you may either consider to drop the indicator or to undertake a study/data collection to obtain the necessary data.
Step 6: Calculating indicators

Name of indicator
Objective measured by the indicator
Rationale: Difficulties, gaps, efficiency, etc. that may be identified by the indicator
Level at which the indicator may be used
Breakdown of the indicator
Method of calculation
Source of the indicator
Frequency of calculation
**Example**

<table>
<thead>
<tr>
<th><strong>Name:</strong> Expenditure on NFE as % of expenditure on national education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective:</strong> To assess the contribution to NFE at government level</td>
</tr>
<tr>
<td><strong>Rationale:</strong> To measure the provision of NFE and identify gaps</td>
</tr>
<tr>
<td><strong>Breakdown:</strong> by age-group, gender, location</td>
</tr>
</tbody>
</table>
| **Method of calculation:** 
\[
\text{Total expenditure on NFE} \times 100 \\
\text{Total expenditure on education}
\] |
| **Source:** National budget report |
| **Frequency:** Annual |
### Example 2

<table>
<thead>
<tr>
<th><strong>Name:</strong></th>
<th>Number of learner contact-hours by type of NFE activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective:</strong></td>
<td>To measure participation in a given course</td>
</tr>
<tr>
<td><strong>Rationale:</strong></td>
<td>To compare time invested in the various types of NFE courses which gives an indication of quality</td>
</tr>
<tr>
<td><strong>Breakdown:</strong></td>
<td>gender, location, type of NFE activity</td>
</tr>
<tr>
<td><strong>Method of calculation:</strong></td>
<td>For each course in a given type of NFE activity, multiply the number of learners by the number of contact hours. Add the results for all courses in a given type of NFE activity.</td>
</tr>
<tr>
<td><strong>Source:</strong></td>
<td>NFE-MIS</td>
</tr>
<tr>
<td><strong>Frequency:</strong></td>
<td>Annual</td>
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<tr>
<td>Name:</td>
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<td>Frequency:</td>
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</table>
Step 7. Analyzing data

In order to allow decision makers, planners, programme managers to use data, it has to be analysed and interpreted. Data analysis refers to analyses of the raw data using statistical tables and charts that examine both the absolute figures and derived statistics including all kinds of indicators.
Process leading to data analysis and interpretation

- Policy objectives/policy questions - research questions - indicators - data required to calculate the indicators - questionnaire items (data collection tools) - production of data outputs (raw data) - calculating the indicator - data analysis and interpretation.
<table>
<thead>
<tr>
<th>Policy objective</th>
<th>Research Question</th>
<th>Indicator</th>
<th>Formula</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making the education system more efficient</td>
<td>Are there many drop-outs? or What is the number of completers?</td>
<td>Internal efficiency of a NFE activity (Ratio of completed/enrolled learners (by type of NFE activity))</td>
<td>Number of completed learners (by type of NFE activity) divided by the number of enrolled learners (by type of NFE act.)</td>
<td>If the ratio is high, this indicates that the activity has been efficient.</td>
</tr>
</tbody>
</table>
Further analysis of the example

- Further analysis can reveal the reasons for the efficiency of the NFE activity, such as its quality, which may be due to the quality of the educator, the relevance of the course to learners’ needs, the efficient planning and management of the course, etc. This qualitative analysis is important to identify possible factors for reaching the policy objective.
Presentation of data analysis

Here are some tips for presenting data analysis:

- Begin with a general analysis of the indicator, explaining the indicator’s change over time, if possible.
- Examine the recent results in more details;
- Go on to study one or more breakdowns of the indicator; for example by gender, age group or location;
- Ensure that the commentary is written in clear and precise language, and avoid an excess of data and figures;
- Use tables and graphs, providing maximum information with minimum data.
Step 8: Producing a NFE-MIS report

- **Aim:** To produce an easy to understand description of the size, variety and distribution of NFE providers and courses, the level and patterns of participation, resource inputs and utilization, outputs and related trends, gaps and disparities. This type of analysis tries to provide answers to basic planning and management questions.

- The report should contain a ‘map’ of providers and programmes, statistical reports and policy recommendations.
NFE-MIS report

1. Descriptive information on NFE providers, courses, educators, etc. across time and geographical units that will provide information on NFE distribution within a region and/or a country and its development.

2. Showing change and progress over time will allow to demonstrate trends and tendencies towards the achievement of given objectives.