

Planning and Management Tools

A reference book

Liza Groenendijk

Contributing author
Emile Dopheide

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E. M. C. Groenendijk
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Abbreviations

ADB	Asian Development Bank
BCR	Benefit-Cost Ratio
CBA	Cost-Benefit Analysis
CEA	Cost-Effectiveness Analysis
Danida	Danish Agency for Development Assistance
DFID	UK Department for International Development
EC	European Commission
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organisation of the United Nations
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IRR	Internal Rate of Return
LF	Logical Framework
LFA	Logical Framework Approach
MCE	Multi-Criteria Evaluation
MoV	Means of Verification
Norad	Norwegian Agency for Development Cooperation
NPV	Net Present Value
NRM	Natural Resource Management
OOPP	Objective Oriented Project Planning
OVI	Objectively Verifiable Indicator
P&C	Planning & Coordination
PCM	Project Cycle Management
PM	Professional Master's
SA	Stakeholder Analysis
SIDA	Swedish International Development Cooperation Agency
SWOT	Strength Weaknesses Opportunities and Threats Analysis
TNA	Training Needs Assessment
UPLA	Urban Planning and Land Administration
USAID	United States Agency for International Development
WB	World Bank
WREM	Water Resources and Environmental Management

Preface

ITC staff and students apply geosciences and remote sensing – the core qualifications of the Institute – in the pursuit of solutions to problems. The efficiency and effectiveness of these applications hinge on the quality of the processes and contents of problem analysis and solution formulation. The specific scientific and professional nature of the problems to be analysed and the solutions to be formulated is obviously of primary concern here. In addition though, some general planning and management tools and approaches can make a powerful contribution to structuring either the processes or the problems at hand, or both.

Over the years technocratic approaches have generally given way to those taking a wider angle. We now realise that the 'old' top-down versus bottom-up discussion and the often mono-objective and mono-party analysis and decision processes poorly reflect reality. Real-life allocation of resources and implementation of commensurate action take place in an arena of conflicting interests and multi-stakeholder cooperation and negotiation.

Over the course of time a plethora of approaches and tools has been developed to deal with the complexity and vagaries of reality. ITC teaching has followed suit. At the moment a wide array of such approaches and tools is being practised in the Institute. The time has come to try to standardise these tools and approaches, for the benefit of our students and of our staff in their capacity as teachers.

Liza Groenendijk has taken the initiative to read and process the literature on planning and management tools, with a view to selecting and describing those tools and approaches that come closest to meeting our students' professional needs. She has worked closely with staff across the Institute. This book is the result of the work carried out over the last year in this regard.

Prof. Dr. Willem van den Toorn
Vice-chair Department of Urban and Regional Planning
and Geo-information Management

Introduction

Structure of the book

This is a tool book. Each chapter in the book presents a different tool, and eight tools or instruments are described. Chapters 1 to 3 consider basic problem analysis and (strategic) planning instruments: Problem and Objective Trees Analysis (Chapter 1), Logical Framework (Chapter 2) and SWOT Analysis (Chapter 3). Chapters 4 to 6 provide tools in support of the earlier described instruments: Stakeholder Analysis (Chapter 4), Interviews (Chapter 5) and Workshops (Chapter 6). In the last chapters two specific planning and management instruments are presented: Training Needs Assessment (Chapter 7) and Cost-Benefit Analysis (Chapter 8).

The tools are described using the same format. Each description contains the information necessary for a student or professional to (1) select a tool, (2) utilise a tool, (3) understand its implications and underlying theory, and (4) search for more information. The following paragraphs form the structure of each chapter:

Structure of each chapter

What?	Definition of the tool, generally followed by the main characteristics of the tool.
Why?	Importance of the described tool, indicating the tool's main use and strengths.
Field of application	Examples of major practical applications of the tool.
Historical overview	Overview of how the tool has developed and become important.
Description	General description and explanation of main features.
Operating the instrument	Step-by-step explanation of how to use the tool.
Strengths and limitations	Lists of major strengths and limitations.
Requirements	Information on required resources such as time, skills and costs.
Further reading	Overview of similar tools, or tools used in combination with the described tool.
Key definitions	Explanation of key words used in the text; where relevant, synonyms are indicated.

The terms used in this book reflect those generally used in the ITC training modules. In the list of key definitions at the end of each chapter, the most common synonyms are given.

The text is enriched with boxes and tables that summarise important text. Flowcharts, procedures, forms and other information are presented in figures to illustrate the text.

How to use the book

The book can be used either as a textbook or as a reference for students or professionals involved in project planning, decision-making and management processes. Each tool can be used for a single purpose or as part of a series of tools combined in an overall strategy.

The book is also meant to serve as a reference book in support of education offered at ITC. All tools presented are highly relevant to the educational programmes, and the descriptions of these tools can be used as basic lecture material. In a number of ITC's educational programmes some tools are more important than others. Most of the tools are applied in the planning and implementation stages of PM fieldwork, MSc research and PhD research. The book will serve as a reference book for our students on their return home and for their organisations.

ITC staff members form an additional target group. The basic tools described in this book will support ITC staff members in developing research and project proposals, in planning and decision-making at different levels, and in consulting activities. And last but not least, it is expected that some tools will significantly contribute to our educational performance.

Acknowledgements

The book has been prepared with the help of many colleagues. First of all I would like to mention Emile Dopheide, who was a critical reader of all the earlier drafts of the different chapters. His comments led to valuable improvements and supported me in this undertaking. He is also the author of the last chapter, Cost-Benefit Analysis.

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During the last stages of this publication, it was a great pleasure to work together with Janneke Kalf, Janice Collins, Saskia Tempelman, Benno Masselink, Marion van Rinsum, Andries Menning and Ronnie Geerdink.

The driving force behind this book has been Prof. Dr. Willem van den Toorn. He gave me the opportunity to write and complete this book in a stimulating working environment.

Liza Groenendijk, Enschede, 31.08.03

Chapter 1. Problem and Objective Trees Analysis

What?

Problem and Objective Trees Analysis is an instrument for situation analysis and strategy analysis, and is characterised by the following steps: Problem Tree Analysis, Objective Tree Analysis and Strategic Alternatives Analysis.

Problem and Objective Trees Analysis helps us to gain insight into the causal relationships of forces or situations that effect the problematic situation that an intended project is supposed to address. On the basis of a finally agreed causal picture, general and specific objectives are formulated, which are subsequently used to guide detailed project planning.

Problem and Objective Trees Analysis is the core element in Objective Oriented Project Planning (OOPP). It represents the analytical part of OOPP and supports the OOPP planning phase, which results in the Logical Framework Matrix.

Participation is a central element in Problem and Objective Trees Analysis. The analysis is carried out by all parties involved, and the mutual exchange of ideas and discussions is crucial.

Why?

What management, planning and decision-making have in common is that they are all oriented towards problem solving. A problem can be defined as the gap between an actual state (what is) and a desired state (what should be). Problem solving aims at bridging the gap between these two states. In addressing problems, information is required on the existing problematic situation and the desired situation.

Absence of a thorough problem analysis may lead to the selection of inappropriate or irrelevant objectives and unsustainable project results. Problem and Objective Trees Analysis helps us to understand and structure a complex problematic situation, on the basis of which a sound project proposal can be formulated.

Problems are perceived differently by different groups in society. If not taken into consideration, this may lead to insufficient participation of local implementers and organisations. To create 'ownership' of, and commitment to, the planning process, the direct involvement of the major parties concerned is required in problem analysis and further project planning.

Field of application

Problem and Objective Trees Analysis has been widely used as a tool for situation analysis in support of project design. As part of OOPP, Problem and Objective Trees Analysis is used by different international agencies and consulting firms (European Community, Danida, DFID, GTZ, Norad, SIDA, USAID, World Bank) for the preparation of project proposals.

Although originally designed for project planning, Problem and Objective Trees Analysis is also used for a wide variety of problem-structuring and problem-solving activities – for example, for the preparation of research proposals, as a tool in participatory planning, and in information management.

In box 1.1 a short overview is presented of the historical background of Problem and Objective Trees Analysis:

Box 1.1. Historical background of Problem and Objective Trees Analysis

Based on the Logical Framework initially developed by USAID in 1969, a number of organisations have invested considerable amounts of time and funding in developing a clear methodology for proceeding through the project cycle. By the early-to-mid 1980s, GTZ had started to use a new methodology called ZOPP (Ziel Orientierte Projekt Planung), later better known as OOPP (Objective Oriented Project Planning). OOPP stresses the importance of a thorough problem analysis before proceeding to the design of a project. It also recognises the importance of the team process undertaken to attain it. Problem Analysis, resulting in a Problem Tree, and Objective Analysis, resulting in an Objective Tree, are the most prominent steps in OOPP. Problem and Objective Trees Analysis proceeds to project design through the Logical Framework Matrix.

Many donor and non-governmental organisations have used, adopted and improved the OOPP methodology. The core instrument in OOPP, the Problem and Objective Trees Analysis, has increasingly become an independent tool. Although closely related to OOPP, it is being used more and more in other methodologies and for more diverse purposes, and can be considered a separate tool for situation analysis and strategy formulation.

Description

Problem and Objective Trees Analysis is carried out in a workshop format, with the participation of relevant actors and decision-makers, as well as future implementers and beneficiaries. Ideally, a facilitator guides and structures the discussions. During the workshop, visualisation and other group communication techniques are used.

The workshop focuses on key aspects of an existing complex situation. A point of departure could be a paper describing the current problems in the project area.

Problem and Objective Trees Analysis is conducted in three consecutive steps, as shown in box 1.2.¹

Box 1.2. Major steps in Problem and Objective Trees Analysis

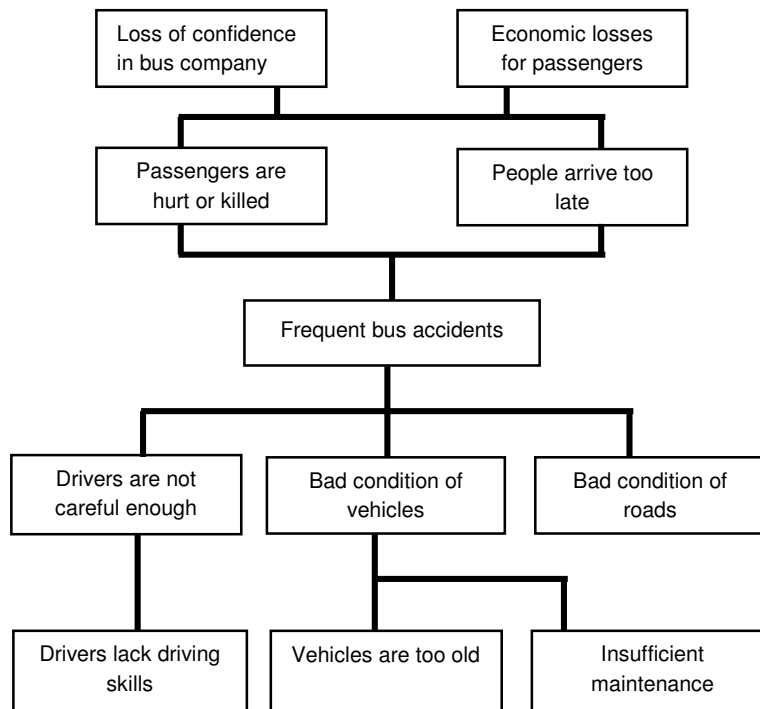
1. Problem Analysis
2. Objective Analysis
3. Strategic Alternatives Analysis

Representatives of all relevant stakeholder groups participate in the Problem and Objective Trees Analysis². Usually the different steps are approached systematically in a participatory workshop.

1. Problem Analysis

In Problem Analysis, an inventory is first made of the key problems in the area as perceived by the different stakeholders. From this list of problems the core or central problem is defined. With the core problem as the central point, the other problems are grouped in a hierarchical structure reflecting causal relationships. In this way the problem environment is graphically displayed in a Problem Tree (figure 1.1), with the causes forming the roots and the effects forming the branches.

Figure 1.1. Problem Tree
(adapted from Norad, 1989)



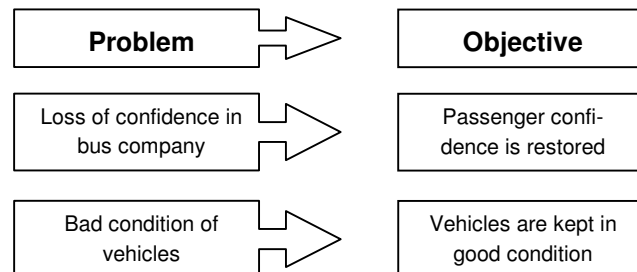
¹ In OOPP it is followed by a series of planning steps where the project is designed by developing the Logical Framework.

² Team Technologies Inc. (2000) includes Stakeholder Analysis in Problem and Objective Trees Analysis; it is considered the first step.

2. Objective Analysis

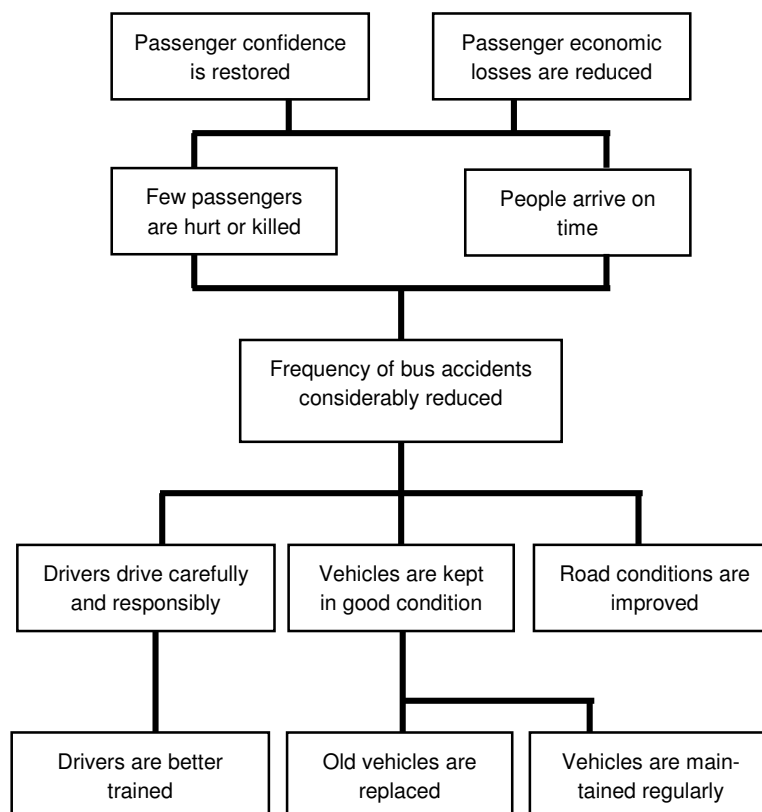
Subsequently, in Objective Analysis, the Problem Tree is transformed into a set of future solutions to the problems. Each negative problem is converted into an objective by rewording it as a positive future statement (figure 1.2).

Figure 1.2. Transforming problems into objectives
(adapted from ITAD, 1999)



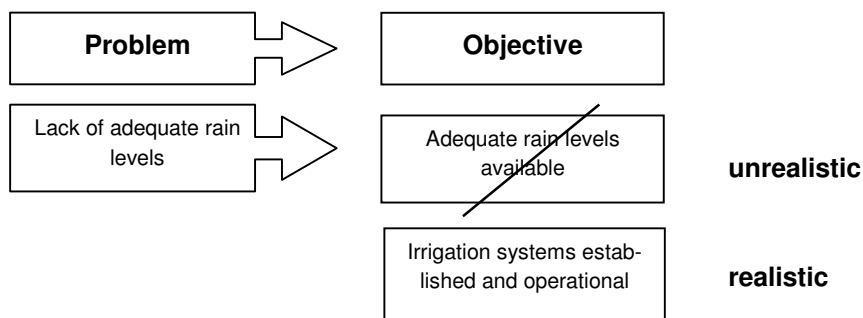
Objectives will follow the cause-and-effect logic of the underlying Problem Tree. Each objective will in turn be the means to the end of the objective above it. The Problem Tree is converted into an Objective Tree (figure 1.3).

Figure 1.3. Objective Tree
(adapted from Norad, 1989)



Reformulating the problems into objectives has to be done very carefully. It is important to review the formulated objectives and the resulting Objective Tree. If a statement makes no sense after rewording, write a replacement objective, or delete it, or leave the problem unchanged (see figure 1.4).

Figure 1.4. Transforming a problem into a realistic objective

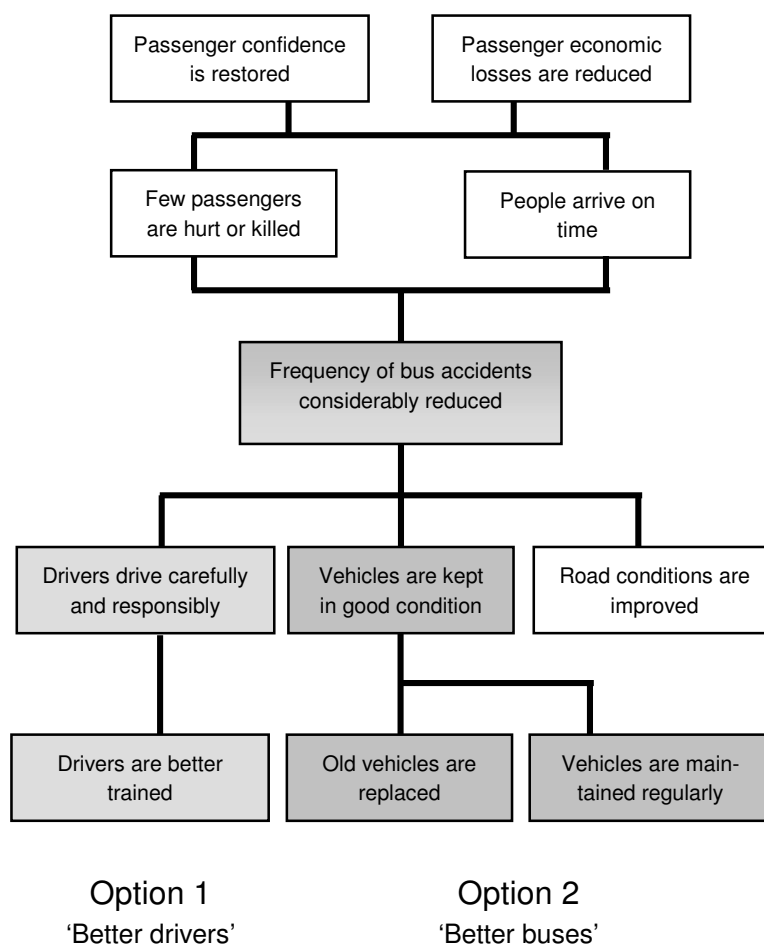


3. Strategic Alternatives Analysis

The purpose of Strategic Alternatives Analysis is to identify possible alternative options, assess their feasibility, and agree on programme and/or project strategies. Based on a set of criteria developed by the team, the particular (group of) objectives that will apply to the intended project are strategically chosen.

Figure 1.5 shows the means-end branches of the Objective Tree, which constitute alternative options.

Figure 1.5. Strategy selection (adapted from Norad, 1989)

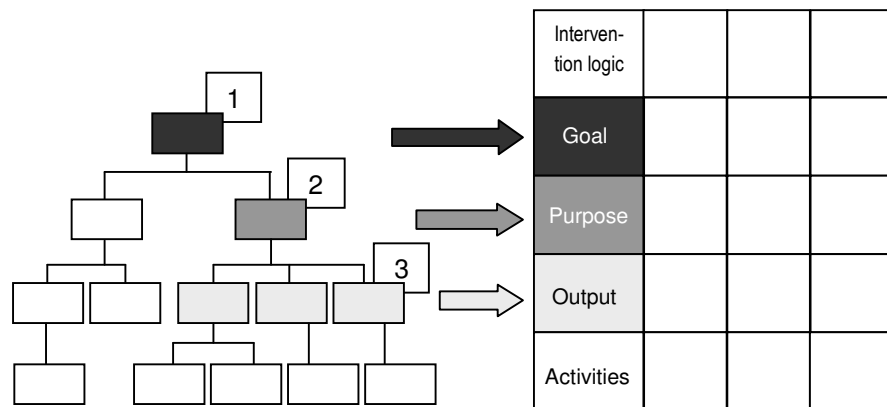


In this example there are two options: better drivers or better buses. Combining the two results in a third option: better drivers *and* better buses, which in this case was the project strategy chosen.

Not all problems can or should be tackled by a project and not all objectives can be embraced. Often the Objective Tree will contain objectives that cannot be achieved by the project under consideration. However, these objectives provide the external conditions of the project, which can be used to identify the assumptions of the eventual project.

Once the project strategy has been chosen, the information from the Objective Tree is used for further project design and/or the preparation of a detailed project document. When applied in the OOPP methodology, the main project elements derived from the Objective Tree are transferred into the first column of the Logical Framework (figure 1.6).

Figure 1.6. Linking the Objective Tree to the Logical Framework (adapted from Team Technologies Inc., 2000)



Operating the instrument

Step 1. Stakeholder Analysis

- Make an inventory of all persons, groups and institutions affected by the problem environment; categorise in interest groups, individuals, organisations, authorities, etc.
- Make a more detailed analysis of these groups (e.g. in terms of problems, interests, influence and importance, and interaction).
- Discuss whose interests and views are to be given priority.
- Select the most important groups.
- Representatives of the relevant stakeholder groups participate in the further analysis.

Step 2. Problem Analysis

Formulate the problems

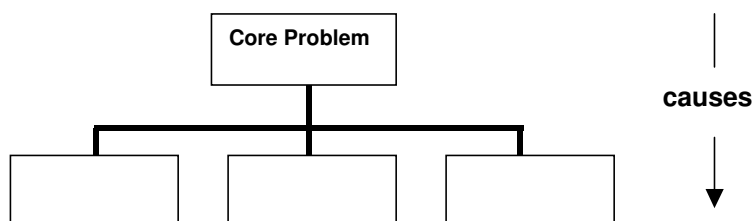
- Participants are asked to write down key problems on cards (one problem, one card, expressed in key words).
 - Existing problems – not possible, imagined or future problems.
 - Only one problem per card.
 - A problem is not the absence of a solution but an existing negative state. So, *no pesticides available* is a wrong statement; replace it with *crops infested with pests*.
- All cards are reviewed in plenary, and duplicates and unclear or irrelevant cards are removed.

Select a starting point

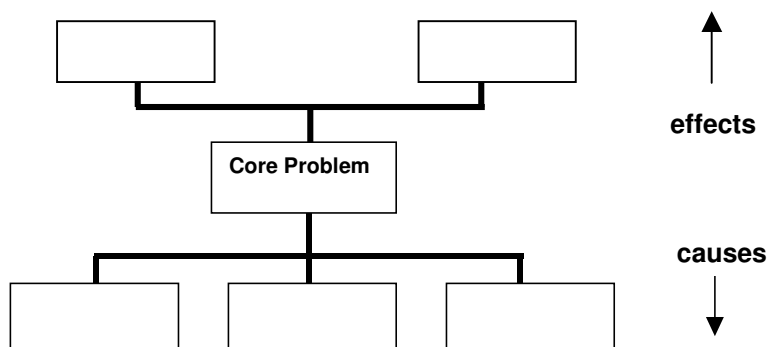
- The core problem is identified by discussing what is the central problem, the one problem of which most others are either causes or effects. Very often the most striking problem, or trigger problem, forms the starting point.

Develop the Problem Tree

- Identify substantial and direct causes of the core problem.



- Identify causes of these direct causes and place them in a lower level.
- Identify substantial and direct effects of the core problem.
- Identify effects of these direct effects and place them in a higher level.



- Connect the boxes (or cards) with lines, demonstrating the cause-and-effect relationships between the problems.
- Construct and further develop the Problem Tree, showing the cause-and-effect relationships between the problems.
- Review the Problem Tree, verify its validity and completeness, and make any necessary adjustments (see figure 1.7).

Figure 1.7. Discussing the final stages of the Problem Tree during ITC Fieldwork in the Philippines. (Photographer Dick van der Zee, 1999)



Step 3. Objective Analysis

- Reformulate all elements in the Problem Tree into positive, desirable conditions.
- Review the resulting means-end relationships in order to ensure the validity and completeness of the Objective Tree.
- If necessary:
 - Revise statements.
 - Delete objectives that appear unrealistic.
 - Add new objectives where necessary.
 - If the statement makes no sense after rewording, write an alternative objective or leave the problem unchanged.
- Draw connecting lines to indicate the means-end relationships and finalise your Objective Tree.

Step 4. Strategic Alternatives Analysis

Identify alternative options

- Identify different means-end ladders as possible alternative options or project components.
- Eliminate objectives that are obviously not desirable or achievable.
- Eliminate objectives that are pursued by other projects in the area.
- Discuss the implications for affected groups.

Select the project strategy

- Discuss the criteria to be used for assessing the alternative options. Box 1.3 can be used to generate criteria.
- Assess the feasibility of the different alternatives.
- Select one of the alternatives as the project strategy.
- If agreement cannot be directly reached, then introduce additional criteria or alter the most promising option by including or subtracting elements from the Objective Tree.

The remaining alternative options, those with less priority, could be tackled separately or in a later stage³.

Box 1.3. Criteria for assessing alternative options (Norad, 1989)

Criteria to be used for assessing the alternative options

Total costs
Benefits to priority groups
Probability of achieving objectives
Social risks

Possible additional criteria

Technical: appropriateness, use of local resources, market suitability, etc.
Financial: costs, financial sustainability, foreign exchange needs, etc.
Economic: economic return, cost effectiveness, etc.
Institutional: capacity, capability, technical assistance inputs, etc.
Social: distribution of costs and benefits, gender issues, socio-cultural constraints, local involvement and motivation
Environmental: environmental effects, environmental costs vs. benefits

Strengths

- Problem and Objective Trees Analysis promotes open-minded and wide-ranging reflection on the causes of a problematic situation.
- It helps to achieve a more specific, modest and realistic understanding of project objectives.
- It helps to provide a framework for project planning.
- It is a participatory approach and assists relevant stakeholders in participating in planning.
- It creates ownership of problems.
- Facilitates common understanding and better communication between the parties involved in the project.
- A consensus-building tool in the initial stages of a project.
- Visualisation with cards facilitates group discussions and consensus building.

³ The remaining alternative options may also be defined as assumptions later in the Logical Framework.

Limitations

- The Problem Tree Analysis and subsequent Objective Tree Analysis require open-minded but disciplined participants or team members.
- Preparing the Problem and Objective Trees is very intensive and it is difficult to keep people involved over longer periods of time.
- Sufficient data will be required.
- The Problem and Objective Trees offer a picture of problems and their possible solutions at a given point in time. Repetition of the exercise will be required because of changes in the planning environment.
- The visualisation method may make it difficult for illiterate people to participate.
- If not properly managed, a workshop on Problem Tree and Objective Tree development could result in chaos, conflicts and disappointments, and could demoralise participants.
- Problem and Objective Trees Analysis works for 'projects' but not for process planning.

Requirements

Skills

- A competent facilitator is required to guide the discussions and analyses.
- Participants should have knowledge of the situation and should be willing to brainstorm and discuss.
- Organisations involved should have an open mind about future interventions.

Time

- Completing the Problem and Objective Trees Analysis takes anything from several days to several weeks, depending on the complexity of the situation and the scope of the expected intervention.
- The whole analysis requires considerable effort from all parties involved.

Related instruments

Objective Oriented Project Planning (OOPP) – Problem and Objective Trees Analysis is the core element in Objective Oriented Project Planning (OOPP). It represents the analytical part of OOPP and supports the OOPP planning phase, which results in the Logical Framework Matrix.

Project Cycle Management – Problem and Objective Trees Analysis is the main instrument in Project Cycle Management, where it is defined as Trees Analysis.

Stakeholder Analysis – As participation of the relevant stakeholders is crucial, a Stakeholder Analysis is carried out before embarking on the Problem and Objective Trees Analysis.

SWOT Analysis – SWOT is used as a tool for exploring the constraints and opportunities of a project proposal. It can be used to test the completeness of a goal. Strengths and weaknesses refer to those strengths and weaknesses within the project. Opportunities and threats refer to the opportunities for, and the threats to, the project in respect to achieving the goal.

TeamUp-PCM – A software package for Project Cycle Management; it automates the basic step-by-step methodology and includes a module on Trees Analysis.

Workshop – A workshop is the ideal setting for discussing most steps of Problem and Objective Trees Analysis and for making the most important decisions.

Further reading

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Key definitions

Core problem

The central point of the overall problematic situation. (Synonyms: starter problem, focal problem, central problem, trigger problem)

Logical Framework

The logical framework is a set of related concepts describing the most important aspects of project design in a four-by-four matrix. (Synonyms: LogFrame, Logical Framework Matrix, Project Planning Matrix, Cadre Logique)

Objective

A positive situation to be achieved in the future.

Objective Tree

A visualised hierarchical representation of objectives and their cause-and-effect relationships. This tree is derived from the Problem Tree, where the negative conditions are rephrased into positive conditions to be achieved in the future.

Objective Tree Analysis

The technique of analysing an opportunity environment by arranging a group of objects causally, resulting in an Objective Tree. The Objective Tree can be developed from the Problem Tree.

OOPP

Objective Oriented Project Planning (OOPP) provides a flexible and efficient framework for project planning with the active involvement of the organisations associated or affected by the problem situation. It is characterised by Problem and Objective Trees Analysis and the Logical Framework. (Synonyms: Ziel Orientierte Projekt Planung (ZOPP), goal-oriented project planning, target-oriented project planning, objective-oriented planning system, Logical Framework Approach)

Problem

A problem is a discrepancy between an actual state (what is) and a desired state (what should be); problem solving aims at bridging the gap between these two states.

Problem and Objective Trees Analysis

A tool for initial discussion, ranking and analysis of causes of problems, and for preparing the formulation of project objectives. (Synonyms: Trees Analysis, Situation Analysis)

Problem Tree

A visualised hierarchical representation of problems and their cause-and-effect relationships.

Problem Tree Analysis

The technique of analysing a problem environment by arranging a number of related problems causally, resulting in the Problem Tree.

Strategy

Based on the Objective Tree a trade-off is made to select a strategy. The strategy specifies what to do, for whom, with whom and how.

Strategic Alternatives Analysis

The purpose of Strategic Alternatives Analysis is to identify possible alternative options, assess the feasibility of these and agree on programme and/or project strategies. Strategic Alternatives Analysis is based on the Objective Tree.

Chapter 2. Logical Framework

What?

The Logical Framework is an instrument for identifying project goal, purpose and outputs, and for planning and describing the necessary activities and inputs. The Logical Framework aims at producing a consistent project design.

The Logical Framework is a key management tool during implementation and evaluation. It provides the basis for the preparation of action plans and the development of a monitoring system, and a framework for evaluation. It allows project planning to be revised in response to changes in the project, stakeholders and context throughout the project cycle.

The project design developed using the Logical Framework follows a standardised format: the Logical Framework Matrix (figure 2.1). The matrix provides a summary of project goals, objectives and outputs; their indicators and the sources of information by which progress will be measured; and the key risks and assumptions that may affect achievement of the objectives.

Why?

Successful planning requires good insight into the many factors affecting the intended project. Absence of a clear overview of project objectives, expected inputs and a consistent set of activities may result in projects that fail to reach their targets or do not generate sustainable results. In the Logical Framework the most important aspects of project design are described in a structured and logical way.

Developing the Logical Framework forces the planner to analyse carefully the reason for undertaking the project (*goal*), the achievements at the end of the project (*purpose*), the *outputs* of the project *activities*, and the *inputs* required to carry out these activities. In addition, the factors out of reach of the project management that may influence the success of the project are identified and confined in the Logical Framework.

The process of developing a Logical Framework with a team or group of people working together helps to build team cohesion and consensus. It provides a basis for agreeing the roles and responsibilities of the participating partners and the ultimate intended outcomes of the team's efforts.

Figure 2.1. Schematic representation of the Logical Framework Matrix

Intervention Logic	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Goal			
Purpose			
Outputs			
Activities	Inputs	Budget	
			Preconditions

Field of application

The Logical Framework is used in documents such as proposals, feasibility studies and progress reports. Donors such as the Asian Development Bank, Danida, DFID, the European Commission, FAO, GTZ, Norad, SIDA and the World Bank frequently request the application of the Logical Framework in project proposals.

Box 2.1. presents the historical background of the development of the Logical Framework:

Box 2.1. Historical background of the Logical Framework

In the late 1960's, USAID (the United States Agency for International Development) commissioned the consultants PCI (Practical Concepts Incorporated) to propose a systematic method to link project design and evaluation. This was the 'logical framework' of objectives, based on cause and effect, later known as LogFrame. This was adopted by USAID in 1971 for Technical Assistance and later for all projects. It was introduced primarily for evaluation, but the process of specifying goals and purposes (previously omitted from project design) as well as outputs made it a useful planning tool.

The popularity of 'performance management' in the 1980s encouraged the rapid spread of logical frameworks (based on the LogFrame) to other donors, initially as a project tool and later as an administrative requirement. Since then it has been adopted and adapted by most donor agencies.

Changes in the use of the Logical Framework have reflected changes in the organisations, as well as their experiences with the Logical Framework. During the last ten years, there has been growing diversification and development from the core idea.

Germany's GTZ incorporates the Logical Framework as a key part of its integrated project planning and management system (the ZOPP, also known as OOPP: Objective Oriented Project Planning).

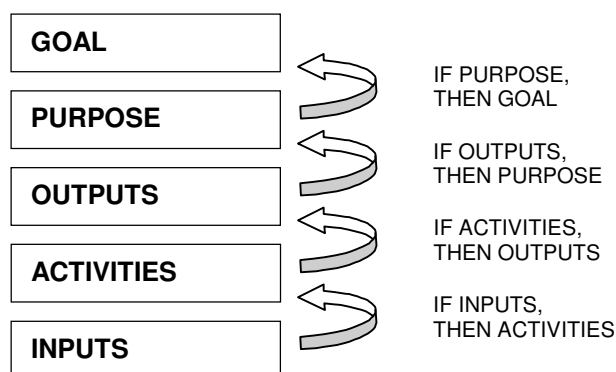
Description

A vertical logic, *intervention logic*, clarifies why a project is being undertaken. Goal, purpose, outputs, activities and inputs are presented systematically as a hierarchy of objectives.

Goal refers to the ultimate objective (often national or sectoral objectives) of the programme to which the specific project will contribute. *Purpose* describes the immediate project objective. *Outputs* are the specific results of the activities undertaken by the project. Outputs jointly define to what extent and in what form the purpose will be met in the project. *Activities* define how the project is going to be implemented in order to obtain the set outputs. *Inputs* are the resources required to carry out the project.

The intervention logic is characterised by an 'if-then' sequence: if the inputs are provided, then the activities can take place, etc. The cause-and-effect relationships between the various elements serve as an important check on whether the intervention logic is indeed logical and overlooks nothing. This can be viewed graphically, as shown in figure 2.2.

Figure 2.2. Schematic representation of linked hypotheses or causal relationship (adapted from Rosenberg & Hagebroeck, 1973)

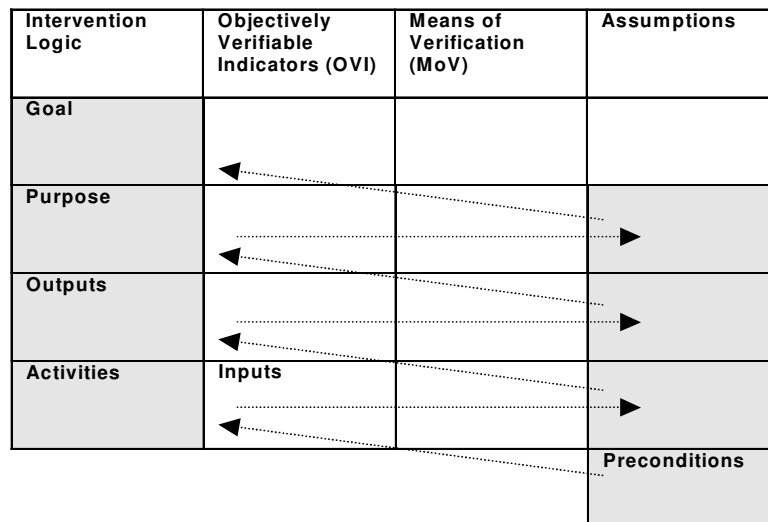


Causal linkages between the levels of the intervention logic may depend on *assumptions* and *preconditions*: external factors that influence the success of a project. These factors might affect the project regardless of the quality of project design and management. They are outside the control of the project.

Careful formulation of assumptions and preconditions is important in order to safeguard the 'contractor' of the project. It also serves to alert project management to critical factors that may require action beyond or outside the project proper. Particularly critical assumptions and preconditions are called 'killer assumptions'. They, as well as activities outside the project, warrant very careful consideration in order to minimise the possibility of activating the 'killer'.

By combining the intervention logic and the assumptions and preconditions, a direct cause-and-effect relationship – the 'if-and when-then' relationship – between these elements becomes visible. This is represented in figure 2.3.

Figure 2.3. The 'if-and-when-then' relationship visualised in the Logical Framework Matrix (source: ITAD, 1999)



The diagram should be read as follows:

- Once the preconditions have been met, the activities start up.
- Once the activities have been carried out and the assumptions at this level fulfilled, there will be outputs.
- These outputs and the fulfilment of assumptions at this level will accomplish the project purpose.
- Once the project purpose and the assumptions at this level have been fulfilled, the goal will be achieved.

For management purposes the Logical Framework also contains *objectively verifiable indicators* as well as *means of verification*. Achievement of the goal, purpose and output can thus be verified by specifying what exactly has to be achieved.

Indicators must be valid, reliable, precise, cost-effective, and independent of other levels. An indicator is objectively verifiable when different persons applying the same measuring process obtain the same measurements independently of one another.

Indicators should be specific in terms of:

- **Quality** (what?)
- **Quantity** (how much?)
- **Time** (when, how long?)
- **Target group** (who?)
- **Place** (where?)

At the activities level of the Logical Framework you will find the *Inputs* summarised in the column Objectively Verifiable Indicators. Inputs are not so much indicators but deliverables.

Means of verification are documents, reports, people and other sources of information that provide data on indicators and make it possible to monitor and verify actual progress towards the planned activities, outputs, purpose and goal. Means of verification give an exact description of what information is to be made available, in what form, how it is going to be collected and, if necessary, by whom.

A summarised *budget* is included in the column Means of Verification, at the activities level of the Logical Framework. Budget (or costs) is the translation into financial terms of all the identified inputs.

The overview in figure 2.4 clarifies all the elements of the Logical Framework.

Figure 2.4. Elements of the Logical Framework and key words characterising these (Euroconsult, 1996)

Intervention logic	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Goal The higher-level objective towards which the project is expected to contribute (mention target group)	Goal OVI Measures (direct or indirect) to verify to what extent the goal has been fulfilled	Goal MoV The source of data necessary to verify status of goal-level indicators	
Purpose The effect that is expected to be achieved as the result of the project	Purpose OVI Measures (direct or indirect) to verify to what extent the purpose has been fulfilled	Purpose MoV The source of data necessary to verify status of purpose-level indicators	Assumptions Important events, conditions or decisions outside control of the project which must prevail in order to achieve the goal
Outputs The results that the project management should be able to guarantee (mention target group)	Output OVI Measures (direct or indirect) to verify to what extent the outputs have been produced	Output MoV The sources of data necessary to verify status of output-level indicators	Assumptions Important events, conditions or decisions outside control of the project management but necessary for achieving the purpose
Activities The activities that have to be undertaken by the project in order to produce outputs	Inputs Goods, people and services necessary to undertake the activities	Budget Translation into financial terms of all the identified inputs, where feasible. Some services or human inputs may not be in monetary terms.	Assumptions Important events, conditions or decisions outside control of the project management but necessary for producing outputs
			Preconditions Important events, conditions or decisions outside control of the project management but necessary for the start of the project

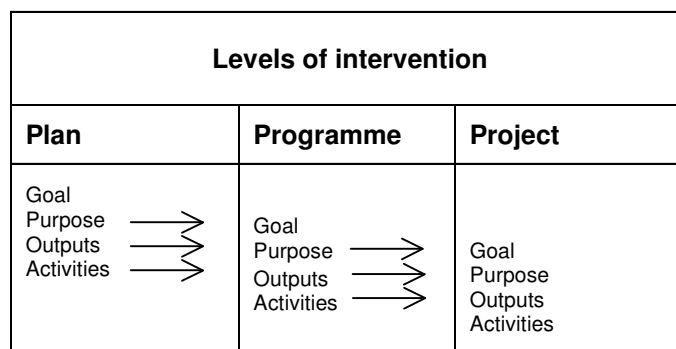
Interlocking Logical Frameworks

Each Logical Framework can be worked out in sub-Logical Frameworks. Each of these sub-Logical Frameworks (also known as Kid Logical Frameworks) describes components of the Master Logical Framework (plan or programme) at a more detailed level (project). The same system of subdividing a Logical Framework can be applied to project components.

The process of Interlocking Logical Frameworks can be applied at different levels of intervention (e.g. project, programme, plan).

The diagram in figure 2.5 represents the process of Interlocking Logical Frameworks.

Figure 2.5. Schematic representation of Interlocking Logical Frameworks



Operating the Logical Framework

A Logical Framework is developed in a workshop environment and is guided by a facilitator. Often, relevant stakeholders participate in the discussions.

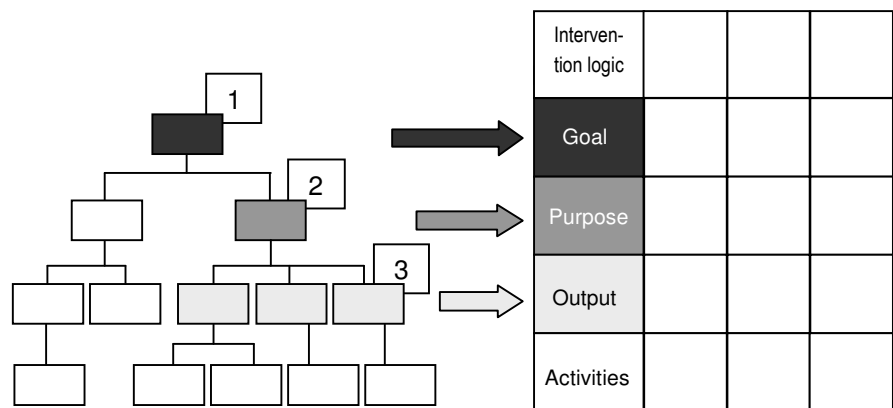
There is no fixed way of developing a Logical Framework, and its design should be tailored to the circumstances in which it is to be used. However, the most logical approach starts with the overall intentions of the project (the goal) and follows the intervention logic. The basic principle is to go from the general to the specific.

Step 1. Develop the intervention logic

- Define the goal. Very often this higher-level objective (sectoral or national objective) has already been defined.
- Define the purpose. Generally only one purpose is defined.
- Define outputs and activities. It can be very helpful to number the outputs and the related activities, as shown in the example in figure 2.7.

The chosen project intervention may be derived from the Objective Tree and transferred into the first column of the Logical Framework, as shown in figure 2.6.

Figure 2.6. Linking the Objective Tree to the Logical Framework (adapted from Team Technologies Inc., 2000)



Step 2. Check if-then relationship in the intervention logic

Step 3. Go to the assumption column

Step 4. Define assumptions for each level. Assumptions should be positively formulated:

- Activities to outputs
- Outputs to purpose
- Purpose to goal

Care should be taken to include only relevant and obvious assumptions. It is not a 'must' to define assumptions for each level.

Step 5. Check if-and when-then relationship

Step 6. Go to the OVI and MoV columns

Step 7. Formulate

- Objectively Verifiable Indicators
 - QQTTP (quality, quantity, target group, time, place)
- Means of Verification

Step 8. Define inputs and budget

Step 9. Formulate

- Preconditions
- Assumptions between inputs and activities

Step 10. Review the complete Logical Framework

The Logical Framework Matrix should be appended to a comprehensive project plan, which explains in detail how the project will be implemented.

Figure 2.7. Example of a Logical Framework, Northern Province, Bogo (source: European Commission, 1993)

Intervention Logic	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Goal Food situation improved	After 1997, 300 kg rice or 600 kg manioc consumed, same (indexed) price as in 1992	Survey by Ministry of Agriculture in 1998	
Purpose Increased rice production	Increased rice production per ha (+/- 45% output sold) 94 95 96 97 10% 20% 30% 10%	Project report 94/95/96/97	Increased agricultural output on hills: over 50% of rice crop consumed by producers
Outputs 1. Irrigation network functioning 2. More regular supply of inputs 3. Farmers using new farming skills	From 1995 all fields adequately irrigated A month before planting, all peasant farmers have seedlings and 50 kg fertiliser per ha Farmers apply the agricultural calendar and plant at right distance from 1996 onwards	Survey of peasant farmers 95/96/97 Reports from extension services and project team	No sabotage of irrigation system Farmer associations carry out maintenance of irrigation system Mechanised rice production Select rice surplus covers production costs (inputs)
Activities 1.1 Organise rural farmers 1.2 Clear blocked channels 1.3 Raise dykes 1.4 Train farmers in management and participation 2.1 Organise purchase of inputs 2.2 Organise inputs distribution 3.1 Organise extension service 3.2 Train extension workers 3.3 Train instructors (men and women) 3.4 Study effects of use of inputs on environment	Inputs EUROPEAN COMMUNITY Human resources - 120 m/m means invested - 3 cars/4 motorcycles - 3 houses/ offices - Working capital BOGO ADMINISTRATION Human resources - 240 m/m means invested - 4 houses - Running	Budget (x 1000 ECU) 1200 60 140 500 1900 120 40 40 200	Access roads in good condition (see 2.1) Extension workers motivated by incentives (see 3.1) Extension workers able to establish dialogue with farmers (see 3.1) Traders continue to supply inputs Extension service continues to meet changing needs of farmers Budget for training still available post-project
			Preconditions Disputes between hill farmers and lowland farmers are settled Official approval of organisational set-up

Strengths

- Relationships between levels of objectives, expected outputs, activities to be undertaken, and required inputs are highlighted and analysed.
- Fundamental questions essential to project design are asked, and weaknesses are analysed.
- Cause-and-effect relations are systematically analysed.
- Joint development of a Logical Framework by decision-makers, managers and other parties involved facilitates communication and common understanding. In this sense it contributes to team building.
- The Logical Framework Matrix is simple and easy to understand.
- The Logical Framework saves time and effort in further project planning and implementation.
- The Logical Framework facilitates monitoring.

Limitations

- The Logical Framework is a design tool, not an appraisal method.
- Contradictions and oversights in policy and criteria can be revealed but not changed.
- The Logical Framework gives a simplified view of reality in order to describe complex situations.
- All too often the caricature 'fill-in-the-boxes' or 'garbage in, garbage out' is used to complete the Logical Framework Matrix during project design, leading to a poorly prepared project with unclear objectives and a lack of project ownership among stakeholders.
- There can be too much emphasis on project monitoring (i.e. all the efforts go into the two middle columns (OVIs and MoVs)).

Requirements

Skills

- Developing a Logical Framework requires considerable understanding of the concepts and the logic of the approach.
- Stakeholder participation enhances the quality of the design of the Logical Framework.
- An experienced moderator or facilitator is required to guide participants in such a way that consensus is reached and the key stakeholders see their concerns reflected in the design of the Logical Framework.
- Participants should have knowledge of the existing problem situation.
- The team developing the Logical Framework should be able to summarise complex ideas and relationships into the Logical Framework Matrix.

Time

- Completing the Logical Framework takes anything from several days to several weeks, depending on the size of the project and the expected output of the Logical Framework.
- Preparing a Logical Framework requires considerable effort from all parties involved.

Related instruments

Logical Framework Approach (LFA) – A more comprehensive analysis and planning approach to project design. Different tools and instruments are applied, one being the Logical Framework.

Problem and Objective Trees Analysis – The Problem Tree and subsequently the Objective Tree form the basis for developing the Logical Framework. Together they form the main tools applied in Objective Oriented Project Planning.

Project Cycle Management – An integrated approach to managing the various phases of a project cycle and analysing the most important elements of each phase. The Logical Framework is one of the main tools used in Project Cycle Management.

Stakeholder Analysis – Developing a Logical Framework is often an exercise involving all stakeholders. Stakeholder Analysis is then needed to support this process.

TeamUp-PCM – A software package for project design developed by Team Technologies of the World Bank's Economic Development Institute. It includes the Logical Framework.

Workshops – When more stakeholders are involved, workshops are an excellent means of preparing a Logical Framework.

Further reading

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Key definitions

Activities

Key activities to be undertaken to produce the set outputs.

Assumptions

Statements about the uncertainty factors between each level of the intervention logic. These are factors outside the scope of a project that have to be monitored and controlled during project implementation. (Synonyms: important assumptions, external factors)

Budget

Translation into financial terms of all the identified inputs. Some services or human inputs may not be in monetary terms. (Synonyms: financial input, costs)

Goal

The higher-level objective towards which the project is expected to contribute. (Synonyms: overall objective, development objective, long-term objective)

Inputs

Goods, people and services necessary to undertake the activities and produce the outputs. (Synonym: means)

Intervention logic

The basic strategy underlying the project. It describes all aspects to be considered that contribute to the goal. Activities are initiated on the provision of inputs and result in outputs. If outputs are realised, the purpose is achieved and the project contributes to the goal. (Synonyms: vertical logic, narrative summary, hierarchy of objectives)

Logical Framework

A set of related concepts describing the most important aspects of an intended project in operational terms in a four-by-four matrix. It presents a summary of inputs, of objectives and the causal relationships between them, of indicators for monitoring and evaluation, and of assumptions outside project influence that may affect project success. (Synonyms: LogFrame, Cadre Logique, Project Planning Matrix)

Means of Verification

Documents, reports, people and other sources of information that provide data on indicators and make it possible to monitor and verify actual progress towards planned activities, outputs, purpose and goal. (Synonym: source of verification)

Objectively Verifiable Indicators

Operational measurements to show how achievements of the goal, purpose and outputs can be verified. Indicators include quantity, quality, time, target group and place dimensions. (Synonyms: performance indicators, verifiable indicators)

Outputs

The products that result from project activities. They indicate what the project is to accomplish. The project can be held directly accountable for the production of outputs. (Synonyms: results, sub-objectives, deliverables)

Preconditions

Conditions to be fulfilled before the start of the project. (Synonym: external factors)

Purpose

The desired impact that is expected to be achieved once the project is completed. The benefits for the target group should always be clarified here. (Synonyms: project purpose, immediate objective, short-term objective)

Chapter 3. SWOT Analysis

What?

SWOT Analysis is a tool designed to be used in the preliminary stages of decision-making, often as a precursor to strategic planning. It is a common tool in performance analysis and in evaluation studies.

SWOT Analysis focuses on the identification of strong and weak points within an organisation and the analysis of opportunities for, and threats to, further development. The acronym SWOT stands for strengths, weaknesses, opportunities and threats.

The results of SWOT Analysis can be summarised in the SWOT Matrix (figure 3.1). Strategic planning can use the matrix to identify how external opportunities and threats facing a particular organisation can be matched with internal strengths and weaknesses in order to result in possible strategic alternatives. A more detailed process of strategy formulation may follow.

Why?

The basic principle in SWOT Analysis is the idea that good strategy means ensuring a fit between the external situation or environment (threats and opportunities) and the internal qualities or characteristics (strengths and weaknesses) of the organisation.

The process of gathering, analysing and evaluating information from and among different stakeholders in order to investigate the SWOT elements, identify strategic options and formulate a strategy makes SWOT Analysis a good method for systematic group reflection.

SWOT Analysis creates consensus among stakeholders in reaching strategic priorities for using major strengths and opportunities to tackle major weaknesses and threats. It contributes to ownership of, and commitment to, the processes of strategy formulation and further action planning.

Figure 3.1. Example of a SWOT Matrix for the National Mapping Agency in Europe (Parsi, 1999)

<div style="text-align: center;"> <div>Internal Factors</div> <div>External Factors</div> </div>	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> • Quality culture • Wide experience in mapping operations • Availability of hard/software • Well trained personnel/staff development 	<ul style="list-style-type: none"> • No marketing structure • Divisional structure • No flexible system • Lack of operations management
Opportunities (O) <ul style="list-style-type: none"> • Growing number of new customers • Established copyright legislation • Growth of E-commerce • Enabling power of GI technology 	SO Strategies <ul style="list-style-type: none"> • Use internet for easier/cheaper product dissemination • Optimise production system making use of available technology and staff • Certify products protected by copyright 	WO Strategies <ul style="list-style-type: none"> • Develop marketing mechanisms to better identify customer's requirements • Re-engineer production system using GI technology + ops. mgt. Techniques to enable product diversity for E-commerce • Develop business units
Threats (T) <ul style="list-style-type: none"> • Cut in government budget • Dissatisfaction of user community • Growing competition from private sector • Easy access to easy/cheap technology by competitors 	ST Strategies <ul style="list-style-type: none"> • Find new market niches to recover part of costs (new users, new products) • Make use of culture, capabilities and experience to satisfy users and to enter competition • Do not oppose but cooperate with private sector (partnership) 	WT Strategies <ul style="list-style-type: none"> • Develop marketing mechanisms to better identify customer's requirements • Re-engineer production system using GI technology + ops. mgt. Techniques to enable product diversity to better compete

Field of application

Originally SWOT Analysis was developed as a management tool for the strategic planning and management of industrial and business enterprises. It has since been expanded to cover a much broader field of application.

SWOT Analysis is used in project planning as a tool for exploring the constraints and opportunities of a project proposal. It is also being used in curriculum development and planning, as well as in individual career planning.

An overview of the historical background of SWOT Analysis is presented in box 3.1.

Box 3.1. Historical background of SWOT Analysis

The SWOT analysis, as part of Strategic Planning, has its origin in the work of business policy academics at Harvard Business School and other American business schools from the 1960s onwards. Strategic Planning is concerned with developing an organisation's mission, objectives, strategies and policies. Popular became the idea that good strategy means finding a strategic fit between external situation a firm faces (threats and opportunities) and its own internal qualities or characteristics (strengths and weaknesses).

In recent years SWOT analysis has become a popular tool for strategy formulation for a much broader field of application. Improvements to the tool have been proposed, which refer to the weighting and commenting of the different internal and external factors. There are other approaches to strategy formulation but internal and external assessment using the SWOT-type analysis, seeking a fit between the two perspectives, has remained popular.

Description

Box 3.2. Basic steps in SWOT Analysis

SWOT Analysis consists of the following basic steps: external analysis to identify opportunities and threats, internal analysis of the organisation to identify existing strengths and weaknesses, the generation of alternative strategies, and the formulation of a strategic choice (box 3.2).

1. External analysis
2. Internal analysis
3. Generating alternative strategies
4. Formulation of strategic choice

1. External analysis

The external analysis takes into account the actual situation (existing threats, non-exploited opportunities) as well as possible trends and developments. The latter have to be realistic, with clear indications and without major speculations. Moreover, the effect on the performance of the organisation should be substantial.

An *opportunity* can be defined as an external fact or development that, if taken advantage of, can substantially contribute to the realisation of the organisation's mission. Examples of opportunities include new possibilities for cooperation, favourable government policies and regulations, a new target group, the demand for new services.

A *threat* can be defined as an external fact or development that has or can have a substantial negative effect on an organisation's performance. Threats are challenges posed by unfavourable trends or developments in the environment that will lead to the erosion of the organisation's position if no corrective action is taken. Examples of threats include other projects/organisations coming in with similar products/services, changes in do-

nor policies, changes in government policies and regulations, diminishing resources (e.g. manpower, inputs).

Opportunities and threats can be identified in a number of ways. Instruments that can be useful for identifying opportunities and threats include the Institutional Diagram, Network Matrices, Environmental Scan, Problem Tree Analysis.

2. Internal analysis

The internal situation is discussed on the basis of the existing situation and explores existing strengths and weaknesses. An organisation's strengths and weaknesses are internal factors that critically determine its performance.

A *strength* is therefore defined as an internal characteristic that contributes substantially to the realisation of the organisation's mission. A strength is any existing internal asset (management, staff capacity/motivation, knowledge, resource, business links, etc.) well placed to help to exploit opportunities (or meet demands) and fight off threats.

A *weakness* is an internal characteristic that threatens the functioning of the organisation. Weaknesses are internal conditions that erode the organisation's position, hamper cooperation with others or obstruct the exploitation of opportunities.

To identify strengths and weaknesses systematically, the following tools may be useful: Integrated Organisation Model, judgement criteria (suitability, legitimacy, effectiveness, continuity, sustainability, flexibility, efficiency), Process Analysis, Problem Tree Analysis.

3. Generating alternative strategies

Strengths, weaknesses, opportunities and threats are matched/combined in order to arrive at a number of alternative strategies that may form the basis for further strategy formulation.

Figure 3.1 shows how strengths, weaknesses, opportunities and threats can be matched in order to arrive at four (or more) sets of alternative strategies. The alternative strategies are based on particular combinations of the four strategic factors:

- SO strategies aim at using the strengths to take advantage of the opportunities.
- ST strategies consider the strengths as a way of avoiding threats in the environment.
- WO strategies attempt to take advantage of opportunities by overcoming weaknesses.
- WT strategies are basically defensive and act primarily to minimise weaknesses and avoid threats.

More combinations are possible and might be well worth considering (e.g. using strengths to alleviate or mitigate weaknesses, and using opportunities to combat threats) (see also figure 3.4).

Figure 3.2. Example of a SWOT Matrix prepared as part of a strategy formulation for the Student Association Board (Photographer Liza Groenendijk, 2003)

INTERNAL FACTORS	STRENGTHS	WEAKNESSES
	<p>WELL ORGANISED STRUCTURE</p> <p>RELIABLE TO THE STUDENT COMMUNITY</p> <p>ABILITY TO ORGANISE EVENTS</p>	<p>Lack of working experience</p> <p>Limited power</p> <p>Gender Imbalance</p>
EXTERNAL FACTORS		
OPPORTUNITIES	<p>RECOGNIZED BY OTHER INSTITUTIONS</p> <p>Collaboration with other institutions</p> <p>INCREASE SOCIALIZATION OUTSIDE ITC</p>	<p>EXPERIENCE SHARING WITH OTHER INSTITUTION TO GAIN MORE SKILLS</p>
THREATS	<p>DISATISFACTION OF ITC MANAGEMENT</p> <p>Bureaucratic Under ITC Admin.</p> <p>DISATISFACTION OF COUNTRY ASSOCIATIONS</p> <p>ESTABLISH & MAINTAIN GOOD WORKING RELATIONSHIP WITH OTHER COUNTRY ASSOCIATIONS</p>	<p>Establish Guidelines to Choose SAB Members</p>

4. Formulation of strategic choice

The sets of alternative strategies summarised in the SWOT Matrix are further discussed and analysed.

Generally, successful organisations will attempt to achieve a situation where they can work from strengths to take advantage of opportunities. If they have weaknesses, they will strive to overcome them, making them strengths. If they face threats, they will frame strategies that cope with them so that they can focus on opportunities.

Gradually, a 'synthesised' strategic choice will be defined and the trade-offs involved appraised. The process of strategic choice formulation will result in one single strategy. The single strategy will often include 'contingency planning'.

The factors displayed in the SWOT Matrix pertain to analysis at a particular point in time. External and internal environments are dynamic: some factors change over time while others change very little. Because of the dynamics in the environment several matrices could be prepared at different points in time. You may start with a SWOT Analysis in the past, continue with an analysis of the present and, perhaps most important, focus on different time periods in the future.

Operating the instrument

SWOT Analysis, followed by a strategic orientation, can be done by an individual, but it is more effective when carried out in a participatory exercise involving major stakeholders. The proposed procedure aims at reaching consensus among the stakeholders concerning the strategic choice.

Step 1. Define the entity (organisation, problem area, situation, technique)

Step 2. Brief participants about the purpose and procedure, and explain terminology used

Step 3. Identification of strengths, weaknesses, opportunities and threats

- Ask participants to list perceived external threats and opportunities: present ones and, even more important, future ones too.
- List in the same way the internal strengths and weaknesses.
- It can be helpful to use a sample two-by-two matrix (see figure 3.3).

Figure 3.3. Sample matrix for listing strengths, weaknesses, opportunities and threats

Strengths List 5 to 10 strengths	Weaknesses List 5 to 10 weaknesses
Opportunities List 5 to 10 opportunities	Threats List 5 to 10 threats

- List only the most important factors (five to ten).
- Read and discuss the responses.

Step 4. Develop alternative strategies

- Draw a three-by-three sample matrix (see format in figure 3.1).
- Transfer the discussed lists of S, W, O and T to this matrix.
- Analyse the results. Use the following questions to fill in the empty fields of the SWOT Matrix.
 - How can strengths be employed to take advantage of opportunities (SO analysis for SO strategies)?
 - How can strengths be used to counteract threats that tend to hinder achievement of objectives and pursuit of opportunities (ST analysis for ST strategies)?
 - How can weaknesses be overcome to take advantage of opportunities (WO analysis for WO strategies)?
 - How can weaknesses be overcome to counteract threats that tend to hinder achievement of objectives and pursuit of opportunities (WT analysis for WT strategies)?

- And consider the additional fields (see figure 3.4):
 - How can strengths be used to mitigate weaknesses (SW strategies)?
 - And how can opportunities be used to combat threats (OT strategies)?

Figure 3.4. SWOT Matrix: enhanced format (adapted from Hunger & Wheelen, 1997)

<div> <div>Internal Factors</div> <div>External Factors</div> </div>	Strengths (S) List 5 to 10 internal strengths here	Weaknesses (W) List 5 to 10 internal weaknesses here	
	SO Strategies Generate strategies here that use strengths to take advantage of opportunities	WO Strategies Generate strategies that take advantage of opportunities by overcoming weaknesses	
Opportunities (O) List 5 to 10 external opportunities here			OT Strategies Generate strategies that use opportunities to combat threats
Threats (T) List 5 to 10 external threats here	ST Strategies Generate strategies here that use strengths to avoid threats	WT Strategies Generate strategies here that minimise weaknesses and avoid threats	
SW Strategies Generate strategies that use strengths to mitigate weaknesses			Synthesis

Step 5. Select best strategies

Different methods can be used to select best options or strategies.

Two examples:

- Develop one or more criteria for selecting the best options and apply the criteria to the options.
- Select the best five options, using consensus or voting by participants.

Step 6. Formulate a strategy

- Formulate major tentative strategies based on these options.
- Identify areas for further investigation. This could be a more detailed analysis of the consequences of the tentative strategies.
- Make a final decision (synthesis) on the strategy to follow.

Step 7. Follow up

- Prepare an action plan or project plan, based on the strategic decision.

Strengths

- SWOT Analysis is a well-understood technique.
- It offers a consistent approach to identifying major strategic choices.
- Both growth as well as retrenchment strategies can be considered.
- It is a good way of using brainstorming to create alternative strategies that might not otherwise be considered.
- It assists in generating consensus among stakeholders, thus providing a good basis for the implementation of a project plan.
- An important added benefit is that the use of SWOT can be a powerful tool in team building.

Limitations

- The adequacy of the strategic choices depends on the adequacy of the strategic factors identified in the analysis phase.
- It requires the commitment of the participants.
- SWOT Analysis can easily be used in a limited sense: as mere list making.

Requirements

Skills

- SWOT Analysis can be carried out by an individual, but it is more effective when the major stakeholders of the project/organisation are involved.
- SWOT Analysis requires the participants to understand thoroughly the actual and future situation of the organisation or the project.
- A good facilitator is required to guide the participants or stakeholders through the process of SWOT Analysis.
- It requires the commitment of all stakeholders or participants throughout the whole process of the analysis.

Time

- Completing a SWOT Analysis takes anything from one day to several weeks, depending on the size of the project/organisation, the expected output, and the depth of analysis necessary.
- SWOT Analysis requires considerable effort from all parties involved.

Related instruments

External Strategic Factor Analysis (EFAS) – A method used for detailed analysis of the external factors.

Internal Strategic Factor Analysis (IFAS) – A method used for detailed analysis of the internal factors.

Logical Framework – Making an action plan or a project plan can follow a SWOT Analysis. This could be done in the form of a Logical Framework.

Ranking – Ranking methods can be applied to prioritise factors and/or alternative strategies.

Strategic Orientation – A method in which SWOT Analysis is applied in a somewhat different way. To develop strategies, an intermediate step is used by first generating strategic 'options' for each opportunity and threat. A selection of these options is then matched with strengths and weaknesses. This results in a number of realistic alternative strategies and provides a prioritisation.

Strategic Planning – The SWOT framework is commonly applied as a tool for situation analysis within a strategic planning process.

Weighting and Rating – Methods applied to refine the analysis of strengths and weaknesses, opportunities and threats.

Further reading

Hill, T. and Westbrook, R., 1997. SWOT Analysis: It's time for a product recall. *Long Range Planning* 30(1): 46-52.

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Paresi, C.M.J., 1999. *Situation Analysis in the Framework of Strategic Planning*. Power Point Presentation. ITC, Enschede.

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Key definitions

Alternative strategies

Strategies based on matching the four strategic factors (opportunities, threats, strengths and weaknesses) of an organisation. (Synonyms: options, strategic choices)

External situation

The external analysis is described in a dynamic sense, taking into account the actual situation (existing threats, non-exploited opportunities) as well as possible trends and developments. (Synonym: external environment)

Internal situation

The internal situation is discussed on the basis of the existing situation and explores existing strengths and weaknesses and not future ones. An organisation's strengths and weaknesses are the internal critical factors that determine its performance. (Synonym: internal environment)

Opportunity

An opportunity can be defined as an external fact or development that, if taken advantage of, can substantially contribute to the realisation of the organisation's mission. (Synonym: development opportunity)

Strategic management

Strategic management is the set of managerial decisions and actions that determines the long-term performance of an organisation. It includes environmental scanning (both external and internal), strategy formulation (strategic or long-range planning), strategy implementation, evaluation and control.

Strategy

A strategy is the translation of an organisation's mission into aims, and provides ideas on how these aims can be pursued.

Strength

Strength is defined as an internal characteristic that contributes substantially to the realisation of the organisation's mission. A strength is any existing internal asset that will help to exploit opportunities (or meet demands) and fight off threats.

SWOT Analysis

SWOT Analysis is a management tool used for strategy formulation. It is used to identify strong and weak points within an organisation and to analyse opportunities for, and threats to, further development. The acronym SWOT stands for strengths, weaknesses, opportunities and threats. (Synonyms: TOWS Analysis, Situational Analysis, Strategic Orientation)

SWOT Matrix

The SWOT Matrix illustrates how external opportunities and threats facing a particular organisation can be matched with that organisation's internal strengths and weaknesses to result in four sets of possible strategic alternatives. (Synonym: TOWS Matrix)

Threat

A threat can be defined as an external fact or development that has or can have a substantial negative effect on an organisation's performance.

Weakness

A weakness is an internal characteristic that negatively and substantially influences the functioning of the organisation. Weaknesses are internal conditions that erode the organisation's position, hamper cooperation with others or obstruct the exploitation of opportunities.

Chapter 4. Stakeholder Analysis

What?

Stakeholder Analysis seeks to differentiate and study stakeholders on the basis of their attributes and of criteria appropriate to a specific situation. Attributes may include the interest of each stakeholder, the influence and importance of the stakeholders, and the networks and coalitions to which they belong.

A list of stakeholders, eventually categorised according to certain criteria, is input into a series of stakeholder tables and matrices that are used to summarise and visualise information about stakeholders' attributes.

A combination of the following data collection methods is used to obtain information about stakeholders and their attributes: project documents, informal and semi-structured interviews, group meetings, direct observation, workshops and triangulation techniques.

Why?

Successful projects depend significantly on the involvement of key stakeholders in project design and planning. The failure of policy makers and planners to recognise the different and potentially conflicting interests of stakeholders has frequently led to resistance to policies and projects, which consequently fail to meet their intended objectives.

The direct involvement of the key parties concerned in Problem Analysis and further project planning creates ownership of, and commitment to, the planning process, and thus contributes to the success of the project.

Stakeholder Analysis provides a means of understanding the objectives and interests of the various stakeholders. It takes their diverse interests as its starting point.

The following can be distinguished as the key objectives of Stakeholder Analysis:

- To improve the effectiveness of policies or projects by explicitly considering stakeholders' interests and the challenges they represent.
- To better address the distributional impacts of policies and projects by breaking down the analysis in order to assess separately the interests of, and the impacts of intervention on, different stakeholders.
- To ensure the involvement of minority groups in participatory methods of development.
- To strengthen communication and collaboration mechanisms among stakeholders.
- To strengthen the implementation of projects and accelerate the operations involved.
- To better understand complex multi-stakeholder situations.

Fields of application

Stakeholder Analysis is applied in many situations and for many different purposes. The following are examples of some of the major applications.

- It can be applied as a planning support tool at different stages in the life of a project: to assist in designing projects, to ensure sound implementation, and to assist in monitoring and evaluation. Examples of such applications are the use of Stakeholder Analysis in different steps of Objective Oriented Project Planning, including the Logical Framework Matrix, and in SWOT Analysis.
- Stakeholder Analysis is specifically used to ensure the involvement of stakeholders in participatory methods of development intended to empower minority groups. It is one of the main tools for enhancing stakeholder participation in the aid programmes of donor organisations such as DFID and the World Bank.
- Stakeholder Analysis can be used as an organising or tasking tool in the implementation phase of a project. In this case the analysis results in a matrix charting the stakeholders, their activities (roles and responsibilities) and their interactions.
- The multi-stakeholder environment and the inherent conflicts of interests are critical issues in the field of Conflict Analysis and Management. In this case Stakeholder Analysis is a basic tool for better understanding the complex and conflicting situations, generally in relation to scarce resources, and for predicting future situations and scenarios.

In this document Stakeholder Analysis is a tool applied to support project planning in order to improve the project's effectiveness.

Some aspects of the historical background of Stakeholder Analysis are presented in box 4.1.

Box 4.1. Historical background of Stakeholder Analysis

One of the origins of Stakeholder Analysis lies in the field of business management science, where stakeholder methodologies had been established by the beginning of the 1980s. The concept of 'stakeholder management' emerged in response to the felt need for management to deal with the increasingly complex social systems in which modern corporations operate. In addition to the business management origins of Stakeholder Analysis, there are several other sources, including political economy.

Stakeholder Analysis is also derived from participatory methods of project design, such as rapid and participatory rural appraisal, which seek to integrate the interests and perspectives of disadvantaged and less powerful groups.

By the early-to-mid 1980s GTZ had developed ZOPP (Ziel Orientierte Projekt Planung), later known as OOPP (Objective Oriented Project Planning), a planning tool involving beneficiaries and other key stakeholder groups in the planning process. The World Bank had had a strong interest in participation since the early 1990s and the stakeholder concept was first adopted in parts of the Bank around 1993. Another proactive agency in the stakeholder area was the Overseas Development Administration, the UK aid agency. More recently this participatory approach to Stakeholder Analysis has been contained in the project planning software known as TeamUP.

A different, though significant, use of the method has emerged from NRI through the work of Grimble and a number of colleagues (1994, 1997). He has applied Stakeholder Analysis specifically in complex forestry situations, as an aid to designing satisfactory management systems.

Description

For a good understanding of the essence of Stakeholder Analysis, the following concepts need to be explained:

- Definition of stakeholder
- Stakeholder classification
- Stakeholder attributes

Definition of stakeholder

Stakeholders include all actors or groups who affect and/or are affected by the policies, decisions and actions of a project. Stakeholders can also include the more nebulous categories of 'future generations', the 'national interest' and 'wider society'. Stakeholders represent systems with their own objectives, resources and sensitivities.

Other terms are used interchangeably with 'stakeholders' in colloquial language but with slightly different connotations, for example, 'actors', 'key actors', 'groups of actors', 'social actors' and 'parties'.

Special groups of stakeholders are those with 'no voice', such as nature or future generations. The interests of these groups are promoted by others such as NGOs, scientists or the international community.

Stakeholder classification

Stakeholders can be listed and classified in many ways. The most fundamental division between stakeholders is likely to be between those who *affect* (determine) a decision or action, and those *affected* by this decision or action (whether positively or negatively). These groups may be termed *active* and *passive* stakeholders. Those affected can be further categorised as those *directly affected* (those who stand to benefit or lose) and those *indirectly affected* (e.g. intermediary or representative organisations).

In aid projects it is local and resource-poor people who are usually the heart of interest and the intended beneficiaries of a project. For this reason they may be called *primary* stakeholders, with others being known as *secondary* stakeholders. A final group, *external* stakeholders, includes those parties who will not be directly involved but who are interested in the outcome of the project.

Stakeholders are also categorised according to their relative influence and importance: *key* stakeholders are those that can significantly influence, or are important to, the success of the project.

Figure 4.1. Women: primary stakeholders in a fuel wood project in Kericho, Kenya (Photographer Liza Groenendijk, 1993)



Stakeholder attributes

Different stakeholder attributes can be studied, depending on the situation and the purpose of the analysis. Interest is a key attribute in Stakeholder Analysis and is always included. Other attributes commonly covered in the analysis are influence and importance.

Interest

The most important attribute to be investigated is the interest of stakeholders in the objectives of the project. These interests may be sympathetic to the objectives (the stakeholders also want what the project is trying to achieve) or negative (the project objectives are against the interests of these stakeholders).

Some stakeholder interests are more obvious than others. Many interests are difficult to define, especially if they are 'hidden', multiple, or in contradiction with the stated aims of the organisations or groups involved. A rule of thumb is to relate each stakeholder to either the problems the project is seeking to address (if at an early stage of the project) or the established project objectives (if the project is already under way).

Box 4.2 provides a checklist to help to determine the possible interests of a stakeholder.

Box 4.2. Checklist for drawing out interests (DFID, 1995)

- What are the stakeholder's expectations of the project?
- What benefits are there likely to be for the stakeholder?
- What resources might the stakeholder be able and willing (or not willing) to mobilise?
- What other interests does the stakeholder have which may conflict with the project?
- How does the stakeholder regard others in the list?

Influence

Influence is the power that stakeholders have over a project – to control what decisions are made, to facilitate its implementation or to exert pressure that affects the project negatively. Influence is perhaps best understood as the extent to which people, groups or organisations (i.e. stakeholders) are able to persuade or coerce others into making decisions and following a certain course of action.

Power may derive from the nature of a stakeholder's organisation, or from a stakeholder's position in relation to other stakeholders (e.g. line ministries that control budgets and other departments). Other forms of influence may be more informal (e.g. personal connections with ruling politicians). It may

also be necessary to consider stakeholders whose power, and therefore influence, will increase because of resources introduced by the project.

Assessing influence involves interpreting a range of factors. Some of these factors are illustrated in box 4.3.

Box 4.3. Variables affecting stakeholders' relative power and influence (DFID, 1995)

Within and between formal organisations	For informal interest groups and primary stakeholders
Legal hierarchy (command and control, budget holders)	Social, economic and political status
Authority of leadership (formal and informal; charisma; political, familial or cadre connections)	Degree of organisation, consensus and leadership
Control of strategic resources for the project (e.g. suppliers of hardware and other inputs)	Degree of control of strategic resources significant for the project
Possession of specialist knowledge (e.g. engineering staff)	Informal influence through links with other stakeholders
Negotiating position (strength in relation to other stakeholders in the project)	Degree of dependence on other stakeholders

Importance

Importance indicates the priority given to satisfying stakeholders' needs and interests through the project. So it refers to those stakeholders whose problems, needs and interests are the priority of the project⁴.

There will often be stakeholders, particularly unorganised primary stakeholders, to whom the project accords great priority (e.g. women, resource-poor farmers, slum dwellers, etc.). Their capacity to participate in the project may be weak and their power to influence key decisions limited.

Box 4.4 provides a checklist for assessing importance to the project.

Box 4.4. Checklist for assessing which stakeholders are important for project success (DFID, 1995)

<ul style="list-style-type: none"> • Whose problems does the project seek to address or alleviate? • The project places priority on meeting the needs, interests and expectations of which stakeholders? • Which stakeholder interests converge most closely with policy and project objectives?

⁴ Importance is likely to be most obvious when stakeholder interests in a project converge closely with the project's objectives. These objectives can be taken from the Logical Framework's goal and purpose.

Key stakeholders are those that can significantly influence, or are important to, the success of the project. To define the key stakeholders, the influence and importance of each of the stakeholders recognised need to be determined.

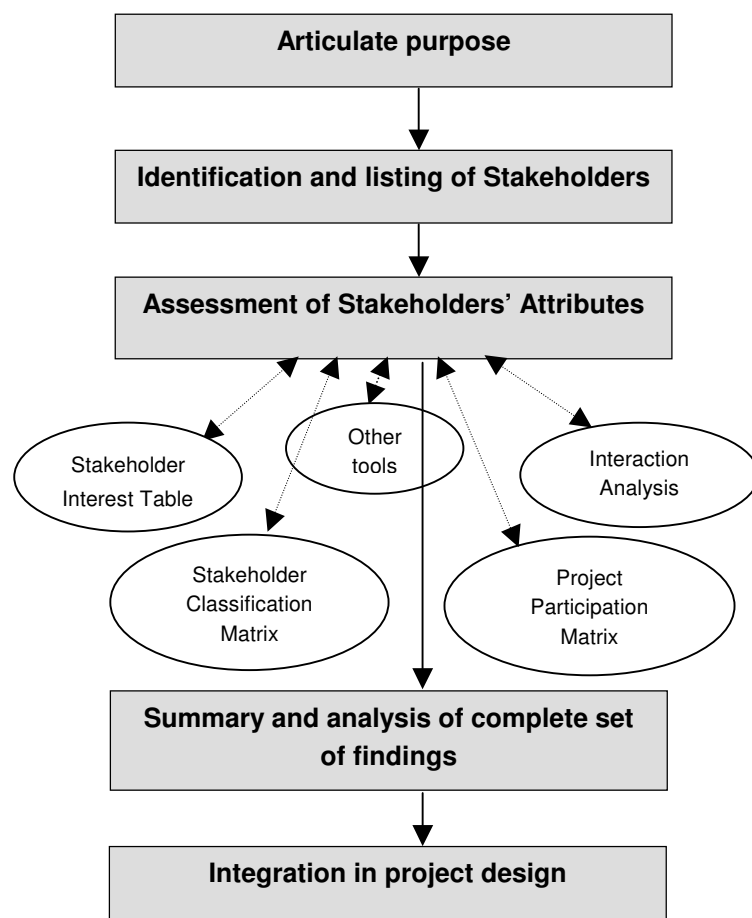
Description

Stakeholder Analysis consists of the following major phases:

1. Articulate the purpose
2. Identification and listing of stakeholders
3. Assessment of stakeholders' attributes
4. Summary and analysis of complete set of findings
5. Integration in project design

In Stakeholder Analysis a range of analysis techniques can be applied. Depending on the purpose of the analysis, one or more of these techniques are used. In figure 4.2 the process of Stakeholder Analysis is summarised.

Figure 4.2. Schematic representation of Stakeholder Analysis



1. Articulate the purpose of the analysis

Stakeholders can only be identified in relation to an issue or problem situation. To be able to decide who the stakeholders are, there should be agreement on the purpose of the analysis.

2. Identification and listing of stakeholders

The process of identifying relevant stakeholders and deciding which stakeholders should be included or omitted in the analysis needs to be considered carefully at an early stage because the selection critically influences the analysis.

It is useful to apply more than one criterion or procedure in the initial identification of stakeholders, in order to ensure that all relevant types are considered. After an initial set of stakeholders has been identified, they need to be verified. The list of stakeholders needs to be streamlined so that only those who are essential to the analysis in question are included.

The different objectives for which Stakeholder Analysis can be used demand different selection criteria for stakeholders, as shown by the following examples:

- If the main interest is in overall project effectiveness (will the project work?), the primary consideration when selecting stakeholders will be the inclusion of those groups whose interests, resources and positions of power/authority imply that they are likely to substantially affect the way in which the project or policy will operate or fail to operate in practice.
- If, however, the major concern is the equitable distribution of benefits and costs, the selection criteria will be based on considering all those groups who in some way will be affected by the implementation.
- If stakeholder participation is the objective of the analysis, extra attention will be given to identifying vulnerable groups (especially the poor) or groups that are under-empowered.

The following instruments can be used to identify stakeholders: project documents and reports, informal semi-structured discussions and interviews with key persons, field visits, workshops and group meetings. It is important to apply a combination of methods in order to crosscheck the information obtained.

3. Assessment of stakeholder attributes

Different stakeholder attributes can be studied in the analysis part. Interest is a key attribute in Stakeholder Analysis and is always included in the analysis. Other attributes commonly included in the analysis are influence and importance.

A combination of information collection tools is applied in this stage too. The information is summarised and visualised in a series of tables and matrices, four of which are presented in this book.

Stakeholder Interest Table

In a Stakeholder Interest Table all the relevant stakeholders are listed and their interests are summarised. Some further specification of these interests is possible, as shown in figure 4.3.

In this case the likely or actual impact of the project on stakeholders' interests is also assessed (in simple terms). Expected project impacts on various stakeholders' interests can be classified into positive, negative, uncertain and unknown.

Figure 4.3. Stakeholder Interest Table for a proposed private sector population project, Pakistan (simplified and adapted) (DFID, 1995)

	Interests	Potential project impact	Relative priorities of interests
Primary stakeholders			
1. Lower-middle income groups	Reproductive choice Cheaper contraceptives	+ -?	=1
2. Women	Reproductive choice Enhanced health Status	+ + -/+	=1
Secondary stakeholders			
3. Ministry of Population Welfare	Achievement of targets Control over funds and activities Avoid liability for any negative reactions to contraceptive promotion	+ - -	3
4. Pharmaceutical company and distributors	Sales volume Profits Public image	+ +/- +/-	=2
5. DFID	Institutional learning Health/population objectives Short-term reimbursement Conserving staff inputs Avoid liability for any negative reactions to contraceptive promotion	+ + - ? -	=2
External stakeholders			
6. Islamic clergy	Social and religious influence	+/-	4
7. Traditional birth attendants	Private incomes	-	5

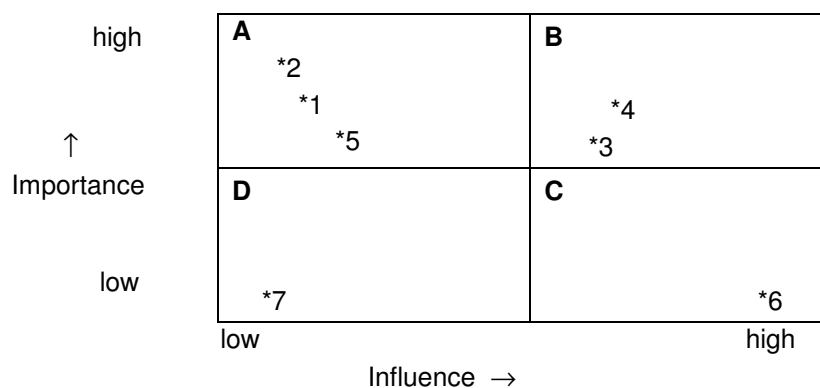
This table shows how each stakeholder has several interests. The proposed project will have a positive impact on some of these interests, but not all. The table also identified the relative priorities to be given to each stakeholder according to the policy and project objectives.

Stakeholder Classification Matrix

The success of a project depends partly on the validity of the assumptions made about its various stakeholders, and the risks facing the project. Some of these risks will derive from conflicting interests.

By combining the influence and importance of each stakeholder in a matrix diagram, assumptions and risks regarding the stakeholders can be identified. In a two-by-two matrix the stakeholders are positioned in relative terms according to the two broad criteria influence and importance (figure 4.4). The position of the stakeholder groups indicates the relative risks posed by these stakeholders, and the potential coalition of support for the project.

Figure 4.4. Stakeholder Classification Matrix for a proposed private sector population project, Pakistan (DFID, 1995). For explanation of stakeholders see figure 1.



Boxes A, B and C are the key stakeholders of the project – those who can significantly influence the project or are most important if the project objectives are to be met. The implications of each box are summarised below:

- A. Stakeholders of high importance to the project but with low influence. This implies that they will require special initiatives if their interests are to be protected (stakeholders 2, 1 and 5).
- B. Stakeholders with a high degree of influence on the project and who are also of high importance to its success. To ensure an effective coalition of support for the project, the project staff needs to construct a good working relationship with these stakeholders (stakeholders 3 and 4).
- C. Stakeholders with high influence, who can therefore affect the project outcomes, but whose interests are not the targets of the project. These stakeholders may be a source of significant risk, and they need careful monitoring and management. These key stakeholders may be able to block the project and, if this is probable, the risk may constitute a 'killer assumption' (stakeholder 6).
- D. Stakeholders in this box, with low influence on and of low importance to project objectives, may require a little monitoring or evaluation but are of low priority. They are unlikely to be the subject of project activities or management (stakeholder 7).

In addition to the Stakeholder Classification Matrix, the checklist in box 4.5 may be useful for going systematically through the assumptions and risks that need to be specified for each stakeholder.

Box 4.5. Checklist for drawing out assumptions about (and risks deriving from) stakeholders (DFID, 1995)

- What are the roles or responses of the key stakeholders that must be assumed if the project is to be successful?
- Are these roles plausible and realistic?
- Are there negative responses that can be expected, given the interests of the stakeholders?
- If such responses occur, what impact would they have on the project?
- How probable are these negative responses, and are they major risks?
- In summary, which plausible assumptions about stakeholders support or threaten the project?

The findings from the Stakeholder Classification Matrix will inform project negotiations and design.

Interaction analysis

In the interaction analysis attention is paid to conflicts, communication, collaboration and coordination. Important linkages between stakeholders and coalitions for support can be identified. This element in Stakeholder Analysis is particularly important in Conflict Analysis and Management. Two aspects of the interaction analysis will be highlighted: Conflict Analysis and Communication Analysis.

A matrix can be a useful analytical tool for identifying and assessing the significance of cooperation and conflicts of interest between stakeholder groups.

Figure 4.5 shows how a simple matrix is used to analyse conflicts between different stakeholders in forest management in northern Thailand.

Figure 4.5. Conflict Matrix showing occurrence and extent of conflicts between stakeholders in tree resources in northern Thailand (Grimble et al., 1994)

Government departments	●				
NGOs	●				
Wood-based industries	●	●			
Ex-situ land owners		●			
Local people	●		●	●	●
	Government departments	NGOs	Wood-based industries	Ex-situ land owners	Local people

Note: The symbol ● represents the existence of conflict, the size of the symbol indicating its relative extent or significance.

In this case a single-entry matrix has been used to depict an 'objective' situation. If you would like to visualise how different stakeholders perceive conflicts, use a double-entry matrix as in the Communication Matrix shown in figure 4.6.

If more detail is required, further specify the cells of the Conflict Matrix by considering the following aspects (box 4.6):

Box 4.6. Checklist for specifying conflicts (McCall, 2000)

- Type of conflict
- Arena of conflict
- Over what resources?
- Location of conflict
- Scale of conflict
- Duration of conflict
- Underlying causes
- Intensity of conflict
- Relative power between stakeholders

Communication is another aspect in the interaction analysis. Stakeholders can be analysed according to their communication networks. The communication network addresses who has contact with whom, how intensively, and what they communicate. A checklist for analysing communication linkages is provided in box 4.7.

Box 4.7. Checklist for identifying communication linkages (Euroconsult, 1996)

- Is there any exchange of knowledge, information, ideas?
- Do stakeholders keep each other informed?
- Are stakeholders aware of one other's objectives, interests, expectations?
- Are there any formal meetings arranged?
- Are contacts informal?

The matrix in figure 4.6 is an example of how the Communication Analysis can be structured:

Figure 4.6. Communication Matrix of stakeholders involved in activity 'supply credit' (Euroconsult, 1996)

	Bank	Ministry of Finance	Farmers	Project
Bank		●	●	●
Ministry of Finance	●		●	●
Farmers	●	●		●
Project	●	●	●	

Note: the size of the bullet indicates the extent of the communication linkage.

The Communication Matrix illustrates who has contact with whom and how intensively. The matrix also shows the different perceptions of the stakeholders about communication linkages. Therefore a double-entry matrix has been used. For example, the bank perceives a moderate communication linkage with the farmers, while the farmers perceive a weak communication linkage with the bank.

Project Participation Matrix

Consideration must be given to which stakeholder interests should be allowed for – and in what ways – in project activities during different stages of the project.

Key stakeholders with high influence and of high importance to project success are likely to provide the basis of the project 'coalition of support', and are potential partners in planning and implementation. Conversely, key stakeholders with high influence but of low importance to project success may be 'managed' by being consulted or informed.

A Project Participation Matrix can be prepared, of the kind shown in figure 4.7. In this matrix, project cycle stages are set against different kinds of participatory action: from informing and consultation at the lowest extreme, to full control by the stakeholders as the highest level of participation. Stakeholders from the selected list are named in the cells of this matrix, thus summarising which of them will be involved in participatory actions of the various kinds, and at which stages.

Figure 4.7. Summary Participation Matrix for the proposed private sector population project, Pakistan

	Inform	Consult	Partnership	Control
Identification		Pharmaceutical companies	DFID Ministry of Pop. and Welfare	
Planning	Clergy?	Women's groups	DFID Ministry Pharmaceutical companies	
Implementation	DFID	Clergy	Ministry Health NGOs Women's groups Pharmaceutical companies	TCOs/PIU
Monitoring and evaluation	DFID	Ministry	Health NGOs Women's groups Pharmaceutical companies TCOs/PIU Ministry	External consultants

4. Summarising and reporting

Findings from the analysis are recorded in the tables and matrix diagrams, and the risks and assumptions arising from the analysis are documented. All the information is summarised in a final report or review.

5. Integration in project design

The findings are used to review project design. For example you are able now to decide which stakeholders are to be included in further project planning and in which way, or you are able now to indicate the stakeholders who form a potential risks for the project.

In case the Logical Framework is used for project design, most key stakeholders should appear in the fourth column (assumptions). Once these risks and assumptions have been taken into account, Stakeholder Analysis may also contribute to the first column of the Logical Framework (hierarchy of objectives). In particular, outputs and activities should reflect the expanded and refined analysis of risks.

The records of the analysis are also the basis for revision later on in the life of a project, and can be used in monitoring and evaluation.

Operating the instrument

The following is a flexible set of steps to be applied in Stakeholder Analysis:

Step 1. Define purpose of analysis

- Make clear for what purpose the analysis is to be used.
- Define the problem and its boundaries.

Step 2. Prepare list of stakeholders

- Identify and list stakeholders. Verify.
- Select those stakeholders to be included in the analysis. Exclude those who are not essential.

Step 3. Determine interests of stakeholders

- Use checklist in box 4.2.
- Following the format presented in figure 4.2, prepare a Stakeholder Interest Table summarising stakeholders' interests and their relevance to the project.

Step 4. Assess the influence and importance of stakeholders

- Use checklists in boxes 4.3 and 4.4.
- Combine influence and importance in a Stakeholder Classification Matrix diagram (as shown in figure 4.3).
- Interpret the diagram and decide on key stakeholders.

Step 5. Identify assumptions and risks regarding stakeholders

- Interpret the Stakeholder Classification Matrix (box 4.5)
- Specify information for each stakeholder.

Step 6. Prepare a Project Participation Matrix as shown in figure 4.7.

Step 7. Inventory of forms of interaction between stakeholders

- Assess conflicts of interests.
 - Summarise information on occurrence and extent of conflicts in a Conflict Matrix (see figure 4.5).
 - Opt for single-entry (objective) or double-entry (perceptions).
 - Give an explanation of the identified conflicts (box 4.6)
- Assess communication linkages.
 - Use box 4.7 and summarise information in a Communication Matrix (see figure 4.6).
 - Opt for single-entry (objective) or double-entry (perceptions).
 - Give an explanation of the communication linkages.

Step 8. Organise and summarise your complete set of findings

Step 9. Integration of findings in project design

Strengths

- Stakeholder Analysis offers a simple and easy-to-understand way of organising complex data.
- If the analysis is done early, the information generated can inform project design, as it identifies both relative risks and potential coalitions for support for the project.
- It can assist in determining appropriate forms of stakeholder participation, and may enable coalitions to be formed.
- The process of Stakeholder Analysis can build ownership and commitment and, in some cases, develop the analytical capacity of the stakeholders.

Limitations

- While Stakeholder Analysis can illuminate the interests of minority groups, it cannot in itself guarantee stronger representation of these groups.
- It tends to treat different stakeholder groups as distinct entities. In reality social groupings overlap.
- Powerful groups may manipulate information about less powerful groups in order to further their own interests.
- Some unclear issues: Who does the analysis? Is the one who does the analysis also a stakeholder? Who represents a stakeholder group?

Requirements

Skills

- An external facilitator should guide the analysis. This person should have good facilitation skills, strong analytical competence and interpersonal skills.
- Stakeholders should be involved as much as possible. A team approach is likely to be more effective than one individual alone doing the analysis.

Time

- Type and scale of the project, purpose of the analysis, and complexity of the issues dictate how much time should be devoted to the analysis

Related instruments

Collaborative Planning and Action Methods – Stakeholder Analysis is a fundamental aspect of Collaborative Planning and Action Methods.

Logical Framework – Stakeholder Analysis can contribute significantly to the Logical Framework. Identified risks and assumptions regarding key stakeholders can be included. Outputs and activities reflect the expanded and refined analysis of risks.

Matrix for Stakeholder Analysis (MSA) – Although the name is somewhat similar, this is a different tool from that used in our context. This matrix depicts the actual allocation of roles and responsibilities of stakeholders, and indicates changes in this over time (e.g. at the beginning and end of a project). A tool focusing on the implementation of a project.

Problem and Objective Trees Analysis – Stakeholder Analysis is the first step in Objective Oriented Project Planning. The identified key stakeholders participate in the Problem and Objective Trees Analysis.

Various additional tools can be helpful in defining relations between stakeholders: *Venn diagrams*, *Collaboration Assessment*, *Stakeholder Mapping*.

Further reading

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Key definitions

Active stakeholders

Active stakeholders are those who affect (determine) a decision or action.

Assumptions

These are external factors outside the scope of the project that have to be monitored and controlled carefully during project implementation. (Synonyms: important assumptions, external factors)

Conflicts

Conflicts are situations of competition and potential disagreement between two or more stakeholder groups over the use of one or more scarce resources.

External stakeholders

Actors or groups not directly involved in a project or intervention, but who are interested in the outcome of the project.

Importance

Importance indicates the priority given to satisfying stakeholders' needs and interests through the project or programme. (Synonym: urgency)

Influence

Influence is the power that stakeholders have over a project – to control what decisions are made, facilitate its implementation, or exert pressure that affects the project negatively. (Synonyms: (relative) power, mandate, legitimacy)

Interest

The importance or concern of a stakeholder in the objectives of the project or policy. This may be sympathetic to the objectives (the stakeholders also want what the project is trying to achieve) or negative (the project objectives are against the interests of these stakeholders). (Synonym: stake)

Key stakeholders

Key stakeholders are those that can significantly influence and/or are important to the success of the project.

Passive stakeholders

Stakeholders who are affected by a decision or action (whether positively or negatively).

Primary stakeholders

In aid projects it is local and resource-poor people who are usually the heart of interest and the intended beneficiaries of a project; for this reason they may be called primary stakeholders.

Secondary stakeholders

Stakeholders who are not the direct beneficiaries of a project or intervention.

Stakeholder Analysis

Stakeholder Analysis is an instrument for understanding a system and the changes in it, by identifying stakeholders and assessing their relationships and their respective interests in that system. The term 'Stakeholder Analysis' does not refer to a single tool but encompasses a range of different methodologies for analysing stakeholder interest.

Stakeholders

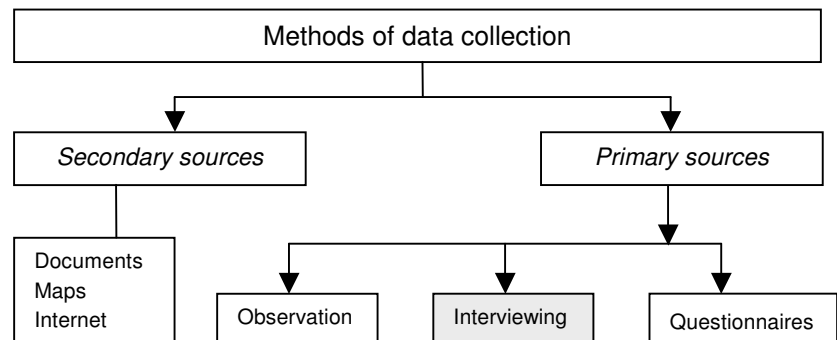
Stakeholders include all actors and groups who affect and/or are affected by the policies, decisions and actions of the system. (Synonyms: actors, key actors, parties)

Chapter 5. Interviews

What?

An interview is a conversation between interviewer and respondent for the purpose of eliciting certain information from the respondent. It is a tool for primary data collection and is commonly used in socio-economic surveys.

Figure 5.1. Methods of data collection (adapted from Kumar, 2000)



There is a wide selection of interview types, ranging from structured interviews using an interview schedule with closed questions to completely unstructured interviews with only a number of key points around which to build the interview.

Because of the person-to-person interaction, interviews are an important tool in planning and management, and in the participatory processes of development.

Interviews are often used in combination with other data collection methods, such as secondary data analysis, observation and measurement. In figure 5.1, an overview of the basic data collection methods is given.

Why?

Observational methods of data collection are suitable for investigating phenomena that can be directly observed or measured. However, not all phenomena are accessible to the investigator's direct observation. Often data must be collected through communication with individuals and/or groups.

The interaction between the interviewer and respondent makes the interview an appropriate tool for collecting data on:

- a problem situation, or socially sensitive or very complex issues
- people's views, perceptions, attitudes and perspectives

An interview provides a degree of flexibility in obtaining information and generating ideas that is not likely to occur in other forms of data collection.

Field of application

- The interview is a basic tool for data collection in large-scale formal surveys. Examples include population censuses and other government surveys, market and opinion research, and sociological and anthropological research.
- Interviews play a role in planning, monitoring and evaluating projects. Together with other data collection methods, structured or semi-structured interviews provide the necessary information for feasibility studies, diagnostic studies, process studies, and quantitative and qualitative evaluations.
- International development organisations rely largely on key informant interviews for the majority of evaluations and policy-oriented studies.
- Semi-structured interviews, key informant interviews, focus group interviews and community interviews, together with direct observation, constitute the core of participatory and rapid rural appraisal.

The nature of an interview

For a good understanding of the nature of an interview, the following aspects are highlighted in this section:

- The interviewer
- The respondent
- Types of data collected
- Form of questions
- Degree of structuring
- Effect of personal bias

The interviewer

An interview involves interpersonal communication between an interviewer and a respondent. Both parties determine the flow and outcome of the interview.

The interviewer is responsible for the interview, the preparation, asking the questions and recording the answers. Some people consider interviewing an art that can only be learned well through plenty of practice. Box 5.1 shows the personal abilities and skills that an interviewer must have to ensure proper and effective interaction.

Box 5.1. Abilities and skills required of an interviewer

- Maintain an open mind.
- Listen more than talk.
- Show courtesy and respect.
- Respect the person of the respondent.
- Avoid the effect of personal bias.

Figure 5.2. Both interviewer and respondent enjoying the interview. ITC student during fieldwork in Taita Taveta, Kenya (Photographer Liza Groenendijk, 1995)



The respondent

The respondent is the person interviewed by the interviewer. Interviews are held with

- a general respondent
- a key informant
- a group

General respondent – A randomly selected member of a target population. In some formal surveys (census), every member (or head of household) of a population is interviewed. General respondents give information primarily about themselves, their households, their farms or their businesses.

Key informant – A person who is especially knowledgeable, at least regarding some subjects or topics of interest. Key informants provide information about others or about specific situations, events and conditions in the study area.

Group – More than one person is interviewed. The group can be homogeneous (composed of participants with a common interest) or heterogeneous (composed of participants with different interests and of varying importance).

Types of data collected

The types of data collected through interviews can be categorised as follows:

- quantitative data
- qualitative data

Quantitative data – Numerical data used to estimate a number, rate or proportion related to the target population. If random sampling is used to select the respondents, the sample results can be used to derive estimates for the whole population within known margins of probable error.

Qualitative data – Represent information that can best be described in words. They are used to obtain information about respondents' opinions, perceptions, changes in attitudes, and perspectives when in-depth information is needed or when little is known about an area or problem situation.

Form of questions

The form in which the questions are asked is extremely important as it has an effect on the type and quality of the information obtained, as well as on the further processing and analysis. In an interview schedule or questionnaire, questions are formulated as:

- open-ended
- closed-ended

For an *open-ended question* the possible responses are not given. The interviewer either records the answer verbatim or summarises it. Open-ended questions do not force respondents to adapt to preconceived answers; they can respond freely and in their own language. Such questions allow the interviewer to clear up misunderstandings and they encourage rapport. However, open-ended questions are difficult to answer and still more difficult to analyse.

For a *closed-ended question* the possible answers are set out in the interview schedule and the interviewer ticks the category that best describes the respondent's answer. Closed-ended questions are easy to ask and quick to answer; they require no writing by either respondent or interviewer, and their analysis is straightforward. Their major drawback is that they may introduce bias, either by forcing the respondent to choose from given alternatives or by offering the respondent alternatives that might not have otherwise come to mind.

Box 5.2 illustrates the difference between open-ended and closed-ended questions.

Box 5.2. Open- and closed-ended questions: an example (Euroconsult, 1997)

Question: How often do you go to a Health Centre?

Open-ended

Answer.....
.....
.....

Closed-ended

Answer
More than once a week ☐
Less than once a week but more than once a month ☐
Less than once a month but more than once a year ☐
Less than once a year ☐

Degree of structuring

Interviews are classified according to the degree of structuring and vary from structured to completely unstructured.

In *structured interviews* a set of predominantly closed questions are asked and the answers are recorded on an interview schedule. The investigator is to keep strictly to the questions decided beforehand. Structured interviews are used for quantitative data collection. They provide uniform information, which assures comparability of data.

In *unstructured interviews* an interview guide is used, with mostly open questions or a checklist with topics for discussion. The interviewer has a great deal of freedom in formulating questions around the issue being investigated. Unstructured interviews are used for qualitative data collection.

Effect of personal bias

Compared with other data capture techniques, interviews offer the advantages of flexibility and a personal approach. They do, however, leave room for personal influence and *bias* – both of the interviewer and of the respondent. Although the interviewer should be objective and avoid communicating personal views, nevertheless he or she often gives cues that may influence respondents' answers. The appearance and behaviour of the interviewer may also be of influence. The interviewer's bias becomes more prominent in the less structured, and thus less standardised, interviews.

In some cases an interpreter will be needed as an intermediary between interviewer and respondent. The interpreter's appearance, behaviour and bias, in addition to translation problems, can also influence the results.

The possibility of error and bias can be reduced by using additional data collection methods, such as secondary data analysis, direct observation and measurement. These methods complement one another, and conflicting information can be sorted out. This process is known as *triangulation*.

Types of interviews

Various types of interviews are used to collect primary data. The choice of method depends on the purpose of the study, the resources available and the skills of the interviewer. The following types of interviews are commonly recognised and will be further explained (box 5.3).

Box 5.3. Major interview types

- Structured interview
- Semi-structured interview
- Topic-focused interview
- Unstructured interview
- Group interview

Structured interview⁵

This type of interview is a method for collecting quantitative data and is most often used in large-scale formal surveys. Using an interview schedule with mainly closed questions, the interviewer interviews a sample of respondents. The interview schedule is, in most cases, developed by a group of experts in the field of survey.

The number of questions and their wording are identical for all the respondents, and the sequence in which the questions are asked is the same in every interview. In most of these interviews the interviewer records the answers directly on the interview form.

The least flexible type of interview, it is suitable for administrative surveys and market research.

Advantages

- Quick way of gathering data from a large sample or from the entire population.
- High comparability of responses: lends itself to statistical analysis.
- Ease of administration and processing.
- Convenient for less experienced interviewers.

Disadvantages

- Rigid and closed-ended.
- Assumes that all relevant questions can be identified in advance.
- Questions may not have the same meaning for all respondents.
- Difficult for questions on issues that are too complex or sensitive.
- Demands considerable skill from the planner/researcher in developing an interview schedule and applying sampling techniques.

⁵ There is a great variety of terms used to distinguish between the different types of interviews. Consult the list of key definitions at the end of the chapter for synonyms.

Semi-structured interview

In this type of interview the interviewer uses an interview guide with questions that are mostly open-ended, designed to encourage the respondent to talk freely around each topic.

All questions are pre-phrased and are to be asked in the order that they have been written down. To be truly open-ended a question cannot be phrased to elicit a 'yes/no' response. The interviewer can tailor the wording of the questions to each particular respondent (i.e. rephrase if the question is not well understood).

Semi-structured interviewing is widely used in rapid appraisals.

Advantages

- More flexibility in asking questions and probing.
- Responsive to new data presented by a respondent.
- Interview guide ensures all topics are discussed.
- Topics discussed in more depth.
- Probing the meaning of questions.
- Complex and sensitive issues can be discussed.

Disadvantages

- Requires a more skilled interviewer.
- Difficult to process outcome statistically.
- Interviewer/respondent bias may play a heavier role.
- Time-consuming but addressing a smaller number of respondents.

Topic-focused interview

This is a more informal interview than the semi-structured type. It is conducted with respondents known to have been involved in a particular experience and refers to situations that have been analysed prior to the interview. The interview proceeds on the basis of an interview guide or checklist specifying issues and topics.

Although the encounter between interviewer and respondents is structured and the major aspects of the study are explained, respondents are given considerable liberty in expressing their definition of a situation that is presented to them.

The focused interview permits the researcher to obtain details of personal reactions, specific emotions and the like. The interviewer, having previously studied the situation, is alert and sensitive to data inconsistencies and omissions that need to be clarified.

Key informant interviews may follow the topic-focused approach.

Advantages

- Great flexibility in asking questions and probing.
- Responsive to new data presented by a respondent.
- Interview guide ensures all required information will be collected.
- Topic can be fully explored.

Disadvantages

- Requires skilled interviewer.
- Not possible to process outcome statistically.
- Interviewer bias.
- Time-consuming.

Topic-focused interviews with groups are known as *focus group interviews*.

Unstructured interview

The most flexible type of interview is the unstructured interview. The interviewer does not use an interview guide to ask a pre-specified set of questions, nor are the questions asked in a specific order. Some key points are explored during the interview.

With little or no direction from the interviewer, respondents are encouraged to relate their experiences, to describe whatever events seem significant to them, to provide their own definitions of their situations, and to reveal their opinions and attitudes as they see fit. The interviewer has a great deal of freedom to probe various areas and to raise specific queries during the course of the interview.

Such interviews are recommended when complex problems are involved and when one's knowledge is still in a vague and unstructured form. They can also be used to obtain the pre-knowledge about local conditions required for structured surveys, and to provide guidance on what are the important questions and how they should be asked. They are used in exploratory investigations, diagnostic studies, and participatory and rapid rural appraisals.

Advantages

- Great flexibility.
- Respondents feel free to talk.
- Wide range of unanticipated issues may emerge.
- An initially vague idea can be deepened.

Disadvantages

- Requires skilled interviewer.
- Not possible to process outcome statistically.
- Greatly influenced by way of interaction and communication between interviewer and respondent.
- Difficult to keep the interview to the point.

Group interview

The interviewer asks questions, raises issues, and seeks responses from a group of participants. Group interviews may take the form of public meetings open to all community members. The date and location of the meeting are announced in advance. The number of participants tends to be large (more than 15 persons).

The interviews are conducted on the basis of a carefully prepared interview guide that lists all the important questions to be asked. Ideally a team of two or more interviewers conduct the group interview.

Group interviews are used in exploratory investigations, diagnostic studies, and participatory and rapid rural appraisals.

Advantages

- Can be very efficient: low costs and quick.
- Group interaction may result in:
 - more accurate information: less chance of respondent bias.
 - information concerning the whole group (e.g. the history of a community, local organisation or cropping patterns).
 - information concerning leadership, rank and power conflicts.
- Useful for identifying different points of view or sensitive issues.

Disadvantages

- Good planning and organisation required.
- Highly skilled interviewer or group discussion facilitator required.
- Difficult to keep discussions to the point.
- Not suitable for obtaining sensitive information.
- Influential people may dominate.

A specific form of group interview is the *focus group interview*, which is used to discuss a specific topic in group sessions. As much as possible, groups are homogeneous in composition, with members sharing a similar background and similar experience. The interviewer, in the role of moderator, introduces the subject, keeps the discussion going by using subtle probing techniques, and tries to prevent a few participants from dominating the discussion. The interviewer listens, tries to reach consensus and summarises the outcome.

In table 5.1 an overview is presented of the major interview types and their characteristics.

Table 5.1. Overview of major interview types and their main characteristics

	Structured Interview	Semi-structured Interview	Topic-focused Interview	Un-structured Interview	Group Interview
Field of application	Census Large-scale survey Sociol./ Anthrop. research Evaluations	Feasibility study Diagnostic study PRA/ RRA Evaluations	Exploratory survey In-depth study (Pre)-feasibility study PRA/ RRA Evaluations	Exploratory survey Diagnostic survey PRA/ RRA	Exploratory survey Diagnostic survey PRA/ RRA Evaluations
Interviewer skills	+	++	+++	+++	+++
Background respondent	General respondent	General respondent Key informant	Key informant	General respondent Key informant	Interest group Community
Type of data collected	Quantitative data	Quantitative/ qualitative data	Qualitative data	Qualitative data	Quantitative/ qualitative data
Degree of structuring	+++	++	+	+	++
Form of questions	Closed-ended	Closed- and open-ended	Open-ended	Key points	Open-ended
Effect of personal bias	+	++	++	+++	+

Explanation of symbols: + = low, ++ = medium, +++ = high

The interviewer's tasks

Preparation

The purpose of the interview must be established first as it guides subsequent decisions such as selecting the type of interview and other preparations. If the interview is the measuring instrument for a sample survey, the target population will have to be selected and an interview schedule designed. In the case of more informal interviews, preparations will differ.

A considerable amount of time will be spent on travelling and locating the respondents, especially when random sampling is used to select the respondents. With random sampling, only selected individuals or households are interviewed. This necessitates call-backs on people not found in and makes working in the evenings or at weekends unavoidable. To avoid call-backs, substitute samples may be used.

The interviewer has to consider how to gain access to potential respondents. The interview takes place within a social context and the interviewer should therefore take social structures into consideration. Visiting villages, for example, means contacting the village leaders. On the one hand this is an accepted procedure, which helps to locate families or individuals; on the other hand it will influence the respondents' willingness to cooperate.

Some suggestions for interview preparation are presented in box 5.4:

Box 5.4. Some suggestions for interview preparation

- Schedule the interview well in advance.
- Avoid scheduling just after meal times, late in the day, at a busy period, etc.
- Notify respondents in advance.
- Arrange the interview in the proper way (e.g. through a village chief or through the respondent's superior) in order to assure the respondent that his or her participation is important and approved.
- Get the respondent's correct name, if necessary also title/function/position.
- Become familiar with the background of the respondent.
- Check whether respondents are expected to be paid for their time.
- Make a realistic schedule for all the interviews

'Stage-setting talk'

The introduction of the interviewer to the respondent is important in obtaining the interview. The interviewer should be aware that he or she enters the life of the respondent uninvited and expects time and information to be given for free. The time may be inconvenient, the subject may be one the respondent is not prepared to talk about, or the respondent may be antagonistic towards interviews and surveys in general.

A basic step in the interviewing process is getting the respondent to cooperate and to provide the desired information. Three factors help in motivating the respondent to cooperate:

1. Respondents must feel that their interaction with the interviewer will be *pleasant* and *satisfying*. It is up to the interviewer to make respondents feel that he or she will be understanding and easy to talk to.
2. The respondents need to see the study as being *worthwhile*. They should feel not only that the study may benefit them personally, but also that it deals with a significant issue and that cooperation is important.
3. *Barriers to the interview in the respondents' minds need to be overcome*. Interviewers must correct misconceptions. Some respondents may be suspicious of the interviewers, seeing them as salespeople or as government representatives. The interviewers should explain, the purpose of the study, the method of selecting respondents, and the confidential nature of the interview.

The form of the interview opening is crucial as this largely determines the willingness of the respondents to cooperate, now and in the future. Some useful pointers on how interviewers should introduce themselves to the respondents are summarised in box 5.5.

Box 5.5. Some useful pointers for an introduction to an interview (adapted from Frankfort-Nachmias & Nachmias, 1996)

- Tell the respondent who you are and who you represent.
- Tell the respondent what you are doing, in a way that will stimulate his or her interest. Be honest and don't raise expectations.
- Tell the respondent why and how he or she was chosen.
- Adapt your approach to the situation.
- Try to create a relationship of confidence and understanding (rapport) between yourself and the respondent.

Asking the questions

After the introduction, the interviewer is ready to begin with the interview. In most large-scale formal surveys, the aim is to attain uniformity in the asking of questions and recording of answers. A standardised interview schedule is used to schedule and structure the questions. The interviewer is expected to ask all the questions, to ask them in the order given and with no more elucidation and probing than is explicitly allowed, and to make no unauthorised variations in the wording.

In the more informal types of interviews the interviewer is at liberty to vary the sequence of questions, add additional ones, change the wording, or build the interview around a number of key points only. In box 5.6 some suggestions are made on conducting an interview.

Box 5.6. Suggestions on asking questions during an interview

In general

- Pay attention to answers, and receive all replies with interest.
- If the response is not the answer to the question, rephrase the question or give an example.
- If the respondent is avoiding an answer, emphasise the importance of the respondent's view.
- Allow the respondent to think during occasional periods of silence.
- The interview should be conducted in an informal and relaxed atmosphere; avoid creating the impression that what is occurring is a cross-examination or a quiz.
- Use transition statements, especially between blocks of questions.
- Keep track of any changes you make during the interview.

For structured interviews only

- The questions should be asked exactly as worded in the interview schedule. This will increase uniformity and thus comparability. Still, sometimes you need to paraphrase to get an answer at all, but stick to the original meaning of the question.
- Ask every question specified in the interview schedule, unless an answer to an earlier question makes it inapplicable.
- Questions should be presented in the same order as presented in the interview schedule. However, if an answer has been given along with that to an earlier question, just record it and don't ask the question again.
- Read each question slowly.

The formulation and wording of the questions are crucial to the quality of the answers that the interviewer receives from the respondent. In box 5.7 some examples are given of questions that may lead to misunderstandings in interviews.

Box 5.7. Some examples of questions that may lead to misunderstandings in interviews

Type of questions	Example
Based on jargon, technical terms or acronyms	<i>How many cubic metres of fuel wood have you used for cooking today?</i>
Ambiguous questions	<i>How do you find the course? What do you do as researcher?</i>
Leading questions	<i>Your organisation is training mainly mid-career professionals, isn't it?</i>
Questions based on presumptions	<i>What studies have your children followed? (without having ascertained if the children have followed any studies or even if the respondent has children)</i>
Double-barrelled questions	<i>How much does your organisation charge for its courses and how does that compare with the charges of other institutes?</i>

The following considerations should be kept in mind when formulating questions in the interview:

Use clear and simple language – The question must be so worded that the respondent understands it and it means the same to both respondent and interviewer. The use of jargon, technical terms and acronyms should be avoided.

Avoid the use of ambiguous questions – An ambiguous question is a question that contains more than one meaning and can be interpreted differently by different respondents. Ambiguous questions may lead to unsatisfactory answers or, even worse, to situations where the respondent does not know what the interviewer wants and consequently loses interest in the interview.

Avoid the use of leading questions – A leading question is a question phrased in such a manner that it leads the respondent to answer in a certain direction. Often the answer is limited to 'yes' or 'no', where one answer could be considered as the 'right' answer. This built-in answer limits the respondent in the opposite direction.

Avoid questions that are based on presumptions – These questions are based on the assumption that the respondent fits into a certain category. If the assumption is not true, these questions might lead to the confusion and even annoyance of the respondent as the respondent or his or her situation is placed wrongly in a predetermined class.

Avoid asking double-barrelled questions – A double-barrelled question is a question combining two or more questions. The problem here is that the question might give rise to confusion and the respondent does not know which question to answer.

Probing

An important part of the interviewer's task is to assess the adequacy of the responses and, where necessary, to probe for further details. The meaning of probing is represented in the following expressions: 'drilling for oil' and 'don't take no for an answer'.

Probes have two major functions: they motivate the respondent to elaborate on or clarify an answer or to explain the reasons behind the answer, and they help to focus the conversation on the specific topic of the interview. In general, the less structured the interview, the more important probing becomes as an instrument for eliciting and encouraging further information.

An interviewer should always have in mind that probing methods should be neutral, and so avoid bias. In box 5.8 some suggestions are given for dealing with inadequate answers.

Box 5.8. Some suggestions on probing (adapted from Frankfurt-Nachmias & Nachmias, 1996)

- A brief affirmation of understanding or interest, such as ...I see, ...Yes..., or ...That's interesting.
- An expectant pause (beware of an embarrassing silence).
- Repeating the question, if necessary rephrased.
- Repeating the respondent's reply or statement.
- A neutral question or comment, such as: ... What do you mean ...? ... Tell me more about that ..., ... Anything else ..., or ... Do you have other reasons for feeling as you do ...?
- Asking for further clarification, such as: ... I am not quite sure what you mean by that ...
- Remember: probing should be neutral!
- In some cases make reference to observations you made: ...Still, I see a lot of trees around your house...?

The following exchange shows an interviewer probing to elicit additional information by 'repeating the respondent's statement' without including a direct question (box 5.9).

Box 5.9. Conversation illustrating probing (adapted from Frankfort-Nachmias & Nachmias, 1996)

Respondent: The main reason I came to ITC was because of the combination of high standards and the work programme. It appealed to me a lot.

Interviewer: It appealed to you a lot?

Respondent: That's right.

Interviewer: Could you tell me a little more exactly why it had this appeal for you?

Respondent: I don't know; it was just that the place sounded less stuffy and straightlaced than a lot of places with equally good academic programmes.

Interviewer: You don't like places that are stuffy and straightlaced?

Respondent: You can say that again. A lot of places spend most of their time trying to work out a way of controlling the students, assuming that they are completely incapable of self-control.

Interviewer: Why do you suppose ITC has less supervision by the administration?

Respondent: Well, it's part of the educational philosophy ...

Interviewer: Let me see if I have grasped the whole picture: you like a school with high academic standards, one that is not too straightlaced but operates on the assumption that students can exercise self-control.

Respondent: That hits the nail on the head.

Recording

One of the main tasks of the interviewer is to record the answers. When using an interview schedule with closed questions, answers are recorded directly on the form during the interview. If this implies too much paper, special recording sheets, with just the serial numbers of the questions and predetermined answers, can be used. Laptops and handheld computers are increasingly replacing paper sheets.

In the less structured interviews other methods are used, such as note taking, memory practice and debriefing. Audio-visual equipment too can be used to record the interview. Whatever method is used, the information has to be organised and summarised immediately the interview has been completed, otherwise much might get lost. It is evident that laptops and handheld computers can facilitate this process.

It is very often more convenient to conduct an interview with two interviewers. One can ask the questions, the other can record the answers. In this case both should agree on an interview protocol.

Figure 5.3. Interview conducted with two interviewers in a village in Northern Thailand (Photographer Liza Groenendijk, 1994)



Box 5.10 presents some rules of thumb for recording if notes are taken during the interview.

Box 5.10. Some suggestions for recording (Paats, 1993)

- Record responses during the interview.
- Use respondent's own words.
- Don't summarise or paraphrase respondent's own words.
- Include everything that pertains to the question.
- Include all probes.
- Don't let note taking interrupt the normal flow of discussion; use abbreviations and symbols.
- Hold the respondents interest while writing

Operating the instrument

Step 1. Preparation

- Specify the purpose of the interview.
- Choose an interview type.
- Determine who is to be interviewed.
- Prepare an interview schedule.
 - Design the interview schedule or interview guide and determine the type of responses allowed.
 - Determine how the responses are to be recorded and, if necessary, develop a coding scheme.
 - In the case of two interviewers, agree on a working approach.
- Pre-test and adjust the interview schedule or interview guide.
- Make a time schedule and a budget.
- Plan the interview(s) and make the necessary arrangements.
- Arrange for transportation.

Step 2. Introducing the interview

- Be introduced or introduce yourself and clarify the purpose of the interview. Explain what will be done with the information.
- Informal talk to break the ice and show your interest in the respondent.
- If recording equipment is to be used, the respondent's prior permission is essential.
- If the respondent is too busy or is absent, try to make an appointment.

Step 3. Conducting the interview

- Conduct the interview as described in the interview schedule.
- When necessary, use probing questions.
- Record the answers.
- Check that all the questions have been asked.
- Conclude the interview by allowing a few minutes for informal conversation and summation.
- Thank the respondent for his or her cooperation.

Step 4. Follow up

- Immediately after the interview, work out notes, eliminate ambiguous responses and summarise the information.
- Report the overall results in a form suitable for transmission to others or for storage in a database.

Strengths

An interview provides a degree of flexibility in obtaining information and generating ideas that is not likely to occur in other forms of data collection:

- The interview is more appropriate for complex or sensitive situations.
- It is useful for collecting in-depth information by probing.
- Information can be supplemented by observations (e.g. non-verbal reactions, field observations).
- Questions can be explained in order to avoid misunderstanding.
- Questions may be adapted during the course of the interview in response to immediate feedback from the respondent.
- The interview has a wide application. It can be used with almost every type of population: children, handicapped, illiterate or the very old.
- Face-to-face interaction tends to heighten the respondent's interest in participation and forces him or her to consider the question immediately.
- Interpersonal communication makes the interview not only a method for data collection but also an instrument to stimulate and involve potential beneficiaries or stakeholders.

Limitations

- Interviews leave room for the interviewer's personal influence and bias.
- When several people have to be interviewed on similar topics, or when a wide range of issues has to be covered, the necessary resources may be cost-prohibitive when compared with using mail questionnaires.
- An interviewer without the necessary skills may alienate the respondents or allow them to dominate the exchange.
- The anonymity of respondents cannot always be ensured.

Requirements

Skills

- An interviewer must have the proper abilities and skills. Most interviewers need to be trained before they start working in the field.
- Informal interviewing, as in the less structured interview types, calls for greater skills than the formal survey interview. In the latter, the skilful part of the process is, as far as possible, taken out of the field and into the office. The less formal the method, the more skill is required in the field.

Time

- The time required includes time for preparing the interview, travelling, conducting the interview, processing and analysis, and reporting.
- The time needed for preparing an interview depends on the type of interview, the purpose and the topic of inquiry.
- An interview should last no longer than an hour, otherwise it will result in diminishing returns. When many respondents are involved, anything from a few days to several weeks may be required to carry out all the interviews.
- Within the time period reserved for actual data collection, time should be reserved for trying to locate the respondents and for 'dead-time' (when the interviewer is available but the respondents are not).
- As a very crude rule of thumb, equal time should be reserved for preparation, for conducting the interviews and for data processing and analysis. Reporting may also take an equal time period.

Special requirements

- Electronic (audio or video) recording of questions and responses can be a great time-saver during the interviews and can allow the interviewer to give full attention to the responses. However, there are some costs involved, and more time will be needed for elaborating the recorded information.
- Notebooks and handheld computers facilitate data recording and data processing and analysis, especially in large-scale formal surveys.
- Ideally, the interview should take place in a location free of distraction (noise, telephone calls, children or other onlookers, etc.).

Related instruments

E-mail questionnaires – An increasingly popular method of data collection. Questionnaires in digital format are sent to the respondents via e-mail. The respondents fill in the questionnaires and send them back, also via e-mail. Data can be processed automatically and the results become quickly available.

Mail questionnaire – An impersonal survey method in which questionnaires are mailed to respondents, whose responses constitute the data. Under certain conditions and for a number of purposes, an impersonal method of data collection can be useful.

Telephone interview – A semi-impersonal method of data collection in which respondents are interviewed by telephone. The main advantages, as compared with the personal interview, are the low costs and higher response rate.

Further reading

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Key definitions

Bias

The effect of the interviewer's appearance and attitude, and his or her interview skills that affect respondents' answers. (Synonym: interviewer's effect)

Interview

A conversation between interviewer and respondent for the purpose of eliciting certain information from the respondent. (Synonym: inquiry)

Interviewer

The person responsible for the interview, for asking the questions and for recording the answers; the interviewer may be specially trained. (Synonyms: researcher, investigator, enumerator)

Interview guide

Written list of mostly open questions and topics that need to be covered in a particular order. Used in semi-structured interviews and topic-focused interviews. (Synonym: checklist)

Interview schedule

A written list of mostly closed questions, prepared for use by an interviewer in person-to-person interaction. The interviewer who asks the questions records the respondent's replies on the interview schedule. (Synonym: recording schedule)

Key informant

A key informant is a person who is especially knowledgeable, at least in some subjects or topics of interest.

Leading question

A question phrased in a manner that leads the respondent to answer in a certain direction.

Probing

A technique used by the interviewer to stimulate discussion and obtain more information. A question has been asked and an answer given. For any number of reasons, the answer may be inadequate and require the interviewer to seek more information to meet the survey objectives. (Synonyms: consistency check, 'drilling for oil', 'don't take no for an answer')

Qualitative data collection methods

Qualitative methods result in information that can best be described in words. They are used to obtain information about respondents' opinions, perceptions, changes in attitudes, and perspectives.

Quantitative data collection methods

Quantitative methods produce numerical data that are used to estimate a number, rate or proportion related to the target population. If random sampling is used to select the respondents, the sample results can be used to derive estimates for the whole population within known margins of probable error.

Questionnaire

A written list of sequential questions that are fully specified in advance and mostly closed. The respondents read the questions, interpret what is expected, and then write down the answers on the questionnaire form.

Respondent

The respondent is the person to be interviewed by the interviewer. Interviews can be held with a general respondent, with a key informant or with a group. (Synonyms: interviewee, informant)

Semi-structured interview

In a semi-structured interview the interviewer uses an interview schedule with questions that are mostly open-ended. All questions are pre-phrased and are to be asked in the order in which they have been written down. To be truly open-ended a question cannot be phrased into one eliciting a 'yes/no' response. (Synonym: informal interview)

Structured interview

A method for collecting quantitative data, most often used in large-scale formal surveys. The interviewer administers a questionnaire with mainly closed questions to a sample of respondents. The number of questions and the wording of the questions are identical for all of the respondents, and the sequence in which the questions are asked is the same in every interview. (Synonyms: formal interview; standardised, controlled, schedule-structured interview)

Topic-focused interview

More informal than the semi-structured interview is the topic-focused interview. It is conducted with respondents known to have been involved in a particular experience and refers to situations that have been analysed prior to the interview. The interview proceeds on the basis of an interview guide specifying topics, and is focused on the respondent's experiences regarding the topic or situation under study. (Synonyms: topic-guided interview, unstructured depth interview)

Triangulation

To minimise the chance of error and bias, an investigator uses two or more methods of data collection. By combining methods in the same study, investigators can partially overcome the deficiencies that flow from employing one investigator or one method.

Unstructured interview

The interviewer has a great deal of freedom for probing various areas and raising specific queries during the course of the interview. There is no set of pre-specified questions, nor are the questions asked in a specific order. With little or no direction from the interviewer, respondents are encouraged to relate their experiences, describe whatever events seem significant to them, provide their own definitions of their situations, and reveal their opinions and attitudes as they see fit. (Synonyms: non-directive interview, informal conversational interview, non-guided interview)

Chapter 6. Workshops

What?

A workshop is a structured group event at which a variety of participants explore issues, share knowledge, develop ideas or make decisions. With the help of a workshop facilitator, participants undertake a series of activities designed to help them progress towards the workshop objective. Workshops are characterised by an atmosphere of collaboration and the intention to achieve concrete results.

Workshops need thorough preparation, and possibly follow an information-gathering phase such as a search conference, focus group discussions or pre-workshop sessions.

The workshops described in this document refer to those applied at different stages in planning and decision-making where stakeholder participation is required.



Why?

The importance of stakeholder involvement in planning and decision-making has become increasingly recognised. As most projects involve a wide range of stakeholders, the need exists to establish a platform for parties to arrive at joint conclusions and plans.

Conventional meetings are often not suited to joint planning processes: they last too long, usually end with unsatisfactory or no results, and present a range of complex communication problems. Workshops emphasise active participation by all, collective responsibility, and working together towards a common goal.

Box 6.1. Examples of planning workshops

Action Planning Workshops

Carefully structured collaborative events where all sections of the local community work closely with independent specialists from all relevant disciplines to produce proposals for action. Action planning workshops can help to identify perceptions, reveal values and attitudes, mobilise support, and generate commitment to a jointly selected approach. This type of workshop fosters a learning-by-doing atmosphere. (Euroconsult, 1997; Wates & Brook, 2000)

Briefing Workshops

Briefing workshops are simple, easy-to-organise working sessions held to establish a project agenda or brief. Simultaneously they can introduce people to the project, help to establish the key issues, get people involved and motivated, and identify useful talent and experience. They are useful at the start of a project or an action planning event and can act as a public launch. (Wates & Brook, 2000)

Micro-planning Workshops

Micro-planning is a comprehensive action planning procedure for producing development plans (e.g. for upgrading settlements). Originally designed for use in developing countries, it is based on regular intensive workshops that involve a minimum of preparation, materials and training. (Wates & Brook, 2000)

OOPP Workshops

Workshops are a basic tool in Objective Oriented Project Planning (OOPP). Under the guidance of a facilitator, an inventory is made of the key problems as perceived by different stakeholders. From the list of problems the stakeholders define a core problem and group the other problems in a hierarchical structure reflecting causal relationships. On the basis of the finally agreed picture (the 'problem tree'), project objectives are formulated which are used to guide project planning. (Groenendijk, 2001)

Field of application

In order to guarantee the involvement of all relevant parties, workshops are increasingly used in project planning and strategic planning by organisations. Workshops are a basic tool in Objective Oriented Project Planning (OOPP), SWOT Analysis, Stakeholder Analysis, Environmental Impact Assessment and Multi-Criteria Decision-Making.

Workshops are also frequently used in community planning and decision-making, with the emphasis on the empowerment and involvement of local communities in shaping their local surroundings. More examples of planning workshops are presented in box 6.1.

An overview of the historical background of workshops used in planning and decision-making is presented in box 6.2.

Box 6.2. Historical background of workshops in planning and decision-making

The workshop as a feature of development projects has been around for decades. Used in the first instance in extension work as a form of on-the-job training, it was later applied as a tool in participatory learning and action in order to involve and empower local communities and minority groups. The World Bank started to emphasise the usefulness of action planning workshops in the early 1980s, when it became clear that project identification, selection and design could not be carried out without involving local parties. By the early-to-mid 1980s, GTZ had started to use the Logical Framework as a participatory planning tool, involving beneficiaries and other key stakeholder groups in the planning process. This new methodology called ZOPP (Ziel Orientierte Projekt Planung), but later known as OOPP (Objective Oriented Project Planning), is built up of a series of regular planning workshops. In the quest for commitment and ownership and in recognition of the need to bring all stakeholders into the flow of project development and evaluation, planning workshops have become increasingly important, even at higher levels of policy making.

Description

To clarify the nature of a workshop, the following aspects will be highlighted in this section:

- Objectives and output
- The facilitator
- Group dynamics
- Plenary and working group sessions
- Methods and techniques
- Basic workshop structure
- Practical planning and organisation

Objectives and output

Workshops can be used in different steps of a planning process and therefore can have different objectives. Possible objectives for a planning workshop are summarised in box 6.3.

Box 6.3. Possible objectives for organising a planning workshop (adapted from Euroconsult, 1997)

- information gathering and sharing
- analysis and diagnosis of problems and issues
- prioritisation and decision-making
- planning and organising
- networking

However, other means of discussion might serve as well to achieve the workshop objectives. Compared with other discussion methods, workshops aim for a number of specific benefits (box 6.4). It is good to consider these specific benefits explicitly next to the central workshop objective(s).

Box 6.4. Benefits of workshops as compared with other discussion methods

- joint understanding
- consensus and commitment building
- 'ownership' or collective responsibility
- capacity building
- team building
- sensitivity/awareness raising
- empowerment

To obtain the specific benefits, a workshop ought to be designed according to the principles listed in box 6.5.

Box 6.5. Some general principles of planning workshops

- active participation
- equal participation
- collaboration
- openness to new ideas
- working together towards a common output
- aim for satisficing results rather than 'optimal' results

Eventually the workshop objectives lead to well-defined outputs. These outputs can be a combination of elements of the workshop objectives and the benefits envisaged. Some examples are presented in box 6.6.

Box 6.6. Some examples of outputs for a planning workshop

- a mutually agreed understanding of a problem, strategy or programme
- a ranking of priorities
- an agreed plan, including allocated tasks, resources and arrangements
- a stronger team with more internal consensus
- commitment to and ownership of a selected approach
- a proposal for follow-up workshop(s)
- semi-formal networks

As a workshop is generally part of a larger planning process, special attention needs to be paid to reporting the outcome to the proper institutions and persons.

The facilitator

Designing and conducting a workshop basically means structuring the process of interaction and discussion and promoting the active involvement of participants. It is the task of the facilitator to guide this process.

The role of the facilitator is active and continuous. He or she is not expected to express his or her view on the issues at stake or to participate in the discussions. The facilitator holds a neutral position.

As workshops can be quite demanding, often two facilitators work together as a team. Each plays a different role in the workshop process: one guides the workshop sessions, the other follows what happens in the group, anticipates and complements.

The process of plenary and working group sessions gradually leads to conclusions. During the workshop, progress needs to be monitored at regular intervals. As the workshop draws to a close, final conclusions need to be drafted. In box 6.7 an overview is given of the tasks of a workshop facilitator.

Box 6.7. Tasks of a workshop facilitator

1. Structuring the process
 - Agenda setting and adaptation
 - Explaining tasks
 - Time management (a timer can be useful)
 - Keeping track of the process and articulating this process with participants
 - Facilitating practical aspects
2. Facilitating group processes and participation
 - Creating and maintaining a positive, constructive and creative working climate
 - Asking questions in order to stimulate discussion, check comprehension, learn about participants' experiences and generate interest
 - Defusing conflicts
3. Processing the outcome
 - Summarising the outcome of discussions
 - Summarising, reviewing and conceptualising conclusions, observations and suggestions from participants
 - Regularly reviewing the process, intermediate results and the next steps against the background of the purpose of the workshop
 - Summarising final conclusions and decision-making
4. Managing plenary sessions
 - Calling participants together and selecting order of presentation
 - Moving tables in order to allow for a plenary presentation
 - Helping to move charts and visuals to the centre of the room
 - Ensuring everybody is ready for the plenary
 - Enforcing time limits to give all groups equal time
 - Categorising and analysing the outcome of brainstorming sessions
 - Moderating plenary discussions and reaching conclusions
 - Making sure key products are saved, posted on walls and/or written up
5. Managing working groups
 - Announcing the start of a session in working groups
 - Dividing the large group into smaller working groups
 - Explaining criteria used for group formation (be clear how groups are formed)
 - Ensuring each working group has a chairperson or coordinator
 - Giving clear task instructions to the group
 - Communicating details on location and timing to all groups
 - Circulating to monitor and guide groups in reaching closure
 - Preparing groups to present their results in a plenary session

At the start of the workshop the facilitator has a dominant role, but later participants may become more involved in the running of the workshop. Major presentations will be given by others, chairmanship could rotate, and summaries are given by the working groups themselves; even smaller group sessions could be facilitated by the participants.

Group dynamics

A workshop is a group process. It is the main task of the facilitator to structure and guide this process in order to achieve the set objectives.

When a group of people come together to work on a single objective or project, they are not necessarily a productive team. Most groups go through four phases: 1. forming, 2. storming, 3. norming and 4. performing (box 6.8).

The facilitator should guide the group quickly through the first two phases and then focus on the norming and performing phases (figure 6.1). One of the main points in a workshop is to create group spirit and trust among participants so that consensus can be built more rapidly.

Box 6.8. The four stages of group development (Handy (1985), in Pretty et al., 1995)

<i>Forming</i>	the coming together of a group, which entails getting to know each other and the facilitator
<i>Storming</i>	initially resisting the workshop and facilitator; personal values and principles are challenged, testing the behaviour code
<i>Norming</i>	creating a group spirit, developing trust in the facilitator and other participants and thereby enjoying the workshop
<i>Performing</i>	focusing on the work that needs to be done within the workshop

Figure 6.1. Performing in multi-disciplinary group work in Bagamoyo, Tanzania. (Photographer Jeroen Verplanke, 2003)



Exercises and games are used to enhance group dynamics. The principal emphasis is on creating an environment in which individuals and groups feel free to express themselves, experience, reflect and change.

Working in a group means dealing with many different personalities. Two types of participants need special attention: those who like to dominate the discussions, and those who keep quiet. There might be many reasons why people behave like this in a group, but it is the task of the facilitator to equally involve all participants: to temper the contributions of the dominant participants and to stimulate the quieter ones.

Conflict is an inevitable part of working with groups of people who have different interests, backgrounds and experiences. The facilitator should not ignore conflicts, because they may grow out of proportion and affect the entire group and finally the outcome of the workshop.

Socialising after 'working' hours is an important aspect of a workshop. In an informal atmosphere, participants are able to talk about the topic discussed in the workshop. This atmosphere allows ideas and creative solutions to flow more easily. The role of the facilitator is to encourage this socialising process.

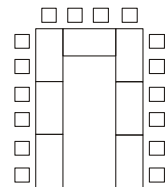
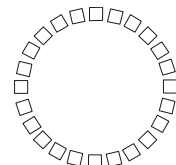
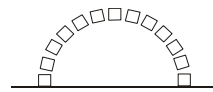
Plenary and working group sessions

A workshop is built up of a carefully balanced mix of plenary and working group sessions. Plenary and working group sessions complement one another and need to be scheduled in a meaningful and orderly fashion.

Plenary sessions can have different formats and purposes. There can be presentations or other forms of one-way communication to introduce an issue or topic and/or to stimulate discussion. There might be slide shows, or video or film presentations. Panels can be used during plenary sessions to focus discussion or to articulate different points of view. Plenary sessions are also the obvious place to report and discuss the findings of working groups.

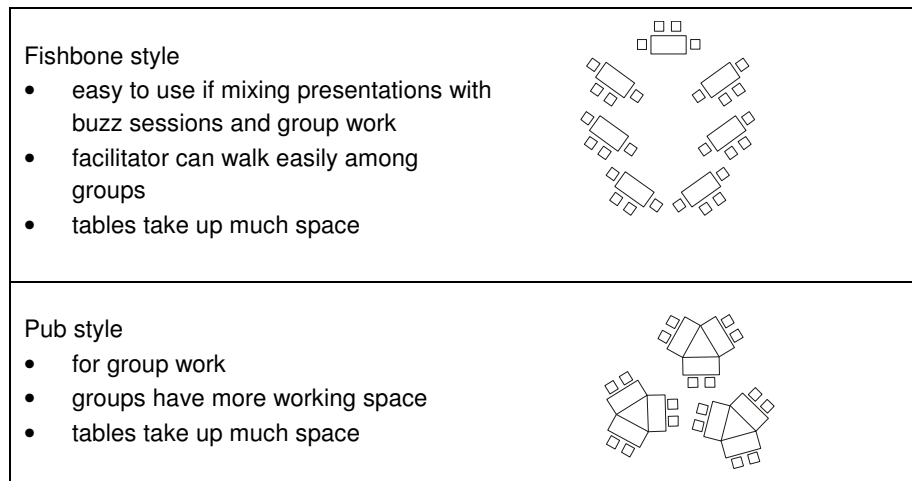
Seating arrangements have a major impact on the dynamics in the group and need to be carefully managed. In figure 6.2 some examples of seating arrangements for plenary sessions are given.

Figure 6.2. Seating arrangements for plenary sessions (adapted from Pretty et al., 1995)

<p>Hollow U</p> <ul style="list-style-type: none"> • introductions • presentations by resource persons • plenary sessions • formal atmosphere 	
<p>Circle of chairs</p> <ul style="list-style-type: none"> • opening and closing sessions • games/icebreakers 	
<p>Semi-circle</p> <ul style="list-style-type: none"> • presentations by working groups • in front of flipcharts or blackboard • pleasant and lively atmosphere 	

During working group sessions participants work together in small groups to discuss a certain topic and/or perform a certain task. Working group sessions are generally followed by reporting and the exchange of results in a plenary session. Seating arrangements that facilitate working group sessions are given in figure 6.3.

Figure 6.3. Seating arrangements for working group sessions (adapted from Pretty et al., 1995)



Group processes play a dominant role in small working group sessions. Depending on the purpose of the working group session, groups may be bigger (around eight to ten people) or smaller (two to three people), randomly selected or self-selected, homogeneous or mixed.

Small groups are especially helpful in making participants feel more at ease and active, in raising the interest and involvement of participants, in breaking down institutional and hierarchical barriers, in developing team spirit and willingness to cooperate, and in creating a feeling of responsibility for the outcome of the workshop.

Methods and techniques

A variety of methods and techniques are used in workshops, such as brainstorming, buzz groups, role-plays, case studies and games.

Brainstorming – A technique to quickly elicit new ideas and responses. All ideas are given equal credence. Participants are encouraged to let ideas flow freely. No idea, however crazy, should be rejected. The ideas are listed, exactly as they are expressed, on a board or flipchart, or written on bits of paper and tacked to a board. The ideas are discussed further, analysed and/or grouped.

Buzz groups – While working in a plenary session, pairs (or trios) are formed to discuss a specific question or issue. People turn to their neighbours for a quick buzz, or form larger groups of three or more. This allows almost everyone to express an opinion. A buzz session will generate many ideas, comments and opinions, the most important of which are reported back.

Role-plays – Participants use their own experiences to imitate a real-life situation. Role-plays are especially relevant for exploring and improving the understanding of other people's viewpoints and interests. They are followed by debriefing and discussion.

Case studies – Using a case study means providing the group with a realistic situation to analyse. Participants work in small groups on a given assignment (e.g. they are asked to decide how to solve the problem presented in the case). Sufficient time must be allotted for analysis, presentation, and discussion by the entire group.

Games – Games combine case study material and role-plays. They are devised to mirror real-life situations or teach specific skills. They are used to help participants to understand processes or other people's viewpoints. Games are also an enjoyable way to get people working together and to support group processes. Box 6.9 summarises possible functions of workshop games.

Box 6.9. Function of games in workshops

- introducing a session (starters)
- rounding off a session
- relaxing the participants (icebreakers)
- (re-) activating participants (energisers)
- stimulating the flow of communication
- encouraging everyone to participate
- stimulating team building
- developing new skills and insights

Games must be explained carefully. Participants may not know what to expect or what is the purpose of a particular game. Some participants may think that games are 'silly', 'foolish' or 'only for kids'. Others may take the matter very seriously; they may be afraid people will laugh at them, or may see it as a form of examination. Games should be well explained and used at the right time and the right place in the programme. They should be balanced with sufficient time for discussion and reflection.

Flipcharts – Over the course of the workshop many sheets of flipchart paper are likely to be used. They are used for listing participants' contributions (cards or written statements), and for sketches, reports from working groups, summaries, key points and final conclusions. Flipcharts are hung on the walls and remain there during the workshop. They are used to refer back to or to link different sessions, and are a visual expression of the workshop process.

Reporting – The process and outcome of a workshop are summarised in daily reports. Ideally the report should include all contributions (cards/flipchart sheets), as well as the key points and conclusions of all debates. At the start of a new day the report is presented and agreed. The reports are used to review the process, intermediate results and the next steps. Usually the participants prepare the daily reports. A final report on the process and outcome is prepared at the end of the workshop, and is made available to all participants and relevant institutions.

Other methods and techniques – Metaplan method, nominal group technique, mapping, 'snowballing', fishbowl, ranking and scoring techniques.

Basic workshop structure

Each workshop has its own structure and format, but some elements are common to many workshops, as shown in the following overview.

Official opening and closing

- *Official opening* – This is often performed by a high official, a ‘big boss’.
- *Introduction by facilitator* – Purpose of workshop is explained, as well as the workshop process, steps and expected results.
- *Introduction of participants* – At the start of the workshop participants introduce themselves; games are used that focus on icebreaking and presentation.
- *Official closing*.

Daily opening and closing

- *Programme of the day* – Programme for that day and the link with earlier sessions are explained.
- *Reporting* – Daily report is presented by group representative.
- *Starters* – Games are used at the start of a new session or at the beginning of the day (or afternoon).
- *Daily closing* – At the end of the day, the overall progress made is reviewed within the context of the workshop objectives and the general process. Plans are revised if necessary. Ending on a transitional note, the facilitator should comment on what the participants will accomplish the next day.

Workshop sessions

- *Plenary and working group sessions* – The heart of the workshop is a series of plenary and small working group sessions. Various methods and techniques are used to facilitate interactive group processes in order to achieve the set objectives.
- *Energisers* – Games to stimulate concentration, re-activate participants or create a relaxing atmosphere are used when necessary.
- *Reporting* – Process and outcome of sessions are documented.

Practical planning and organisation

In planning and organising a workshop the following practical aspects need special attention:

Selection of participants – The selection of participants takes place at two levels: at the practical level, in terms of who should be included, and at the political level, in terms of whose cooperation is necessary. The parties brought together in the workshop need to be carefully selected. Stakeholder Analysis can be helpful in determining the parties to be invited for a workshop. It is important to involve the various parties in the decisions about the workshop as soon as possible in order to ensure support and ‘ownership’ among all concerned and to avoid scheduling problems.

Group size – Experience suggests that, although larger numbers of people are certainly possible, a group size of 20 to 25 people can be considered ideal for an effective workshop (less than 15 is too few, 45 is too many).

Workshop duration – Workshops generally last two or three days, but workshops of shorter (a few hours) or longer (a week or more) duration are also possible. It should be taken into consideration that participants need time to become comfortable with one another. The duration of a workshop depends on the content and the issues to be discussed. If workshops last too long, however, they run into practical constraints and the problem of keeping the participants interested.

Language – Ideally the first language of the participants should be used. Everybody should be able to participate.

Location – The place selected should be free from interruption, away from the office. Participants should not be interrupted by ‘emergency phone calls’ or other pressing work. The type of place to hold the workshop can range from a local office to a convention hotel. Workshops involving local people should be held within the community rather than in government offices, in order to make people feel more in control.

Timing – It is important to make sure that the workshop is held at a time when potential participants are not too busy, and the workshop should not coincide with religious or national holidays, or with other meetings that might involve (some of) the intended participants. Invitations to the workshop should be sent in good time.

Lodging and catering – Plan and organise any necessary accommodation in advance. Coffee breaks and adequate meals should be provided during the workshop. If food and drinks are satisfying, participants may well feel at ease at the workshop. Coffee breaks and meals are also good opportunities for informal talks and getting to know each other.

Secretarial support – The support of a secretarial assistant is desirable during the workshop. This helps the facilitator to concentrate on the training itself rather than on logistics. The secretary can also assist the participants with the daily reports and prepare and distribute the final report.

Workshop programme – The detailed design of the workshop is drawn up: the sequence of plenary and sub-group sessions, the composition of various groups, support materials, invited speakers, detailed agenda and timetable.

Final preparations – All facilities are prepared and checked: rooms, refreshments, lighting, seating arrangements, materials such as flipcharts, cards, pens, tape, overhead sheets and reading materials.

Operating the instrument

The major phases in developing and conducting a workshop are shown in box 6.10.

Box 6.10. Major phases involved in developing and conducting a planning workshop

1. Initiating a workshop
2. Preparing a workshop
3. Conducting a workshop
4. Formulating the outcome
5. Follow-up

These phases are worked out in more detail in the following series of operational steps. These phases and steps are general guidelines and should not be seen as blueprints. Each situation is different and there are many ways of achieving the same objectives.

Step 1. Initiating the workshop

Organising team

- Define composition and responsibilities of an organising team responsible for the whole workshop process.
- Formulate the objective(s), specific benefits and expected output of the workshop.
- Determine the parties to be invited to the workshop. Use one or more of the following tools: secondary data analysis, interviews with key persons, informal discussions.
- Determine the issues to be discussed in the workshop. Avoid a large number of issues. Better to have an exhaustive discussion on a limited range of issues rather than a cursory discussion on a wide-ranging agenda.
- Reach a common understanding about purpose, parties to be involved, and issues. Make a proposal for location and timing.
- Select and contract a facilitator or team of facilitators.

Step 2. Preparing the workshop

Facilitator(s)

- Become familiar with the purpose and issues to be discussed in the workshop and with the backgrounds and perceptions of the participants. Tools used: secondary data analysis, meeting with organising team, interviews with key parties, if necessary use questionnaires.
- Organise pre-workshop session(s) with organising team and key participants to check conclusions and reach agreement on the agenda, participants, group size, duration, location, timing, facilities.
- Draw up a detailed design of the workshop: sequence of all sessions, duration, timing, responsibilities, and equipment/materials needed.

Organising team

- Send invitations to participants, invite resource persons, and invite officials for opening and closing sessions.
- Prepare all facilities: rooms, lighting, materials, seating arrangements, refreshments.

Step 3. Conducting the workshop

- Prepare and check the room: seats, lighting, materials, audio-visuals, announcement of daily programme.
- The workshop is conducted according to the agreed design.
- If more than one facilitator, organise daily team meetings.
- Meet with organising team to discuss progress and practical issues.
- Regularly check performance by consulting box 6.7 or the list with dos and don'ts in box 6.11.

Box 6.11. Some dos and don'ts for facilitators

- Be positive, constructive and creative
- Be transparent
- Watch timing (a timer can be useful)
- Keep control over the workshop process
- Involve all participants: be aware of those who talk a lot and those who don't talk at all
- Respect all participants: all contributions are equally valid
- Do not participate in the discussions: hold a neutral position
- Always give feed-back
- Facilitate practical aspects
- Be flexible: adapt the agenda when necessary
- Do not leave conflicts unsolved
- And always keep in mind the objective(s) and expected output

Step 4. Formulating the workshop outcome

- Review the outcome and work towards final conclusions.
- Check conclusions with participants.
- Prepare action plan or proposal.
- Evaluate the workshop.

Step 5. Follow up

- Prepare final report.
- Send final reports to all participants.
- Evaluate workshop with organising team.
- Organise a plenary session to report on the outcome of the workshop (formal meeting, public meeting, symposium).
- If relevant, plan and organise follow-up workshops.
- Arrange for follow-up at any other point agreed in the workshop.

Figure 6.4. A serious and productive event, in a lively environment. ITC students during a workshop fieldwork preparation (Photographer Liza Groenendijk, 1993.)



Strengths

- A workshop provides a neutral forum for planning and decision-making, involving a variety of parties with different backgrounds and interests.
- All participants have, in principle, an equal voice.
- Flexible and interactive event.
- Workshops are generally very dynamic, intense, creative and highly productive events.

Limitations

- A planning workshop can take place only when participants are able and willing to discuss in a productive manner.
- Although workshops can help to develop compromises between opposing views, they cannot resolve deep-rooted conflicts.
- Workshops are most effective in socio-cultural situations that allow the open expression of views, the display of doubts and uncertainty, and the listening to others, regardless of rank or status.
- Workshops may generate 'group thinking', self-censorship, and unwarranted euphoria about possible future action.
- If not well facilitated, sessions can easily result in endless talks.
- A (neutral) facilitator may not always be available.

Requirements

Skills – A skilful facilitator needs to be contracted to guide the participants into fruitful discussion. The facilitator should be able to foster open discussion and a consensus-building atmosphere. He or she needs to have facilitation skills and a good overview of the situation.

Time – Workshops generally have a duration of at least one day, at best three days. However, most time is spent on the preparation. Preparation time for the facilitator depends on the situation and his or her advance knowledge. The facilitator should have sufficient time to process and document the outcomes of the workshop.

Funds – Resources for conducting the workshop (hire of meeting room, refreshments, lunches, materials, and accommodation and travel of participants).

Materials – Reserve a large meeting room with comfortable chairs and movable tables, and adjoining rooms for working groups. Other requirements may include video and/or audio equipment, computers and software, maps, handouts, flipcharts, cards, markers and tape.

Related instruments

Action planning events – Carefully structured sessions where all those affected work creatively together to produce plans of action (e.g. action planning day, design fest, future search conference, planning weekend).

Metaplan – A group discussion technique with an emphasis on visualisation, using written cards.

RRR/PRA – Workshops are one of the methods used in rapid and participatory (rural) appraisal. They are used to facilitate and structure the information exchange in focus group interviews and community interviews.

Training workshop – A method largely used in experiential learning and adult education. Workshop training can save an organisation time and money, and offer long-term performance benefits because of the special emphasis on practising skills and transferring them to the job.

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Key definitions

Action planning

An approach to planning involving the organisation of carefully structured collaborative events that produce proposals for action. (Synonym: participatory planning)

Brainstorming

A workshop technique used to quickly elicit new ideas and responses from a group. All ideas are given equal credence. Participants are encouraged to let ideas flow freely; all possibilities are considered. The ideas are listed, discussed, analysed and/or grouped.

Buzz groups

A workshop technique used in plenary sessions. Participants turn to their neighbour(s) for a quick buzz in order to discuss a question or issue. This allows almost everyone to express an opinion. A buzz session will generate many ideas, comments and opinions, the most important of which are reported back.

Case study

Description of a realistic situation. Used to help participants to understand how an approach worked or failed to work. Participants can also be asked to decide how they would solve the problem situation presented in the case. Used in workshops and training.

Community planning

Planning carried out with the active participation of the community members.

Facilitator

Person who steers a process, meeting or workshop. (Synonym: moderator)

Fishbowl

Workshop technique where participants sit around and observe a planning team working on a problem without taking part themselves.

Flipcharts

Large sheets of paper on an easel or pinned on a wall. Standard equipment for participatory workshops as they allow note taking to be visible.

Games

Workshop technique that combines case study material and role-plays. Developed to mirror real-life situations or teach specific skills. They are used to help participants to understand processes or other people's viewpoints. They are also an enjoyable way of getting people working together and of supporting group processes. (Synonyms: animation games, energisers, icebreakers, simulations, starters)

Plenary sessions

Meeting of all participants at an event. Used in workshops for presentations or other forms of one-way communication to introduce an issue or topic and/or to stimulate discussion. Plenary sessions are also the obvious place to report and discuss the findings of working groups.

Prioritising

Deciding what needs doing and when. Ranking the problems to be dealt with or projects to be undertaken. Term usually refers to group prioritising.

Role-play

Workshop technique in which participants use their own experiences to imitate a real-life situation. Adopting the roles of others and acting out scenarios. Used to help participants to understand other people's viewpoints and interests.

Snowballing

Workshop process whereby information or ideas are gathered from participants who start working individually or in pairs, and continue first in fours and then in eights or twelves.

Working groups

Small number of participants with a specific task to complete in a workshop.

Workshop

Structured group meeting, at which a variety of participants explore issues, share knowledge, develop ideas and make decisions. Generally aided by a facilitator. (Synonym: public meeting, seminar, planning workshop, planning event)

Chapter 7. Training Needs Assessment

What?

Training Needs Assessment is the systematic study of a performance problem in order to make sound decisions about training and non-training solutions. Training Needs Assessment is an integrated part of the human resource development of organisations.

Careful analysis or assessment of an organisation's needs is the first step in Training Needs Assessment. If training is found to be the best solution (or part of it), further steps in Training Needs Assessment lead to instructional goals or training objectives.

To be effective, Training Needs Assessment is carried out systematically by the organisation itself, using in-house staff or consultants. In other situations Training Needs Assessment is carried out by the organisation in collaboration with an outside training institution. In this case organisational needs and the services of the training institution are matched.

This document is written from the perspective of the manager who is concerned about making effective use of training resources for maintaining and improving the quality of organisational performance.

Why?

One solution frequently requested by management is to 'train them' or 'teach them' so that the performance problem will be solved or new technology will get the use it deserves.

Managers often have no clear idea about the content of the training courses that their employees are following. Training solutions to performance problems are not always right, sometimes just partially effective, and always expensive. Effective Training Needs Assessment provides management with the information necessary to select and/or develop effective training solutions.

Training should be seen within the context of the whole problem or programme. Performance problems are often 'multi-causal'. More than one intervention may be needed to solve the problem, and interventions work best in combinations. Training interventions will be more successful and effective when they are combined with support on the job, and when management also supports, and is trained in, the new learning.

Field of application

Training Needs Assessments are applied by professionals involved in the human performance management of the bigger organisations. To most of these organisations it is clear that expenditure on training is necessary to maintain adequate levels of employee performance.

Smaller organisations do not possess adequate resources for systematic Training Needs Assessment. Rather than developing internal training capabilities, however, these organisations follow the practice of relying on outside institutions to advise them on appropriate training for their employees.

Training Needs Assessment is carried out by training institutions such as ITC, in situations where an organisation or a programme has identified a training need in a certain field of expertise. Training Needs Assessment is conducted to understand the organisational context and specify training requirements in order to offer the best training programme or to develop tailor-made training.

A historical overview of Training Needs Assessment is presented in box 7.1.

Box 7.1. Historical background of Training Needs Assessment

Systematic approaches to training, known as Instructional Systems Development, were developed during World War II to address the pressing technical needs of the military for trained personnel. Instructional Systems Development provided a broad prescription for looking at the men and women and their work, and figuring out ways of teaching them to do it. Mandated by the military and adapted to meet the needs of large corporations, this systematic approach is the basis for much of what is going on in training and development today. Job Analysis and Task Analysis became important tools for examining jobs and tasks in order to specify learning requirements. With the realisation that training is not always the solution, a more holistic approach emerged, looking at the many factors contributing to performance problems. This resulted in the 1970s and 1980s in a shift from Instructional Systems Development to Human Performance Technology, a multidisciplinary approach to improving human performance. Training Needs Assessment, or Needs Assessment, was developed as an instrument for analysing performance problems or innovations in order to make recommendations about training or non-training solutions.

Description

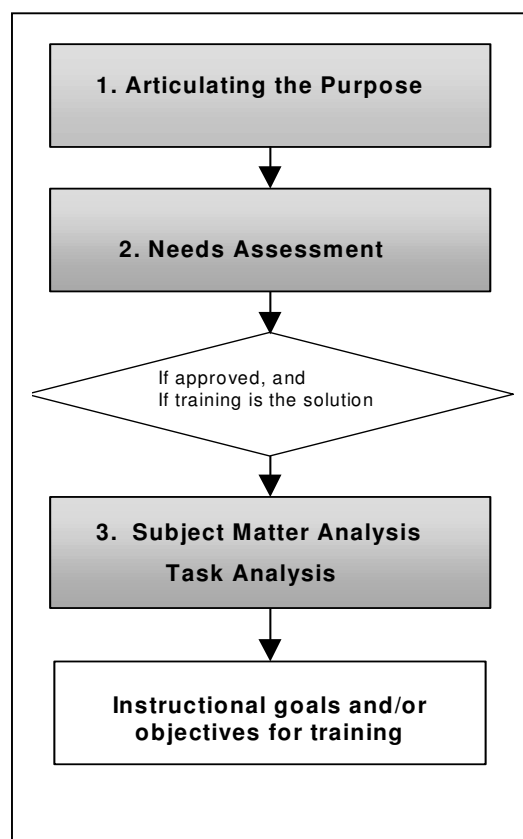
Training Needs Assessment is carried out when there is the idea that training might contribute to solving a performance problem. If training is found to be the best solution (or part of it), Training Needs Assessment results in an acceptable set of instructional goals or training objectives. The outcome of the Training Needs Assessment is used to choose the most suitable training programme or to guide a training development process.

The Training Needs Assessment process consists of the following three major phases:

1. Articulating the purpose
2. Needs assessment
3. Subject Matter Analysis and Task Analysis

In this document Training Needs Assessment is considered as a process as visualised in figure 7.1. The figure suggests moving from one phase to another. In reality it may be that Subject Matter Analysis and Task Analysis are included partly or completely in the Needs Assessment. You may also be confronted with different starting points for your Training Needs Assessment. The presented process should therefore be used in a flexible, critical and iterative way.

Figure 7.1. Training Needs Assessment process



Training is usually only part of the solution to a performance problem. In a performance improvement proposal, training and non-training remedies will be presented. As in this document the focus is on training needs and training solutions; the non-training solutions can be seen as 'assumptions', external conditions that influence the success of training.

Key persons in the organisation should be involved at an early stage in order to gain a common perception about the purpose and procedure for the Training Needs Assessment. Involving relevant people in the whole process guarantees support and commitment, not only regarding the Training Needs Assessment but also regarding the implementation of the proposed solutions.

1. Articulating the purpose

The initial purpose of the Training Needs Assessment needs to be well articulated in order to guide you through often vague and contradictory information. The articulated purpose gives direction to the Training Needs Assessment.

The following factors are involved in articulating the purpose of the Training Needs Assessment:

- Type of initial situation
- Level of performance

Type of initial situation

Classifying the performance issues into different categories helps in articulating the purpose. Each initial situation is different, and different information will be required for each Training Needs Assessment. The following general types of initial situation can be recognised:

- Performance problems
- Introduction of new system or technology
- Habitual or automatic training

Performance problems occur in the midst of ongoing efforts, in situations where there is good reason to assume the employees have the capability to do what is expected of them, and yet they do not do it. Or they occur when performance outputs that are expected and planned for are not being reached.

New systems and technologies – The situation where an organisation introduces a new system or technology, and a training professional is expected to facilitate it, can also be considered a *potential performance problem*.

Habitual or automatic training – Sometimes training happens on a regular basis or is a standard procedure in the organisation (e.g. a standard training course for new employees or refresher courses). In this case the training professional has two choices: to handle the mandate as a new situation or to handle it as a performance problem.

Levels of performance

Performance takes place at different levels. So, another area of perception that should be considered in articulating the purpose of the Training Needs Assessment involves levels of performance. Three levels can be identified:

- Organisational
- Process (work processes)
- Individual (job/performer)

The examples in box 7.2 illustrate the nature of performance problems and indicate how they may come to the attention of the management.

Box 7.2. Examples of performance discrepancies and how they come to the attention of the management (adapted from Tees et al., 1992)

At the individual level

The supervisor of a planning unit in a housing corporation tells the manager that several of his professional staff have been submitting inaccurate cost estimates for their projects. Further analysis determines that the employees do not know how to do a proper cost analysis.

At the individual level

The requested recommendation of a special committee organised by a municipal rector is long overdue. Meetings have turned into social gatherings and attendance has been dropping steadily in recent months. Conversations with some committee members indicate that the committee members do have the requisite technical knowledge; however, the committee leader admits to having little experience of organising and managing a group of this kind.

At the process level

Workstations in several offices of the finance department have been equipped by the computer section with powerful new hardware and software. After more than six months, the equipment is under-utilised. From conversations with section chiefs and many employees concerned, it becomes clear that an orientation course on computer fundamentals has not provided departmental employees with the skills they need to use the equipment in their work.

At the organisational level

A new policy for housing finance is being promoted in country A, requiring housing finance institutions to provide credit to low-income groups. Through discussions with officials of the housing finance institutions, the assessor is able to point out areas where training will be needed (i.e. to acquire skills in determining affordability and in processing a large number of small loans).

2. Needs Assessment

Articulating the purpose of the Training Needs Assessment is followed by a Needs Assessment, or performance diagnosis.

The Needs Assessment is carried out at organisation level. It is a problem-defining method that takes into account the systematic nature of the organisation. It results in an accurate identification of the actual and desired performances at the organisational, process and/or individual levels, along with the specification of training or non-training solutions.

The Needs Assessment consists of the following elements:

- Performance analysis
- Cause analysis
- Analysis of feelings
- Selection of possible solutions
- Performance improvement proposal.

Performance analysis

The goal of performance analysis is to determine the gap between what people are supposed to do (optimal state) and what they are currently able to do (actual state). The gap between optimal performance and actual performance is called a performance discrepancy or need (figure 7.2).

Figure 7.2. Subtraction illustrating the nature of a performance problem (Rossett, 1987)

$$\text{Optimal} - \text{Actual} = \text{Performance Discrepancy or Need}$$

The elements to be studied in the performance analysis are:

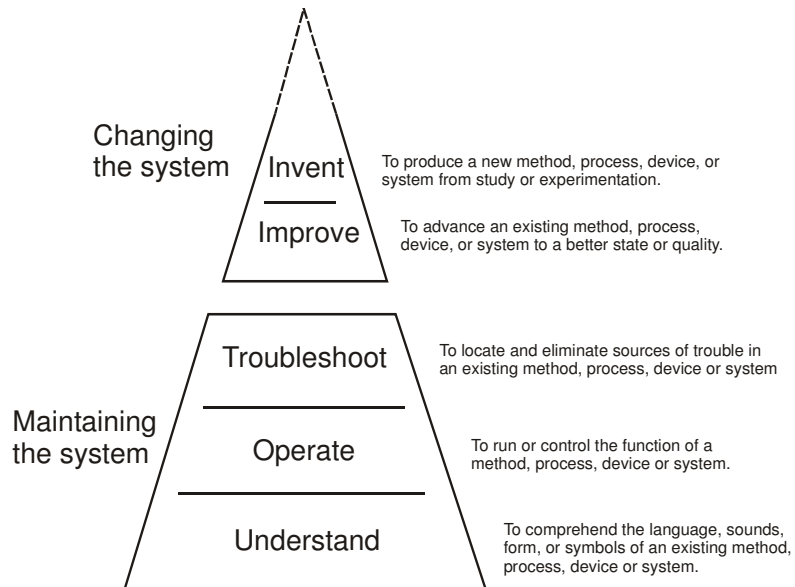
- Actual performance
- Optimal performance

The optimal performance is determined from the workforce requirements (i.e. competencies and abilities necessary to achieve the organisation's goals) as set forth in its mission and business strategy. The actual performance is determined from the current capabilities of the employees.

The *Taxonomy of Performance* can prove helpful in reaching a better understanding of, and specifying, optimal and actual performance. Combined with the level of performance (organisational, process and individual), it promotes deeper understanding of the performance issue in question.

The Taxonomy of Performance (figure 7.3) lays out five tiers of performance: understand, operate, troubleshoot, improve and invent. This taxonomy is divided into two general categories: (1) maintaining the system and (2) changing the system.

Figure 7.3. Taxonomy of Performance (Swanson, 1994)



Performance can be measured in many ways. Rate of return, cycle time, services delivered, and quality of output are some such possibilities. Without a target clearly in mind it is almost impossible to think about appropriate performance improvement actions.

Critical measures of performance are (1) tied to the goods and services of the organisation and (2) generally measured in terms of

- time
- quantity
- quality

Time – Defined here as the measurable interval between two events or the period during which some activity occurs. In the workplace, performance is commonly measured in terms of time. Reductions in performance time usually yield important financial consequences to the organisation.

Quantity – The measure of the exact amount or number of products, services or other outcomes that result from worker or work-group performance. Quantity is the dimension that is restricted to counting the simple, usually observable, worker or work-group outputs.

Quality – Characteristics of products or services that meet agreed specifications. Quality features can be measured and estimated in value.

Cause analysis

Performance discrepancies vary in nature and can affect an organisation in different ways. Discrepancies that exist because employees do not have the knowledge or skill to perform correctly (training needs) can be separated from discrepancies that exist for other reasons (non-training needs).

To understand why a performance discrepancy exists and how it can be rectified, we need to examine the underlying cause. There is usually some reason why people do things, and some reason why they don't. When you seek the cause or causes, you attempt to find out what various sources think is contributing to the problem.

A list of possible causes of performance problems at individual level is presented in box 7.3. Performance problems can be caused by any combination of these kinds of causes.

Box 7.3. Causes of poor performance (Rossett, 1987)

Lack of skill and/or knowledge

- Even if employees wanted to, they could not, because they lack the skill or knowledge.

The environment is constraining

- Employees do not have the tools, forms and workspace necessary to perform.
- Refers to all that surrounds the worker as he or she does the job.
- There are three areas involved: personnel, policies and tools.

Improper, few or no incentives

- Employees could do, if they wanted to, but apparently the consequences of bad (or good) performance doesn't matter.

Lack of motivation

- Refers to the value or importance an employee attaches to his or her work or task.

Swanson (1994) distinguishes the following five performance variables for specifying the possible causes of performance problems: mission/goal, systems design, capacity, motivation and expertise. These performance variables, matrixed with the levels of performance (organisational, process and/or individual), provide a powerful perspective in diagnosing performance (figure 7.4).

The questions presented in the performance variable matrix help to sort out the performance overlaps and disconnects. For example, a work process may have a goal built into it that is in conflict with the mission and/or goal of the organisation or of a person working in the process.

The performance diagnosis matrix shows there can be numerous impediments to performance, and consequently numerous challenges and opportunities for human resource development to improve performance. Education and training play an important role in most, if not all, of the matrix cells.

Figure 7.4. Performance diagnosis matrix of enabling questions (Swanson, 1994)

	PERFORMANCE LEVELS		
PERFORMANCE VARIABLES	Organisation Level	Process Level	Individual Level
Mission/Goal	Does the organisational mission/goal fit the reality of the economic, political, and cultural forces?	Do the process goals enable the organisation to meet organisational and individual missions/goals?	Are the professional and personal missions/goals of individuals congruent with the organisation's?
System Design	Does the organisational system provide structure and policies supporting the desired performance?	Are processes designed in such a way as to work as a system?	Does the individual face obstacles that impede their job performance?
Capacity	Does the organisation have the leadership, capital and infrastructure to achieve its missions/goals?	Does the process have the capacity to perform (quantity, quality, timeliness)?	Does the individual have the mental, physical, emotional capacity to perform?
Motivation	Do the policies, culture and reward system support the desired performance?	Does the process provide the information and human factors required to maintain it?	Does the individual want to perform no matter what?
Expertise	Does the organisation establish and maintain selection and training policies and resources?	Does the process of developing expertise meet the changing demands?	Does the individual have the knowledge, skills and experience to perform?

Analysis of feelings

Although not always recognised, information on the feelings about performance problems and the proposed solutions should also be considered in the general process of Needs Assessment. How do key stakeholders (such as senior management, employees, supervisors) feel about the problem?

Consider the introduction of a new and expensive computer system. Do the employees like the one that has been chosen? Do they feel confident that they will be able to learn to use it? Do they have the prerequisite keyboarding skills? You can't really understand the problem until you have unearthed the surrounding feelings.

Selection of possible solutions

What solution(s) is (are) preferred? Recommendations about solutions are based on identified causes. A performance discrepancy can be called a training problem or training need only when the people involved don't know how to perform. If the people do know how to perform but don't perform, training is not the answer. The discrepancy will have to be corrected in some other way. Training Needs Assessment recognises the following categories of solutions:

- Training needs and solutions
- Non-training needs and solutions
- Combined solutions

Training needs and solutions – When an assessor has concluded that a performance discrepancy exists because the employees concerned lack the knowledge or skill to perform correctly, he or she must then find or design an appropriate training remedy. The next step in the Training Needs Assessment process offers guidance in carrying out this task.

Non-training needs and solutions – When the assessor, after thorough investigation, has concluded that the employees could perform if they really had to, then it is plain that something other than training is needed. A deficiency in execution exists.

The following is a list of typical statements that an assessor is likely to hear from managers about skilled employees who are not performing correctly. In addition, there is also a list of statements that are likely to come from the non-performing employees themselves (box 7.4).

Box 7.4. Typical statements from managers or employees in the case of non-training performance problems (Mager (1970), in Tees et al. (1992))

Managers	Employees
'They aren't motivated.' 'They just don't want to do it.' 'They simply don't care.' 'They are too lazy to do it.' 'They don't have the right attitude.' 'They oughta wanna do it.'	'We're too busy to do it.' 'That isn't our job.' 'They'll fire us if we do it.' 'They'll laugh at us if we do it.' 'Not now, my friend ... later.'

Combined solutions – Many performance problems can be classified as both training needs and deficiencies in execution. In such instances, the assessor may conclude that more than one remedy is required to bring about the level of performance desired by management.

A problem with lost or misplaced files in an office, for example, may call for multiple remedies, which could include the implementation of a new file management system (non-training) and training the staff to use the new system. In nearly all cases, proposals for performance improvements will include multidimensional interventions.

Box 7.5 provides an overview of the major causes of performance problems paired with possible solutions.

Box 7.5. Causes of performance problems paired with possible solutions (Rossett, 1987)

Causes	Solutions
Lack of skill and/or knowledge	Training Job aid Coaching
The environment is constraining	Work redesign New and/or better tools Better selection/development for jobs
Improper, few or no incentives	Revised policies Revised contracts Training for supervisors Incentive and bonus plans
Lack of motivation	Inform so workers can see benefit, impact and value Link work to challenges Use role models Early success to instil confidence

There is likely to be a number of intervention options to choose from. For the selection of interventions for the performance improvement, the following criteria listed in box 7.6 can be helpful.

Box 7.6. Criteria for selecting performance solutions (Swanson and Gradous (1988), in Swanson (1994)

- Appropriateness to the organisation
- Availability of the intervention
- Perceived quality
- Prior effectiveness of the same or similar intervention
- Cost of the intervention
- Expected benefit to the organisation

Performance improvement proposal

The data collected in the diagnostic process are analysed in order to develop plans of action to improve organisational performance. The outcome of the Needs Assessment is a performance improvement proposal.

The performance improvement proposal provides an overview of the following elements:

- Organisational context
- Articulated purpose
- Analysis of performance gap
- Cause analysis
- Proposed solutions
- Forecasted benefits

3. Subject Matter Analysis and Task Analysis

Before training solutions can be selected or designed, a detailed analysis of the knowledge, skills and attitudes necessary to perform the job is required. When training has been indicated as one of the recommended solutions in the performance improvement proposal, Needs Assessment will be followed by Subject Matter Analysis and Task Analysis.

Subject Matter Analysis – Subject Matter Analysis seeks the elementary cognitive operations that represent knowing something. It is a quest for details of optimal knowledge. Subject Matter Analysis has two components: the quest for agreement on the *details* of the knowledge of the master performer (subject matter expert), and the *representation* of the knowledge so that elements, structures and relationships are clearly depicted. It is concerned with what ought to be happening, with what performers must know to do the job optimally. The information comes from interviews with subject matter experts and from reference to the literature that surrounds their work.

Task Analysis – Task Analysis is a technique that derives optimals attached to visible tasks. During Task Analysis, which relies primarily on observation, model performers do what they do well so that a comprehensive description of that excellence can be recorded. These elements of visible optimal performance then serve as the basis for training.

Subject Matter Analysis and Task Analysis focus on the quest for details of optimal knowledge and skills. Subject Matter Analysis leads us to optimals in the invisible body of knowledge. Task Analysis leads us to optimals in visible job activities or tasks. Both techniques contribute to the picture of optimal performance.

In Subject Matter Analysis and Task Analysis a high level of expertise is required to identify the knowledge and skills for performing tasks and to objectively observe and describe behaviour. These analysis techniques are the province of educational and training specialists.

Data requirements

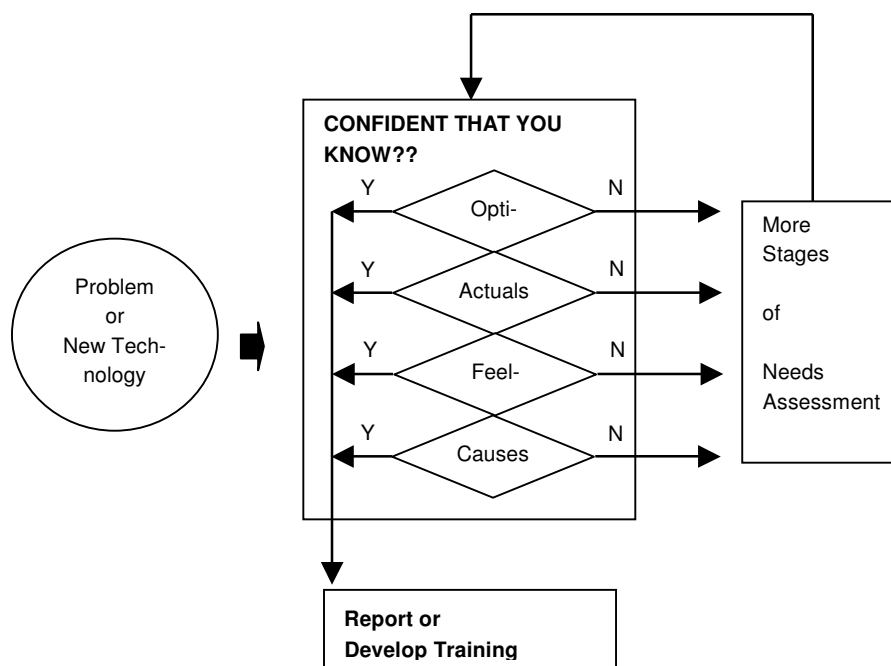
Returning to the general process we can conclude that Training Needs Assessment is concerned with obtaining information on the issues below (box 7.7).

Box 7.7. Data requirements in Training Needs Assessment (Rossett, 1987)

- Optimal performance or knowledge
- Actual performance or knowledge
- Feelings of employees and significant others
- Causes of the problem from many perspectives
- Solutions to the problem from many perspectives

Progress in Training Needs Assessment is based on fulfilling some or all of the data requirements (optimals, actuals, feelings, causes and solutions) dictated by the articulated purpose. This process is described in the purpose-based Training Needs Assessment as developed by Rossett (1987), and is presented in figure 7.5.

Figure 7.5. Purpose-based Training Needs Assessment (adapted from Rossett, 1987)



Availability of the information required for the Training Needs Assessment is unpredictable. Some critical information will be available at the start of the investigation; other information may not exist at all and will have to be collected; yet other information will be held captive by individuals in the organisation for either political or proprietary reasons.

Techniques and tools

The techniques and tools used in Training Needs Assessment are listed in box 7.8.

Box 7.8. Techniques and tools used in Training Needs Assessment

- Secondary data analysis
- Interviews
- Observation
- Work samples
- Focus groups
- Questionnaire surveys

Secondary data analysis – Organisations keep records of many everyday occurrences. Policy manuals, procedure manuals, minutes of board meetings, computer printouts on sales, performance appraisals and the like are kept on file. Such data sources offer information on the outcomes of employees' actions in light of the goals of the organisation.

Interviewing – The interview enables information to be gathered directly from people in the workplace or from people connected in various ways to the organisation. Interviews play a part in diagnosing the performance gap, in cause analysis, in Subject Matter Analysis and in Task Analysis.

Observations – People express the results of their work performance through observable actions, and the qualities of their actions can be observed. Observing people at work will yield quantitative and qualitative information about the work, the worker and the work environment. Observations are used in combination with other tools and techniques. They are an important tool in Task Analysis.

A methodology to investigate on-the-job competencies, is the so-called 'think aloud method'. In figure 7.6 an experimental subject is constructing a graphical model of the Province of Overijssel. All actions and the verbally expressed thoughts are recorded by video and later analysed.

Figure 7.6. Video recording and "think aloud" at ITC's cartographic research laboratory (Photographer Corné van Elzakker, 2003).



Work samples – Information on actual performance in the form of tangible work samples, such as a computer programmer's new software design, a cartographer's map, a trainer's presentation or course design. Work samples are used to supplement other assessment tools, to validate other data, to gather preliminary information or to identify problem areas.

Focus groups – This is a cost-effective way of getting and disseminating information, and garnering support. Groups are often used as a jury of experts to derive a consensus opinion on optimal performance. They can be used in all stages where group consensus or commitment is required.

Questionnaire survey – The questionnaire survey is an excellent device for acquiring information from a large dispersed population. They provide an effective and efficient method of gathering information from managers, employees or clients.

A combination of analysis techniques and tools is used to fulfil all data requirements. Table 7.1 presents an overview of the data requirements and the preferred tools and techniques to be applied in the Training Needs Assessment.

Table 7.1. Data requirements and preferred tools and techniques

	Organis. records	Interview	Observation	Work samples	Focus groups	Questionnaire
Optimals		X	X		X	X
Actuals	X	X	X	X	X	X
Feelings		X				X
Causes		X	X		X	X
Solutions		X			X	X

Operating the instrument

Training Needs Assessment takes into consideration the articulated purpose as the beacon for activities, while at the same time recognising the possibilities and constraints of the situation. The following are the steps that will guide you in Training Needs Assessment.

Step 1. Assess the organisational context

- Review the organisation's mission, goals and strategies.
- Make a list of the key stakeholders involved and relevant sources that will contribute to the Training Needs Assessment.
- Use the questions in box 7.9 to guide you.

Box 7.9. Some questions to guide you in analysing the context for the Training Needs Assessment (adapted from Rossett, 1987)

- Who wants this problem solved or this new technology introduced? Why?
- Who doesn't? Is there anyone who prefers things to stay the same? Why?
- Is this a solution to a performance problem or an innovation that is being introduced? If it is a performance problem, who might fear or attempt to block your efforts to find the cause(s) of the situation? If it is a new system, who might not want to support this change?
- Who are the sources of information for this Training Needs Assessment? Will they be accessible? Will you be able to go back to them again and again as and when you need additional information?
- What records provide useful information? Will they be accessible? Will you be able to go back to them again and again as and when you need additional information?
- How much support does this entire project have? Does the Training Needs Assessment also have support or will you have to fight for resources to conduct it? How much time do you have?
- Who must be kept abreast of your findings? Who else might want to know? Who must not know – at least at first?

Step 2. Articulate the purpose

- Examine the initiating situation to determine whether it is a performance problem, a new system, or a habitual demand for training.
- Consider the level of performance.
- Articulate the purpose and data requirements for the Training Needs Assessment, based on the initial situation and level of performance.
- Use the questions in box 7.10 to guide you.

Box 7.10. Some questions to guide you in determining the purpose of Training Needs Assessment. (adapted from Rossett, 1987)

- How did the problem come to the attention of the management?
- At what level of performance does it happen?
- Is this a performance problem in a familiar job or has it to do with the introduction of a new system or technology?
- Once you have acquired some information, what else do you need to know? Are you confident you have acquired sufficient information?
- So what is the purpose for this study?
- And what are the data requirements? Do I seek information about how they should be performing? How they are performing? How they feel about performance or about the new system? The cause(s) of the problem? Their opinions on solutions?

Step 3. Develop a Training Needs Assessment work plan

- Select the tools and techniques on the basis of the articulated purpose and the identified data requirements, taking into consideration the context, and available time and resources.
- Develop a work plan for the whole study, including information on context, purpose, different stages, and the techniques and tools to be used.
- Use box 7.7.

Step 4. Data collection on Training Needs

- Progress in Training Needs Assessment is based on fulfilling some or all of the data requirements (optimal, actuals, feelings, causes and solutions).
- For each stage indicated in the work plan, make clear what you already know and what you plan to do. It can be helpful to prepare for each stage a short overview with the following information:
 - Summary of what you already know about the subject.
 - Summary of information being sought during this stage.
 - The sources of information for this stage.
 - The Training Needs Assessment tools(s) that will be used in this stage.
 - If you will be interviewing or surveying, the questions you will ask. If you will be observing, what you will be watching.
 - If you will be using a group meeting, the agenda.
- It is important to wait until earlier stages have been completed before starting to collect information on an advanced stage. The information gathered in earlier stages serves as the basis for future stages of inquiry.
- Be guided by the process presented in figure 7.5.

Step 5. Communicating progress

- As you move through the stages detailed in the Training Assessment Needs work plan, inform managers and relevant others about what is being learned.
- Use the relevant questions in box 7.11.

Box 7.11. Basic questions guiding communication of results of Training Needs Assessment

- What are you finding out?
- What do employees tell you? Supervisors? Do they agree with one another? Do they agree with the management perspective on the situation?
- Will the innovation be welcomed? Do employees feel they can master it? What are the subject matter specialists saying? The same thing? Or are you getting wildly varied descriptions of optimal performance?
- If it is a performance problem, what do sources think is causing the problem? Are they clear about how it ought to be? Are they suggesting feasible solutions?

Step 6. Preparation of performance improvement proposal

- Prepare a formal document with the following content:
 - Organisational context
 - Articulated purpose
 - Performance gap
 - Cause analysis
 - Proposed solutions
- The performance improvement proposal should be approved by the stakeholders involved, and handed over to the decision-makers.

Step 7. Subject Matter Analysis and Task Analysis

- When training is mentioned as a possible solution in the performance improvement proposal, training specialists will be invited to carry out the Subject Matter and Task Analyses in order to define detailed instructional goals and training objectives.

Step 8. Select and develop training solutions

- The performance improvement proposal, enriched with the outcome of the Subject Matter and Task Analyses, provides human resource departments or training sections with detailed information in respect to selecting and/or developing training.

Strengths

- Training Needs Assessment leads to focused inquiries, sturdier bases for decisions, less training and better training.
- The outcome of Training Needs Assessment will enlighten training and develop decision-making for several years.
- Training Needs Assessment may provide compelling information that convinces supervisors or managers of something about which they were initially negative, hesitant or ambivalent.

Limitations

- Although Training Needs Assessment is considered important for an organisation, management provides little support and makes no time available for doing it.
- Training professionals are biased towards training. As soon as Training Needs Assessment seems to be necessary, there is automatically a bias towards one sort of solution – training.
- The appealing nature of analysis can result in excessive analysing rather than speedy and appropriate consultation.

Requirements

Skills – Most organisations employ human performance specialists to carry out Training Needs Assessment. They may also employ training professionals (instructional designers, curriculum developers, educational specialists). Smaller organisations will contract specialists to do the Subject Matter and Task Analyses.

Time – Completing a Training Needs Assessment takes anything from a few days to several weeks, depending on the purpose (expected output), available resources (time and money), and the politics surrounding the situation.

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Key definitions

Actual performance

Information about the contemporary skills, knowledge, perspectives and activities of individuals in an organisation. Specifies what people are actually doing. (Synonyms: actuals, current performance)

Extant data analysis

Analysis of records and files collected by an organisation, reflecting actual employee performance and its results. It refers to the outcomes of employees' actions in light of the goals of the organisation. (Synonym: secondary data analysis)

Job Analysis

(Synonym: occupational analysis)

Need

The gap between optimal performance and actual performance. (Synonyms: performance discrepancy, performance gap)

Needs assessment

Needs assessment is one of four techniques for gathering information in Training Needs Assessment and is the systematic effort to gather opinions and ideas from a variety of sources about performance problems or new systems and technologies. (Synonym: performance diagnosis)

Optimal performance

Specifics about broad goals and desired skills, knowledge and perspectives as they relate to a particular task or organisational problem. The optimal performance is determined from the workforce requirements (i.e. competencies and abilities necessary to achieve the organisation's goals) as set forth in its mission and business strategy. (Synonym: optimals)

Performance

Performance is defined as the dependent variable in the form of organisational, work process, and/or individual contributor outputs of productivity. Using this definition, performance is the means by which organisations achieve their goals.

Performance discrepancy

The gap between what people are supposed to do (optimal performance) and what they are currently able to do (actual performance). (Synonyms: performance gap, performance need)

Performance problems

Performance problems occur in the midst of ongoing efforts, in situations where there is good reason to assume that employees have the capability to do what is expected of them but they do not do it.

Subject Matter Analysis

Subject Matter Analysis seeks the nature and shape of bodies of knowledge which employees need to possess to do their job effectively. It is a technique used in Training Needs Assessment that derives optimals attached to an invisible body of knowledge. (Synonym: content analysis)

Task Analysis

A technique to determine specific components of a job. It specifies in precise detail the skills, knowledge, tools, conditions and requirements needed to perform the job optimally. (Synonyms: behavioural analysis, functional job analysis)

Taxonomy of Performance

The Taxonomy of Performance is used to specify optimal and actual performance. Visualised in the form of a triangle, it lays out five tiers of performance: understand, operate, troubleshoot, improve and invent.

Training

The process of acquiring and improving the skills, knowledge, attitudes and abilities for the performance of mission- and job-related tasks. (Synonym: instruction)

Training Needs Assessment

Training Needs Assessment is the systematic study of a performance problem or innovation, in order to make effective decisions or recommendations about what should happen next. Sometimes that recommendation involves training; sometimes not. (Synonyms: front-end analysis, performance analysis, training needs analysis, pre-training analysis)

Chapter 8. Cost-Benefit Analysis

What?

Cost-Benefit Analysis (CBA) is a tool used in public decision-making and consists of a set of procedures for defining and comparing benefits and costs. The tool assists in identifying, measuring and valuing in monetary terms the benefits and costs of a project⁶. Although CBA adopts principles similar to investment appraisal in private businesses, it is associated with interventions and projects in the public sector.

CBA as applied in public decision-making typically takes the perspective of the society and is often referred to as the *economic* analysis or the economic CBA. This analysis is often complemented by a *financial* analysis of the project. The financial analysis compares the costs and benefits from the perspective of the project organisation or a specific target group. If the CBA is extended to include aspects of income distribution, one speaks of *social CBA*.

CBA is one element in the overall appraisal (including technical, social, environmental, legal and institutional issues) of a project. CBA contributes to narrowing the margin for pure judgement in the decision-making on proposed projects. The output of a CBA might be a recommendation on the acceptance or rejection of a project, or the identification of bad project components, which could lead to adjustments in the project design.

Why?

The most straightforward justification for a CBA is that knowledge about costs and benefits is useful in making decisions. Anyone investing scarce resources in a project wants to know whether the project is worthwhile and whether it is the best alternative. Consequently, CBA is a way of thinking that anyone involved in decision-making might adopt without actually knowing the technicalities.

CBA forces anyone involved in the decision-making to analyse the impacts of a project in a systematic way. The application of a systematic CBA might prove that projects appearing attractive at first sight would fail to produce net benefits.

⁶ The word 'project' is used throughout this chapter. The principles of CBA are applied equally to capital investments, programmes and policies.

Public agencies and development organisations will be particularly concerned with the question of whether a proposed project is a good investment in terms of its contribution to the welfare of society. CBA is an instrument that will assist in answering this question.

In addition, public agencies are interested in the financial effects of their projects in order to determine whether they are making efficient use of their budgets. Financing agencies want to know if a project gives sufficient return to service the future debt of the implementing organisation. Net income effects on certain target groups might be analysed to assess how certain target groups are affected by the project. These issues are often addressed in close connection with and complementary to a CBA.

Field of application

CBA is applied for appraising public investment and projects with societal impacts. In the World Bank, the Asian Development Bank and other regional development banks, the use of CBA as part of pre-feasibility and feasibility studies is fully institutionalised. Also the European Commission and some bilateral agencies require the application of CBA for the appraisal of project proposals. Although CBA as an appraisal tool is applicable to any project irrespective of the source of finance (e.g. loan, grant, taxes), in practice CBA is rarely conducted for technical assistance projects financed through grants.

In box 8.1 an overview of the historical background of Cost-Benefit Analysis is presented.

Box 8.1. Historical background Cost-Benefit Analysis

The rationale for CBA is found in the propositions of welfare economics, a branch of economics that deals with the question of whether a policy initiative moves a society in the direction of improved welfare. First attempts to develop and apply CBA more systematically took place in the field of water resource projects in the United States in the 1930s. Since then, the application of CBA has been extended to other areas of public investment.

In the 1960s and 1970s the excitement about the tool among development economists contributed to an increasing use of CBA in project appraisal in developing countries. The recognition that in many developing countries domestic market prices do not accurately reflect the social benefits and costs of an investment led to the development of new methodologies on shadow pricing. Further refinements to incorporate the notion that a project has different welfare impacts on different societal groups led to the rise of social CBA.

In the 1990s the technique received increased attention against the background of the importance given to the environment and sustainable development. In the context of environmental valuation, CBA is often the framework within which the environmental effects are measured and valued alongside conventional costs and benefits. Attempts to quantify and encompass all aspects in monetary terms diminished the credibility of the tool.

Although CBA is a routinely applied tool in decision-making on public projects and its function in project appraisal is unquestionable, the relative importance of CBA in decision-making has diminished somewhat over the years in relation to other types of appraisal (institutional, social, environmental).

Description

CBA as applied in public decision-making makes use of a number of principles of private investment appraisal and extends these principles to evaluating the benefits and costs of the project for the society at large⁷.

These public projects are often simultaneously analysed from the point of view of the local, provincial or national treasury, as well as from the perspective of specific target groups (financial CBA). The following key elements of CBA will be described:

- Scope of CBA
- Incremental analysis
- Economic and financial CBA
- Time value of money
- Indicators of profitability
- Assumptions

Scope of CBA

CBA is typically a tool for project appraisal. This implies that the scope, including the time horizon and the physical boundary of the project, needs to be defined clearly. A proposed project may comprise a number of activities. The appraisal should focus on the complete set of activities only when these activities are interrelated and need to be implemented simultaneously to achieve the overall project objective. If independent activities are proposed, these should be appraised separately.

Part of the scope of the project refers also to the *time horizon*, the period for which effects are estimated. The time horizon depends on the nature of the project and the perspective from which the analysis is undertaken. The economic life of the investment will in the first instance be decisive in setting the time horizon of the project. If major effects are expected beyond the economic lifetime of the project, the time horizon must be extended to include these effects.

Finally the scope refers to the extent of the effects. The extent of the appraisal is very clear when the internal benefits and costs of a project are to be assessed. If the benefits accrue to the project organisation or if the costs are borne by the project organisation, they enter into the analysis. The boundaries become less crisp and become a matter of judgement when external effects have to be determined in the economic CBA. In principle CBA should be limited to the direct costs and benefits of the project.

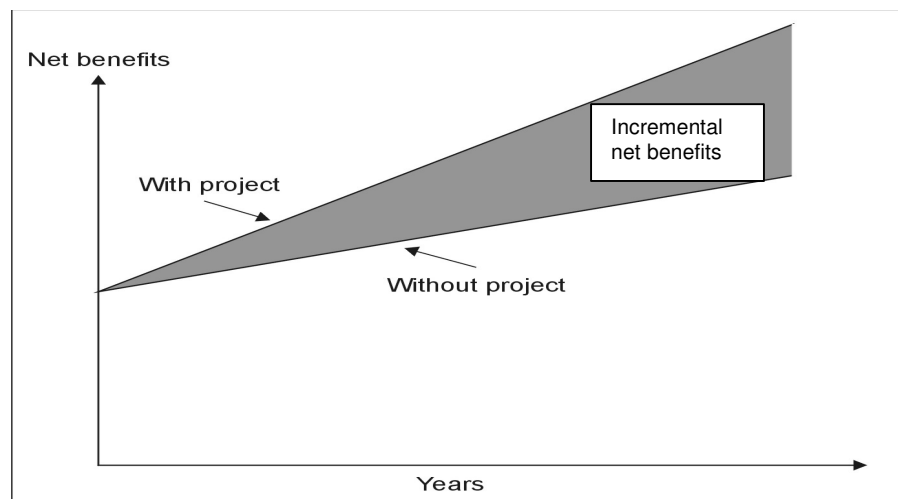
⁷ Although the analysis is most often conducted before a decision has to be made (*ex-ante*), CBA can also be applied in evaluating the performance after the completion of a project (*ex-post*).

Incremental analysis

A CBA is conducted on the basis of *incremental analysis*, which means that the analysis focuses on the differences between the situation *with* and the situation *without* the project (figure 8.1). Costs and benefits in CBA are understood to be the incremental costs and benefits. It is therefore crucial to analyse the situation of what would have happened without the project, as this situation is not necessarily static. This 'with-without' comparison differs from the 'before-after' comparison, as the latter fails to account for changes that would occur without the project.

The 'with-without' principle also implies that, in the appraisal of project extensions for example, costs already made in an earlier phase of the project are irrelevant, as these costs are the same in the 'with situation' (extension) and in the 'without situation' (no extension). These costs are usually referred to as 'sunk costs'.

Figure 8.1. Incremental analysis (Adapted from World Bank, 1997)



Economic and financial CBA

In public decision-making CBA adopts a wider societal perspective in order to determine whether the project contributes to the economic welfare of a region or nation. This analysis is called an *economic* CBA or economic appraisal.

Projects are often simultaneously analysed in terms of the costs and benefits for the local, provincial or national treasury and/or from the perspective of specific target groups. This analysis is called the *financial* CBA or financial appraisal.

As economic and financial CBA assume different perspectives, both analyses take different types of effects into account and value costs and benefits differently.

1. Effects

Some cash inflows and outflows that might be relevant for a private entity do not have a net effect on the resources generated for the entire society. Certain project effects might not involve a cash outflow or cash inflow for the project, but do have a wider impact on the society. This difference is expressed in the treatment of *transfers* and *external effects* respectively.

Transfers are changes in ownership of money without resource use or resource production. Examples of transfers are direct taxes and subsidies. Transfers should be taken into account in the financial CBA but not in the economic CBA. Taxes and subsidies directly affect private profitability but do not affect the national welfare as nobody gets richer or poorer, nor are scarce resources used.

External effects are favourable or detrimental changes to society that are attributable to the project but for which the project does not receive or pay financial compensation. An example of a positive external effect is training. Examples of negative external effects include water and air pollution. External effects do not affect private profitability but do affect the societal welfare. Accordingly external effects appear in the economic CBA but are not taken into account in a financial CBA.

2. Valuation

Another difference between economic and financial analysis is given in the valuation of the benefits and costs. CBA requires that, as far as possible, all the effects are valued in monetary terms. In its most straightforward application, CBA uses market prices to value the identified effects of the project. This is always the case in a financial CBA.

Economic CBA makes use of so-called *accounting* or *shadow prices* if the market prices of inputs and outputs appear to be distorted (i.e. if the market prices do not reflect the 'true' value to society). These accounting prices show the value of the inputs and outputs that would result if distortions were removed. Examples of common price distortions are overvalued exchange rates; too high prices due to monopolies, price controls or protection; overpriced labour; and subsidised interest rates.

The determination of shadow prices is the most complex and sometimes also the most controversial element of an economic CBA. Shadow prices on the key parameters can be obtained from several sources (national treasury, the World Bank or other aid agencies, previous studies). Appraisal missions themselves rarely determine the shadow prices.

If the output or input of the project is not marketed (e.g. subsistence goods, environmental goods), a price can still be put if an actual market exists for a close substitute. Valuation becomes more difficult if there are no close substitutes. In that case methods are available to measure the value in an

alternative way. Particularly in the case of environmental goods and services, an extensive literature and a vast number of cases exist on how to put a monetary value on these resources (Dixon et al., 1995). If certain effects cannot be valued, however, it will not be possible to conduct a comprehensive CBA. Then non-monetised effects can only be described and indicated in a qualitative way and the final result of the CBA should be considered only as a partial indicator of the economic efficiency.

Table 8.1 summarises the main differences between economic CBA and financial CBA.

Table 8.1. Comparison of economic and financial CBA.

	Economic CBA	Financial CBA
<i>Point of view</i>	Society	Private
<i>Objective</i>	Maximise national income	Maximise private profitability
<i>Effects</i>		
• Transfers	Not taken into account	Included
• External effects	Included	Not taken into account
<i>Valuation</i>		
• General	Accounting or shadow prices	Domestic market prices
• Foreign currency	Shadow exchange rate	Official exchange rate
• Labour	Shadow wage rate	Market wage rate
• Rate of discount	Accounting rate of interest	Market interest rate

Time value of money

Whatever the time horizon of a project, the costs and benefits of a project occur at different moments and often vary from year to year. Typically most of the costs are made in the first years of the project, whereas benefits will occur after investment has taken place and might increase over time.

Generally, future costs and benefits weigh less in the decision than those occurring nearer the present time, as people prefer to receive benefits sooner rather than later. This time preference can be explained by inflation, risk, consumption preferences and alternative investment opportunities. Inflation can be accounted for by calculating with constant prices. Risk can be dealt with by applying a risk analysis and is usually treated separately in a CBA. But even when inflation and risk are accounted for, a dollar reinvested now will be worth more after a number of years. To reflect the preference for resources today rather than tomorrow (i.e. the time value of money), the technique of *discounting* is applied in CBA.

Discounting makes costs and benefits that occur at different moments in time comparable by calculating the *present value* of the future costs and benefits. In discounting, use is made of a *discount rate*, an interest rate that reflects the *opportunity costs* of capital invested in the project. These costs comprise the benefits forgone if the money could have been invested in a better alternative. This alternative is usually represented by the long-term interest rate on the capital market. This interest rate plays a crucial role in the economic and financial appraisal. In financial CBA the market rate of interest reflects the opportunity costs in financial terms, for example the interest on a loan or

a deposit account. In an economic CBA an economic rate of account or accounting rate of interest is applied as the discount rate. This rate shows the opportunity costs to the country investing in the project. In World Bank projects a discount rate of 10 to 12% is usually applied. Given the discount rate, a *discount factor* can be calculated for each future year by the formula given in box 8.2.

Box 8.2. Discounting formula

$$\text{Discount factor} = 1 / (1 + i)^t$$

where i = discount rate in decimals (0.10 for rate of 10%)
 t = the future year

$$\text{Present Value (PV)} = \text{Future Value (t)} * \text{Discount Factor (t)}$$

If the benefits and costs of the future year are multiplied by the discount factor for the same year, the present value is obtained (box 8.2). This present value can be compared with costs and benefits of another future year discounted at the discount factor for that particular year (example in box 8.3).

Box 8.3. Example discounting

One person has the choice between receiving \$100 today or \$130 three years from now. The interest rate is 10%.

If the \$100 is put in the bank at an annual 10% interest rate, the person would obtain:

after 1 year $\$100 * 1.10 = \110

after 2 years $\$110 * 1.10 = \121

after 3 years $\$121 * 1.10 = \133.1

So after three years the \$100 of today is worth more than \$130 received three years from now.

In CBA the reasoning is usually the other way around. To make the two amounts comparable, one obtains the *present value* of the future amount through discounting.

$$\begin{aligned} \text{Discount factor} &= 1 / (1 + 0.10)^3 \\ &= 1 / (1.331) \\ &= 0.7513 \end{aligned}$$

$$\begin{aligned} \text{Present value} &= \$130 * 0.7513 \\ &= \$97.669 \end{aligned}$$

So the present value of the amount three years from now equals \$ 97.67, which is lower than the \$100 that can be received today. So we arrive at the same conclusion, namely that the \$100 today is to be preferred over the \$130 three years from now.

Indicators of profitability

To determine the feasibility of a project the following profitability indicators can be calculated:

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Benefit-Cost Ratio (BCR)
- Net benefit-investment ratio (N/K ratio)

The indicators can be calculated for the economic and for the financial CBA.

Net Present Value (NPV)

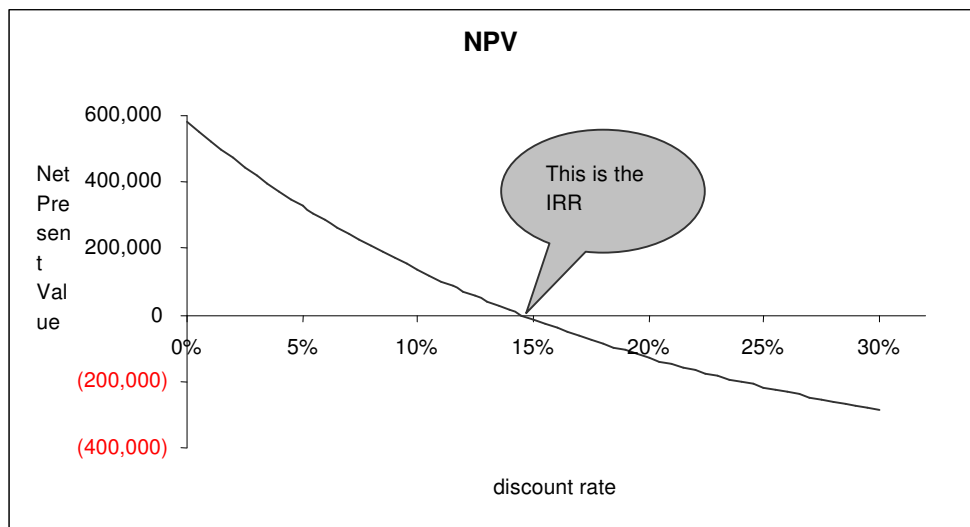
The NPV is in fact the most straightforward profitability indicator. It gives the sum of the present value of all the benefits and costs of a project. If the NPV is positive, the project is acceptable from a CBA point of view.

Internal Rate of Return (IRR)

The IRR is perhaps the most popular profitability indicator. Its meaning and calculation can best be understood in relation to the NPV. The NPV is the sum of the discounted net incremental benefits at a prevailing discount rate. For a typical investment project⁸, a higher discount rate leads to a lower value of the NPV and *vice-versa*. So there will exist one interest rate at which the value of NPV equals zero⁹, or an interest rate at which the project is just profitable. The interest rate at which the project is just profitable is called the IRR (see figure 8.2). If the IRR exceeds the prevailing interest rate, the project is profitable.

The IRR can be interpreted as the rate of return on the resources used up in the project – to be compared with the opportunity cost of investment funds, which is the prevailing rate of interest. If the IRR exceeds the prevailing interest rate, the project generates sufficient income to fulfil its debt service obligations.

Figure 8.2. NPV at various discount rates. (Source: data from box 8.5, financial CBA)



Benefit-Cost Ratio (BCR)

Whereas the NPV is the difference between all discounted benefits and costs, the BCR is the ratio of all discounted benefits and costs. Where the NPV should be positive for a project to be accepted, the BCR should exceed 1. The BCR is rarely used because different classifications of costs lead to different outcomes.

⁸ A project with negative cash flows in the first year(s) and positive cash flows in its remaining life-time.

⁹ Some projects show cash flow patterns where positive and negative cash flows alternate. In these cases the solution for the IRR is not unique and might have more than one rate.

Net benefit investment ratio (N/K ratio)

The net benefit-investment ratio gives more consistent results than the BCR as a clear distinction is being made between investment costs and costs made after the investment. The N/K ratio gives the ratio of the present value of the net benefits and the investment at a prevailing discount rate. Net benefits are given by the net incremental benefits in the years where the net incremental benefits are positive, whereas the investment is given by the incremental net benefits in those years that the net incremental benefits are negative.

Calculation and interpretation of the profitability indicators

In the past, discounting tables were used to calculate the profitability indicators. In particular the manual calculation of the IRR is quite cumbersome, as it is based on trial and error. Nowadays the indicators can be computed instantaneously by any spreadsheet software or advanced calculator. The formulae of the various indicators are given in box 8.4.

The criteria that apply to each of the indicators for accepting or rejecting a project are given in table 8.2.

Table 8.2. CBA decision criteria

Indicator	Decision	
	Accept	Reject
NPV	$NPV > 0$	$NPV < 0$
IRR	$IRR > \text{discount rate}$	$IRR < \text{discount rate}$
BCR	$BCR > 1$	$BCR < 1$
N/K ratio	$N/K > 1$	$N/K < 1$

Application of profitability indicators for one single project

All four criteria give exactly the same answer on the acceptability of a project. So any of the indicators can be used to appraise one single project. The choice of indicator will usually depend on the custom of the appraising agency.

The IRR is very popular because it is an indicator that allows comparison with investment in the private sector. A practical advantage of the IRR is that it does not require an exact determination of the discount rate beforehand. Determination of a range of the discount rate might be sufficient when the obtained IRR falls clearly outside this range.

Application of profitability indicators for multiple projects

In the case of mutually exclusive projects the only correct indicator to use is the NPV, because the NPV is an *absolute* profitability indicator whereas the other three are *relative* indicators.

The only profitability indicator that allows the ranking of independent projects in terms of economic and financial criteria is the N/K ratio.

Box 8.4. Mathematical formulations of indicators of profitability

Net present value (NPV)	$\sum_{t=1}^{t=n} \frac{B_t - C_t}{(1+i)^t}$
Internal rate of return (IRR) The discount rate i such that:	$\sum_{t=1}^{t=n} \frac{B_t - C_t}{(1+i)^t} = 0$
Benefit-cost ratio (BCR)	$\frac{\sum_{t=1}^{t=n} \frac{B_t}{(1+i)^t}}{\sum_{t=1}^{t=n} \frac{C_t}{(1+i)^t}}$
Net benefit-investment (N/K) ratio	$\frac{\sum_{t=1}^{t=n} \frac{N_t}{(1+i)^t}}{\sum_{t=1}^{t=n} \frac{K_t}{(1+i)^t}}$
In the four mathematical formulations,	
B_t	= benefit in each year
C_t	= cost in each year
N_t	= incremental net benefit in each year after stream has turned positive
K_t	= incremental net benefit in initial years when stream is negative
t	= 1, 2, ..., n
n	= number in years
i	= interest (discount) rate

Assumptions

Any CBA is based on uncertain future events and inexact data and hence on a number of assumptions. The presentation and discussion of CBA outcomes should be based not only on criteria such as NPV or IRR, but also on the soundness and robustness of the underlying assumptions.

One way to support this discussion is to perform a *sensitivity analysis* to show the dependency of the outcome on critical assumptions regarding costs and benefits (including prices and timing of costs and benefits). One could determine the NPV for different assumptions on costs and benefits and/or the *switching values* for specific parameters. The latter are the values of specific cost or benefit parameters at which the project switches from a positive NPV to a negative NPV.

An example of a Cost-Benefit Analysis, including an economic and financial CBA, for a hypothetical irrigation project is presented in box 8.5.

Box 8.5. Example of a Cost-Benefit Analysis for a hypothetical irrigation project.

Cost-Benefit Analysis of a hypothetical irrigation project

The project has the following characteristics:

- The main objective of the project is to increase crop production.
- Investment cost of the irrigation scheme is 1,500,000 ps.
- Recurrent costs in the form of operation and maintenance will amount to 20,000 ps per year.
- Area is 1,000 ha.
- Present production is 3 ton/ha.
- After establishment of the irrigation scheme agricultural production will be 5 ton/ha.
- The market price is 300 ps/ton.
- Variable agricultural production costs are 60 ps/ton.
- Farmers get 30 ps subsidy per ton of rice.
- Because of diversion of water flows, fishery activity will decrease and income for fishermen will be 50,000 ps per year lower as compared with the situation without the scheme.
- Discount rate is 10%.
- Time period to be considered is 5 years.
- No price distortions are assumed.

Main benefit and cost components

- Agricultural production with the project = 1,000 ha.*5 ton/ha = 5,000 ton.
- Agricultural production without the project = 1,000 ha.*3 ton/ha = 3,000 ton.
- Increased agricultural production = 2,000 ton.
- Value increased agricultural production = 2,000 * (300 ps – 60 ps) = 480,000 ps.
- The relevant cost components are the investment, the recurrent costs, the lost fisheries income.
- The relevant benefit items are the increased agricultural production and the subsidies.

ECONOMIC CBA

Perspective of the society is taken. This implies that subsidies are excluded but the negative external effect in terms of lost fisheries income (20,000 per year) is taken into account. This example assumes that market prices equal the shadow prices.

	1	2	3	4	5
Costs					
Investment	1,500,000				
Recurrent costs		20,000	20,000	20,000	20,000
Loss of fisheries income		20,000	20,000	20,000	20,000
Total Costs	1,500,000	40,000	40,000	40,000	40,000
Total discounted costs at 10%	1,363,636	33,058	30,053	27,321	24,837
Benefits					
Increased agricultural production		480,000	480,000	480,000	480,000
Subsidies					
Total Benefits	-	480,000	480,000	480,000	480,000
Total discounted benefits at 10%	-	396,694	360,631	327,846	298,042
Incremental Net Benefits	(1,500,000)	440,000	440,000	440,000	440,000
Discounted Incr.Net Ben. At 10%	(1,363,636)	363,636	330,579	300,526	273,205
Total discounted benefits	1,383,214				
Total discounted costs	1,478,904				
NPV	(95,690)				
IRR	6.7%				
BCR	0.94				
N/K ratio	0.93				

All indicators of profitability lead to the same conclusion: the project is not economically feasible (NPV<0, IRR<10%, BCR<1, and N/K ratio<1).

FINANCIAL CBA

Perspective of the farmers is taken. This implies that subsidies (totalling $1,000 \times 2 \times 30 = 60,000$ per year) are included but the external effect is not taken into account.

	1	2	3	4	5
Costs					
Investment	1,500,000				
Recurrent costs		20,000	20,000	20,000	20,000
Loss of fisheries income					
Total Costs	1,500,000	20,000	20,000	20,000	20,000
Total discounted costs at 10%	1,363,636	16,529	15,026	13,660	12,418
Benefits					
Increased agricultural production		480,000	480,000	480,000	480,000
Subsidies		60,000	60,000	60,000	60,000
Total Benefits	-	540,000	540,000	540,000	540,000
Total discounted benefits at 10%	-	446,281	405,710	368,827	335,298
Incremental Net Benefits	(1,500,000)	520,000	520,000	520,000	520,000
Discounted Incr. Net Ben. At 10%	(1,363,636)	429,752	390,684	355,167	322,879
Total discounted benefits	1,556,116				
Total discounted costs	1,421,270				
NPV	134,845				
IRR	14.5%				
BCR	1.09				
N/K ratio	1.10				

All indicators of profitability lead to the same conclusion: the project is financially feasible ($NPV > 0$, $IRR > 10\%$, $BCR > 1$, and $N/K \text{ ratio} > 1$).

CONCLUSION

This case is an example of a project that is financially sound (financial CBA yields a positive NPV) but economically unjustifiable (economic CBA yields a negative NPV). The conflicting outcome is because the project benefits from financial support in terms of subsidies and because the project causes negative externalities.

It is preferable that public money and/or donors do not support such projects. Besides, the project might be profitable enough for the private sector itself.

Finally, sensitivity analysis is conducted to show the dependency of the outcome on certain assumptions. Two important assumptions on which the analysis is based are the increased agricultural production and the market price. Switching values of these variables are calculated to check at which value the **financial NPV** becomes zero.

Switching values are:

- Increased agricultural production: 1.825 instead of 2 ton/ha, i.e. 60% instead of 66% productivity increase
- Market price: 276.5 instead of 300 ps/ton, i.e. an 8% lower market price.

Operating the instrument

In general terms the following steps are to be followed in both economic CBA and financial CBA. As the perspective differs, however, economic and financial CBA take different types of effects into account (step 2), and might use different prices in the valuation of benefits and costs (step 3) or apply a different discount rate (step 4).

Step 1. Definition of the scope of the project

- Identify the activities that are needed to achieve the project activities.
- Define the *time horizon*.
- Define the *physical boundary*.
- Specify the perspective from which the CBA is undertaken (economic, financial).

Step 2. Identification and measurement of the costs and benefits

- Identify only project-specific effects (i.e. the incremental costs and benefits).
- Estimate only the non-financial cash flows (investments, recurrent costs and revenues).
- The financial cash flows (loan amount, interest and repayments) should be excluded as the profitability of the project should be analysed independently of the way it is financed (an exception applies to tight loans).
- Take transfers into account in the financial CBA but not in the economic CBA.
- Consider external effects in the economic CBA but not in the financial CBA.

Step 3. Putting monetary values on costs and benefits

- Conduct the financial CBA in the currency of the country undertaking the project.
- Conduct the economic CBA in either domestic or foreign currency and at domestic or border price levels.
- Base all non-financial cash flows on market prices in the first instance.
- In the case of overvaluation, which makes traded goods cheaper than non-traded goods, make a distinction between traded and non-traded inputs (only in the economic CBA).
- Determine and apply shadow prices if market prices of inputs, outputs and/or factors of production are seriously distorted (only in the economic CBA).
- Use constant prices in CBA. Only if the prices of some goods are expected to increase relatively faster than others do relative price changes have to be accounted for.
- Specify the effects that can be monetised and those for which only qualitative or quantitative information can be collected.

Step 4. Comparison of costs and benefits

- Organise all costs and benefits on an annual basis over the life-time of the project.
- Decide if the investment occurs at the beginning or end of the first period.
- Select a proper discount rate (in financial CBA, the market rate of interest; in economic CBA, the accounting rate of interest).
- Discount costs and benefits to their present value to make them comparable over time.

Step 5. Calculation of indicators of profitability

- Calculate indicators of profitability (IRR, NPV, BCR or N/K ratio).
- Apply the proper decision criteria (see table 8.2) to reach a conclusion on the profitability of the project.

Step 6. Uncertainty, assumptions and sensitivity analysis

- Identify the elements that are most uncertain or risky.
- Specify all the assumptions made during the analysis.
- Specify the remaining gaps in knowledge.
- Apply sensitivity analysis to relevant parameters in order to obtain an indication of the robustness of the assumptions made. These parameters could include costs, benefits, prices and the timing of costs and benefits.
- Calculate the switching values on the most relevant parameters.

Step 7. Final recommendations

- Formulate a final recommendation based on the results of the economic and financial CBA.
- An unambiguous conclusion on the profitability of a project is formulated if the economic and financial CBA have the same result (e.g. economic and financial NPV are both positive or both negative).
- If a project is economically unfeasible but financially sound, the project should not be supported on economic grounds but might be attractive for the private sector to implement.
- If the project is economically sound but financially unfeasible, a solution might have to be recommended for the weak financial basis that might prove a risk to the sustainability of the project.
- Structure the recommendation within a context by making special reference to the effects that could not be monetised, to the assumptions, and to the uncertainty and gaps in knowledge.

Strengths

- A systematic analysis of the benefits and costs.
- Focus on the rational use of scarce resources.
- Scientific rigour and a strong methodological basis.
- Plausible and widely used in decision-making.

- Contains a number of key issues that are also relevant as a way of thinking in decision-making, going beyond the technicalities of the tool.
- Outcome gives a direct indication as to the (economic and financial) feasibility of any single project alternative.
- Common measurement in monetary terms allows the comparison of alternatives.

Limitations

- Many benefits and costs (e.g. social, environmental, institutional) cannot be quantified and/or monetised, which gives disproportional weight to the impacts measurable in monetary terms.
- Efficiency is the single criterion being assessed. The role of CBA is limited if non-efficiency criteria are considered more important.
- Distribution of costs and benefits is not dealt with directly.
- CBA stresses the importance of obtaining quick project results.
- A great number of assumptions and value judgements are involved. The one single sum measure might appear to be very precise, objective and scientific. However, any project can be manipulated by adjusting assumptions and shown to be feasible.
- Assumptions and value judgements might not be so obvious or transparent to the layman.
- Disillusion with CBA occurs where CBA is used simply to justify politically motivated decisions.

Requirements

Skills

- A comprehensive CBA is a multidisciplinary exercise. Technical skills and specialised knowledge from relevant disciplines are crucial for the identification and measurement of the typical sectoral impacts expected over the lifetime of the project.
- A background in financial accounting and economic analysis is fundamental to the proper valuation of the costs and benefits of the project. Budgeting skills will be needed in the identification of the financial cash flows, whereas substantial understanding of economics is essential in the determination and proper application of shadow prices in the case of distorted market prices of the various items.
- CBA requires a great deal of technical and economic data.

Time

- The time and level of effort required to conduct a CBA depend on the size of the project, the phase of decision-making, the types of effects, and the quality and availability of data.
- A CBA can be carried out for small projects or projects in an early phase of decision-making in a relatively short time.
- Million-dollar projects require careful analysis, which may take anything from several weeks to several months.

Related instruments

Cash-Flow Analysis – Whereas CBA is concerned with the profitability of a project, Cash-Flow Analysis deals with issues such as liquidity, financial planning and cost recovery.

Cost-Effectiveness Analysis – CEA has most of the features of CBA, but does not require the monetisation of either the benefits or the costs (usually the benefits). CEA does not show whether the benefits outweigh the costs, but shows which alternative has the lowest costs (with the same level of benefits).

Multi-Criteria Evaluation – MCE is a tool that, in contrast to CBA, allows the treatment of more than one criterion and does not require the monetisation of all the impacts. MCE results in a ranking of alternatives.

The growing importance of environmental and social issues has led to the emergence of instruments such as *Environmental Impact Assessment (EIA)* and *Social Impact Assessment (SIA)*. The output of these instruments could be presented separately or linked to the outcome of a CBA.

Further reading

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Key definitions

Benefit-Cost Ratio (BCR)

The ratio of the present value of the benefits and the present value of the costs for a given discount rate.

Cash flows

Actual costs and revenues over the lifetime of a project.

Constant prices

Prices corrected for inflation. (Synonym: real prices)

Cost-Benefit Analysis (CBA)

A technique to assess the efficiency of a project (i.e. the relation between the benefits and resources used, all expressed in monetary terms). (Synonyms: Benefit-Cost Analysis; economic analysis; financial and economic project appraisal)

Cost-Effectiveness Analysis (CEA)

A technique to assess the effectiveness relative to the costs of different alternatives.

Current prices

Prices not corrected for inflation. (Synonym: nominal prices)

Debt-service

Interest payments and repayments for loans.

Discount factor

The factor that gives the present value of one monetary unit received in a future year for a given discount rate.

Discounting

A technique to account for the decreasing value of resources over time.

Discount rate

The interest rate used to determine present values of future costs and benefits.

Economic CBA

A Cost-Benefit Analysis from the national, societal perspective (i.e. to assess whether the benefits to society justify the use of scarce resources).

External effects

Favourable or detrimental changes to society attributable to the project, for which the project does not receive or pay financial compensation. (Synonym: externalities)

Financial cash flows

Cash flows associated with the financing of the project: loans, interest, repayments and grants; also, in market sectors, equity and dividend.

Financial CBA

A Cost-Benefit Analysis from the private perspective (i.e. to assess whether revenues to private investors justify investments). (Synonym: financial analysis)

Incremental analysis

Analyses the effects 'with' the project in relation to the effects 'without' the project.

Incremental net benefit

Incremental benefits minus the incremental costs.

Interest rate

The costs of borrowing or lending money. Rate used for discounting (i.e. the discount rate). (Synonyms: the cost of capital, the price of money)

Internal Rate of Return (IRR)

The interest rate at which the net present value equals zero.

Net benefit

The benefits (non-financial cash inflows) minus the costs (non-financial cash outflows).

Net benefit-investment ratio (N/K ratio)

The ratio of the present value of the net benefits and the present value of the investment for a given discount rate, where net benefits are given by the net incremental benefits in the years when the net incremental benefits are positive, and the investment is given as the incremental net benefits in those years when the net incremental benefits are negative.

Net Present Value (NPV)

The difference between the present value of the benefits and the present value of the costs for a given discount rate. (Synonym: net present worth)

Non-financial cash flows

Costs and revenues over the project lifetime that are associated with the normal operations, thus excluding the cash flows associated with the financing of the project.

Opportunity costs

Benefit forgone by using a scarce resource for one purpose instead of for its next best alternative.

Present Value (PV)

The value of a future amount discounted at a given discount rate. (Synonym: present worth)

Sensitivity analysis

Technique to account for risk and uncertainty by analysing how the outcome changes if assumptions are changed.

Shadow prices

The value used in economic analysis for costs and benefits when the market price is felt to be a poor estimate of the economic value. (Synonym: accounting prices)

Social CBA

An economic CBA adjusted for the equity objective, particularly the distribution of income.

Switching value

The value of a specific parameter at which the project switches from feasible to unfeasible.

Sunk costs

Costs already incurred in an earlier phase of the project. These costs are irrelevant as they are the same in both the 'with situation' (extension) and the 'without situation' (no extension).

Time horizon

The period for which a CBA assesses the benefits and costs of a project.

