32.0 Objectives

After reading this Unit, you should be able to:

- explain the meaning and significance of evaluation;
- describe methods and techniques for effective evaluation; and
- discuss problems in evaluation of a project;

32.1 INTRODUCTION

Monitoring and Evaluation are the most important parts of programme assessment. There is a very thin line separating the two. Programme monitoring tells us the extent to which programme operations follow specifications, whereas evaluation is the process by which programme effectiveness and efficiency are assessed. For example, in a programme of providing vocational courses for women in a drought-affected area, monitoring tells the administrator whether there are sufficient staff and technical resources, and they are correctly implementing the programme's strategy for imparting appropriate skills. Evaluation shall on the other hand provide information regarding how the women participants have improved their skills. In other words, evaluation tells us how effective the programme has been.

32.2 EVALUATION: COMPONENTS AND SIGNIFICANCE

Evaluation has two significant components, as follows:

a) Effectiveness

Assessment of effectiveness as part of the evaluation process will answer questions like how successful the programme is. For example, in a vocational rehabilitation programme, how many people secured and sustained job placements. In temporary shelters of flood affected people, how effective the social hygiene programme was in reducing cases of communicable diseases. In coordinating relief, how the distribution within the given community was and whether there was unnecessary duplication of services.

b) Programme Efficiency

Efficiency is the ratio of programme effectiveness to programme efforts. Efficiency is mainly related with the cost, in terms of money, time, and manpower (staff) resource. This will help the decision maker to vary his
programme strategies to achieve the desired goals and objectives more efficiently. This is a very important and useful exercise for administrative decision-making.

Effectiveness and efficiency are the two essential aspects of evaluation but they do not necessarily go hand in hand. There are many examples where programme is very much effective but requires large sums of money, time and staff input. On the other hand, there are others that are highly efficient but are limited in their accomplishments. Even then, ideally, an efficient and responsible administrator attempts to maximise both effectiveness and efficiency through programme evaluation.

### 32.3 TYPES OF EVALUATION

There are two types of evaluations, viz.

a) **Summative Evaluation**

b) **Formative Evaluation**

The administrator or the manager of a programme has to decide about the required type of evaluation - whether a Summative or Formative type of evaluation. In Summative evaluation, an experimental model is employed. In a target population, representative sample is selected through probability sampling technique. The sample population is divided into experimental groups (one group is minimum), which receive a specified and highly standardised programme intervention, and at least one control group (which receives no intervention). Measurements prior to intervention are taken on both experimental and control groups. Similar parameters are noted after the intervention to determine whether changes have taken place that can be attributed to the programme intervention. This type of model requires a lot of statistical knowledge or consultation, because it raises many technical, practical and ethical problems for the evaluator. In case this model is used properly, it can explain about the programme policy and its impact. Research consultants mostly prefer this type of evaluation, whereas administrators, who do not want to generate generalised knowledge or do not have adequate technical or material resources to implement such model, prefer formative evaluation.

In formative evaluation, programme objectives and interventions are specified and translated into measurable indices. The data collected and analysed in this evaluation is relatively simple and logical. The formative evaluation is less costly, requires less expertise and time and has minimum of practical and ethical problems. It provides immediate feedback of results. Formative evaluations do not generate knowledge that can easily be applied to other programmes. They make possible inferences which elaborate cause-effect relationships.

Evaluation provides information to the administrator to take decisions about the expansion, reduction (contraction), or modification of any social programme during or in the post-disaster situation. There are many decisions such as service delivery, staff allocation, intervention strategies and budgetary priorities, where evaluation is very useful.

**Check Your Progress 1**

**Note:**

i) Use the space given below for your answers.

ii) Check your answers with those given at the end of this Unit.
1) What do you understand by evaluation?

2) Distinguish between monitoring and evaluation with examples.

3) What are the types of evaluation?

32.4 DESIGNS FOR EFFECTIVE EVALUATION

Most of the evaluation strategies are based on research and usually need full time staff for implementation. However, in projects of disaster management, self-evaluation with minimal reliance on research work or dependence on permanent research staff has to be resorted to.

There are six designs that can be used by the administrators in formative evaluation:

(i) The ‘After-only’ Design - This attempts to measure the results of programme intervention just after it has taken place. No data are collected before, the only one measurement is just after the programme intervention. As a result, it is not possible to determine whether the changes seen in the recipient community is due to the programme interventions and whether it can sustain and that too for how long.

(ii) Pre-test/post-test design - In this design, one measurement is taken before and one after the programme intervention. This design can give correct idea of changes in the target community after the programme interventions.

Both the above designs do not take adequate account of internal validity.

(iii) Interrupted Time Series Design - In this design, a series of measurements are taken before the intervention which functions, as
Skill Assessment

baseline data and similarly a series of measurements taken after the intervention to determine whether changes attributed to the programme are sustainable and stable over a period of time. This design is also not perfect and controls all factors affecting internal validity, and not produce completely undisputable findings which can be generalised for other projects. But it generates information, which is highly informative about a specific programme. This design is mainly to study the effectiveness of the programme.

Implementation of Interrupted Time Series Design

There are certain principles for the Interrupted Time Series Design, given as below:

a) Framing Objectives - Identifying the programme objectives to evaluate the effectiveness of a programme in specific and concrete terms is the first principle. Role clarity that WHO in the programme are expected to do WHAT to WHOM, WHERE and WHEN. These questions will help in answering the extent to which objectives are achieved.

The programme objective should be operationally defined.

b) Intervention Strategy - This should be specified. A complete and behaviourally specific description of intervention strategy is necessary to determine whether the staff or people involved are providing the required or intended intervention. The specification of intervention strategy is important for implementing new programme based on evaluation of previous effectiveness studies. For example, in cholera vaccination in temporary shelters, officers claim that the programme was highly effective and checked the epidemic, but if we do not bother to specify rigorously what medical and paramedical staff did, the evaluation will not be of any use for any new programme.

c) Baseline Measurements - Variables for measuring effectiveness should be identified and series of measurements should be taken at regular and appropriate intervals. The measurement conditions should be standardised and applied consistently for baseline as well as post intervention measurement.

The baseline data should be represented graphically. Separate graph for each effective variable is ideal.

d) Programme Implementation - After baseline data, programme strategy should be introduced and interventions should be standardised so that the target group gets equal/same services or treatment. Immediate, complete and standardised interventions provide clearer interpretation of the impact of the programme.

e) Post-intervention Measurements - This should be on the same lines as in collection of baseline information, using the same time intervals, standardised procedures and effective measures. A series of post-intervention measurements, taken throughout the period of intervention provide correct comparison of programme effectiveness.

f) Comparing Pre and Post-intervention Patterns - If we make a graph of the baseline and post-intervention data, trend lines can be compared. In case there is no definite visual trend, means of information or other statistical methods (correlation, regression etc.) can be applied to compare the two.

Interrupted Time Series studies normally conducted before new programmes, policies or intervention strategies are implemented.
iv) Replicated Cross-Sectional Survey Design

This type of survey is mainly used to generate information about perceptions, attitudes, beliefs and behaviour of clients who are at various stages of programme processing and implementation. This type of survey design is only applicable to programmes that are cyclic and continuous and that process relatively large number of persons. In projects of disaster management, it can be employed in training programmes, counselling programmes and treatment programmes.

Following principles for implementation of Replicated Cross-Sectional Survey design are important:

a) Identification of Programme Stages if the programme is cyclic. Sequence of stages more should be determined. These stages will be sampling stages. A sampling point should be located at the end of each pre-stage. There should be at least three sampling points - prior to the programme entry, after intervention begins and after intervention ends.

b) Specifying programme objectives and selection of variables for measuring effectiveness.

c) Listing of Interventions to be evaluated.

d) Describing the persons at each sampling point and drawing samples.

e) Compare the background characteristics of persons at various stages of the programme.

f) Calculation of scores for effectiveness for time sampled groups.

g) Data analysis and interpretation.

v) Comparative Experimental Design

The next design, which is mostly used for assessing the relative effectiveness and efficiency of alternative programme interventions is known as "Comparative Experimental Design". It measures the impact of intervention as compared to non-intervention. This design is most useful when administrator wants to know what kind of personnel are most effective in providing services, how much of a particular service is most effective and which services are most effective and efficient.

In disaster situation, when administrative decisions have to be made regarding services to be provided to the affected community, this technique can be applied. For comparative experimental design, following principles are taken into consideration:

a) Identification of programme objectives - components of the programme and factors, which will be manipulated and compared, should be carefully identified with operational definition.

b) Specifying target population and sample.

c) Developing norms for monitoring costs of programme variations.

d) Allocation of programme recipients in experimental groups.

e) Taking effectiveness scores prior to intervention.

f) Implementation of intervention strategies.

g) Measuring effectiveness after intervention.

h) Data collection, analysis and interpretation.
After the effectiveness data is analysed, relative effectiveness, costs of the various interventions and finally cost-effectiveness ratios can be computed for each intervention. This relative effectiveness and relative efficiency information can be used for deciding future programme interventions.

vi) Crossover Comparative Designs

Crossover comparative experimental designs are used to compare the relative impacts of different interventions strategies without denying any of the interventions to any of the experimental groups. The name itself indicates that in this evaluation, comparable groups of clients are given different interventions, impact is measured and then the kinds of interventions received by experimental groups are switched (crossed over) and impacts are again measured. This way, the effectiveness of every intervention strategy on every experimental group is assessed. This will provide a greater number of comparisons than in non-crossover designs.

Check Your Progress 2

Note: i) Use the space given below for your answers.
ii) Check your answers with those given at the end of this Unit.

1) List the important types of designs used for evaluation.

2) What are the principles of interrupted time series designs?

3) Where is the ‘Replicated Cross-Sectional Survey Design’ generally used?
Evaluation is the process by which programme effectiveness and efficiency are assessed. Effectiveness is the rate of success of programme, whereas efficiency is the ratio of programme effectiveness to programme efforts. Efficiency is mainly related with the cost, in terms of money, time, human resource etc. This helps the decision maker in finding out the relative costs of various programme strategies to achieve the same goals and objectives. Many a times effectiveness and efficiency do not go together. A most effective programme may require more financial resources, time and manpower. But ideally, an administrator should take both the components into consideration.

There are two basic types of evaluation – **Formative and Summative evaluation**.

The selection of design for evaluation is the most important part. It varies from project to project and depends on evaluation objectives.

Evaluation provides information to the administrator to take decisions about the expansion, reduction or timely modification of a programme. There are decisions such as service delivery, staff allocation, intervention strategies, budgetary priorities where evaluation is extremely useful.

### 32.6 KEY WORDS

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<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Intervention</td>
<td>Programme or project dealing with a community.</td>
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<tr>
<td>Sampling</td>
<td>A model of the population or a subset of the population that is used to gain information about the entire population.</td>
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<tr>
<td>Randomisation</td>
<td>By chance; not according to any series or scheme.</td>
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<td>Score</td>
<td>Points made in an evaluation.</td>
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### 32.7 REFERENCES AND FURTHER READINGS


32.8 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Your answer should include the following points:
   • Evaluation is the process by which the effectiveness and efficiency of programmes are assessed.

2) Your answer should include the following points:
   • Monitoring is the activity that appraises the execution of a programme according to the given specifications. For example in a programme of providing vocational course for women in a drought affected area, monitoring involves examining whether there are sufficient staff and technical resources, the programme is imparting appropriate skills to the women etc.
   • Evaluation is the process that assesses the programme efficiency and effectiveness. Through this activity, it can be evaluated as to how many women have improved their vocational skills and to what extent.

3) Your answer should include the following points:
   • Summative Evaluation, which requires statistical knowledge and it raises many technical, practical and ethical problems.
   • Formative Evaluation, the data collected through this are relatively simple, logical, requiring less expertise, time and has minimum of practical and ethical problems.

Check Your Progress 2

1) Your answer should include the following points:
   • The after-only design.
   • Pre-test/post-test design
   • Interrupted time series design
   • Replicated cross-sectional survey design
   • Comparative experimental design
   • Crossover comparative designs.

2) Your answer should include the following points:
   • Framing objectives
   • Intervention strategy
   • Baseline measurements
   • Programme implementation
   • Post-intervention measurements
   • Comparing the pre and post-intervention patterns.

3) Your answer should include the following points:
   • The replicated cross-sectional survey design is mainly used to generate information about perceptions, attitudes, beliefs and behaviour of clients who are at various stages of programme processing and implementation.
• It is applicable to programme that is cyclic and continuous and involve relatively large number of persons.

• In disaster management projects, it can be employed in training, counselling and treatment programmes.