National Organization for Potable Water
And Sanitary Drainage
NOPWASD

# THE LOGICAL FRAMEWORK APPROACH

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# What is the Logical Framework Approach?

1. OVERVIEW

LFA is an analytical, presentational and management tool which can help planners and managers:

- Analyse the existing situation during project preparation;
- Establish a logical hierarchy of means by which objectives will be reached;
- Identify some of the potential risks;
- Establish how outputs and outcomes might best be monitored and evaluated; and
- Present a summary of the project in a standard format.

A distinction is usefully made between what is known as the Logical Framework Approach (LFA) and the Logical Framework Matrix. The approach involves problem analysis, stakeholder analysis, developing a hierarchy of objectives and selecting a preferred implementation strategy. The product of this analytical approach is the matrix (the Logframe), which summarises what the project intends to do and how, what the key assumptions are, and how outputs and outcomes will be monitored and evaluated.

# Logframe Matrix Structure

1. OVERVIEW

| Project Description | Indicators | Means of Verification | Assumptions |
|---|---|---|---|
| Goal:<br>The broader development impact to which the project contributes at a national and sector level. | Measures of the extent to which a contribution to the goal has been made. Used during evaluation | Sources of information and methods used to collect and report it | |
| Purpose:<br>The development outcome expected at the end of the project. All components will contribute to this. | Conditions at the end of the project indicating that the purpose has been achieved. Used for project completion and evaluation. | Sources of information and methods used to collect and report it. | Assumptions concerning the purpose/goal linkage |
| Component Objectives:<br>The expected outcome of producing each component's outputs | Measures of the extent to which component objectives have been achieved. Used during review and evaluation. | Sources of information and methods used to collect and report it | Assumptions concerning the component objective/purpose linkage |
| Outputs:<br>The direct measurable results (goods and services) of the project which are largely under project management's control | Measures of the quantity and quality of outputs and the timing of their delivery. Used during monitoring and review. | Sources of information and methods used to collect and report it | Assumptions concerning the output/component objective linkage |
| Activities:<br>The tasks carried out to implement the project and deliver the identified outputs. | Implementation/work program targets. Used during monitoring. | Sources of information and methods used to collect and report it | Assumptions concerning the activity/output linkage |

# When Should LFA be used?

1. OVERVIEW

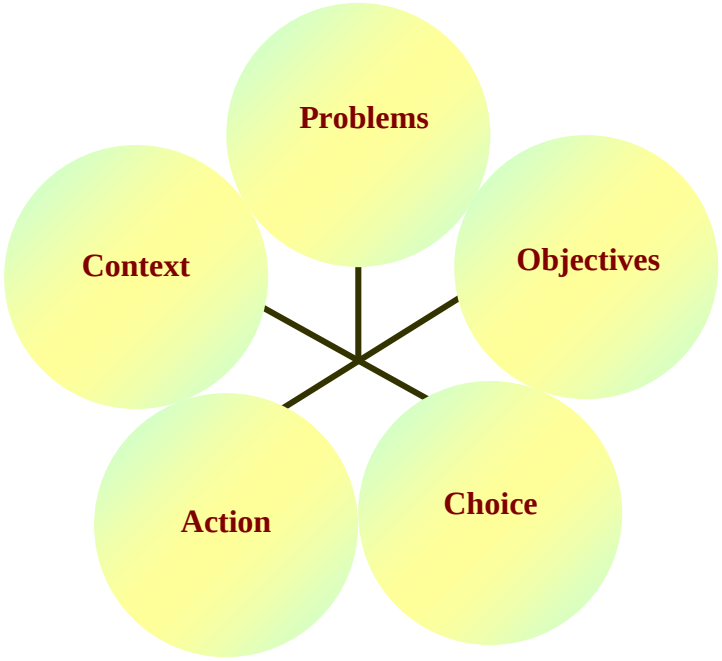
**LFA can be used throughout the activity management cycle in:**

- **Identifying** and assessing activities that fit within the scope of country programs;
- **Preparing** the project design in a systematic and logical way;
- **Appraising** project designs;
- **Implementing** approved projects; and
- **Monitoring and evaluating** project progress and performance.

# The Logical Framework Approach: A Tool for Change

## 1. OVERVIEW

**Focus Areas**

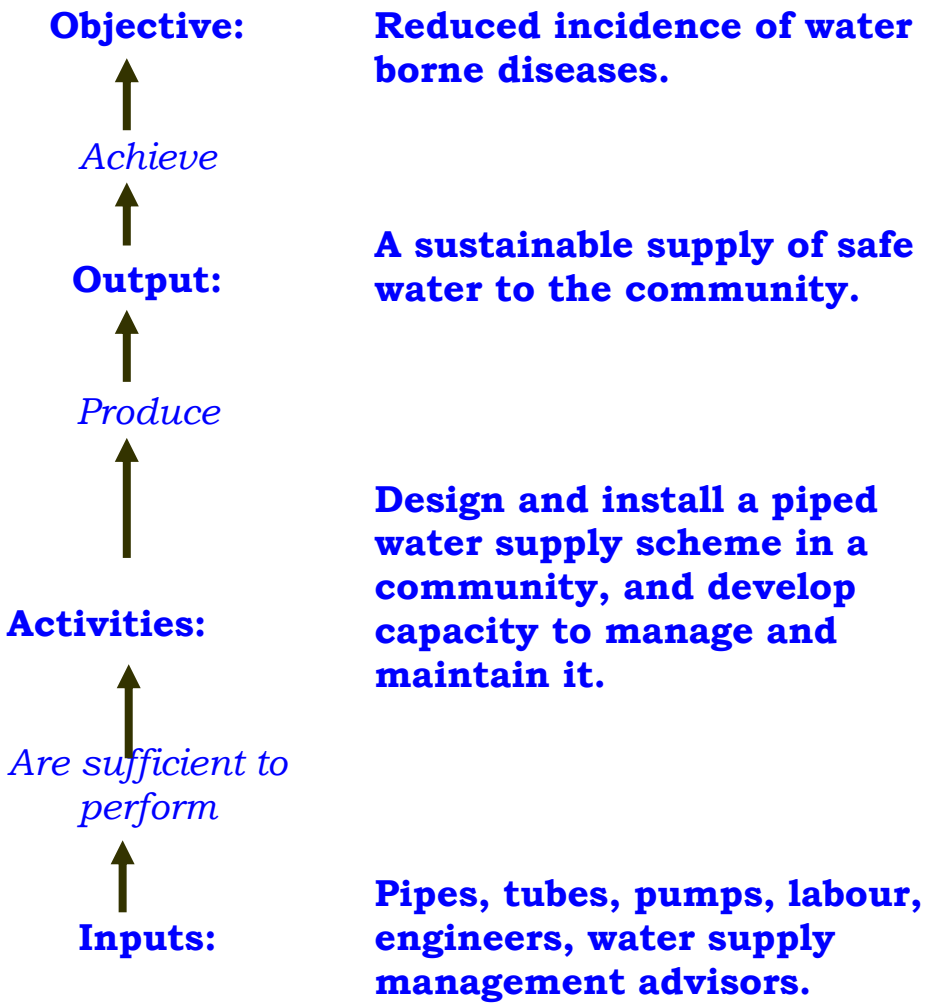



**Overview of Complex Projects**

# Logical Structure of Projects

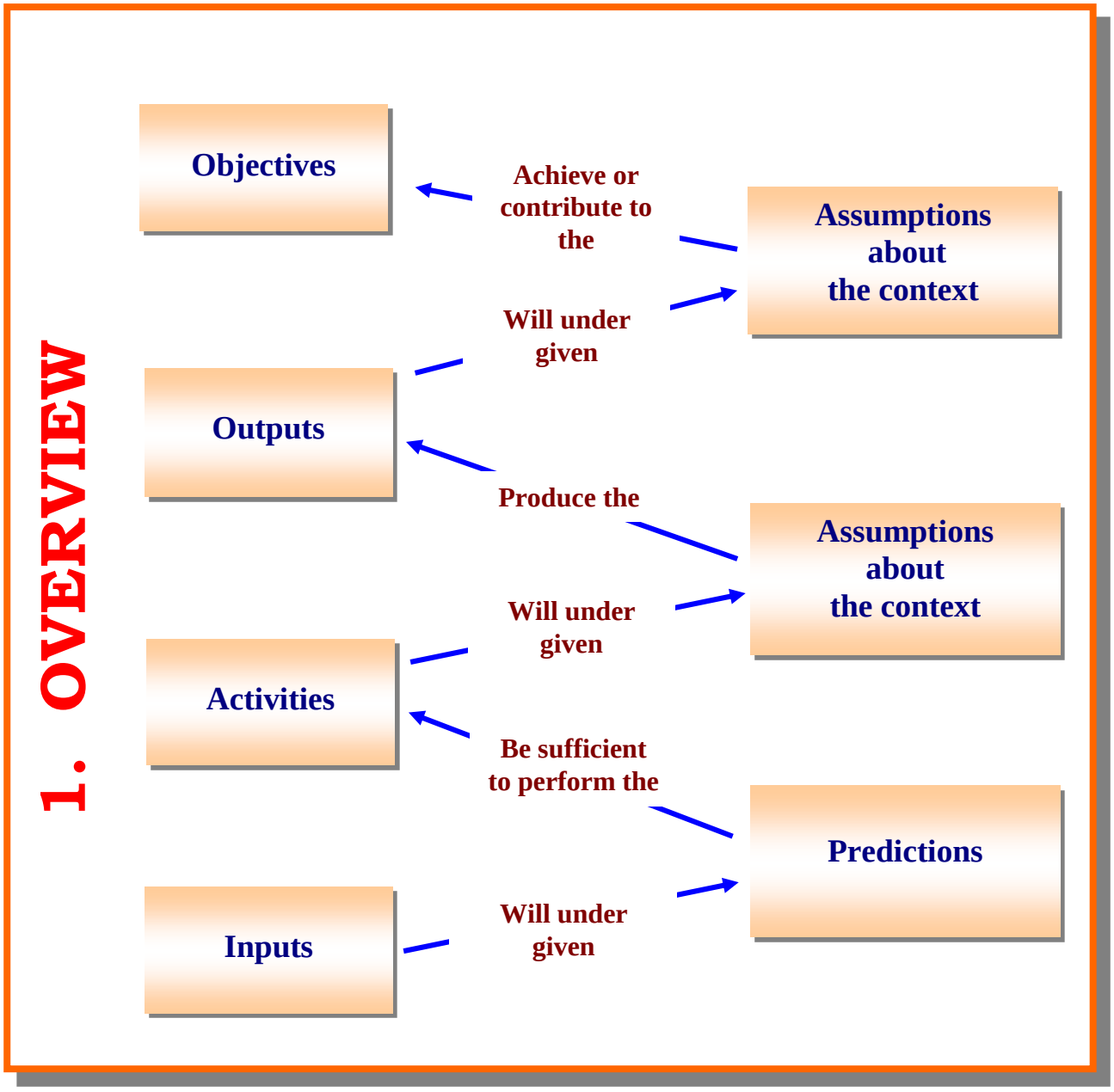
1. OVERVIEW

## Supply of Safe Water

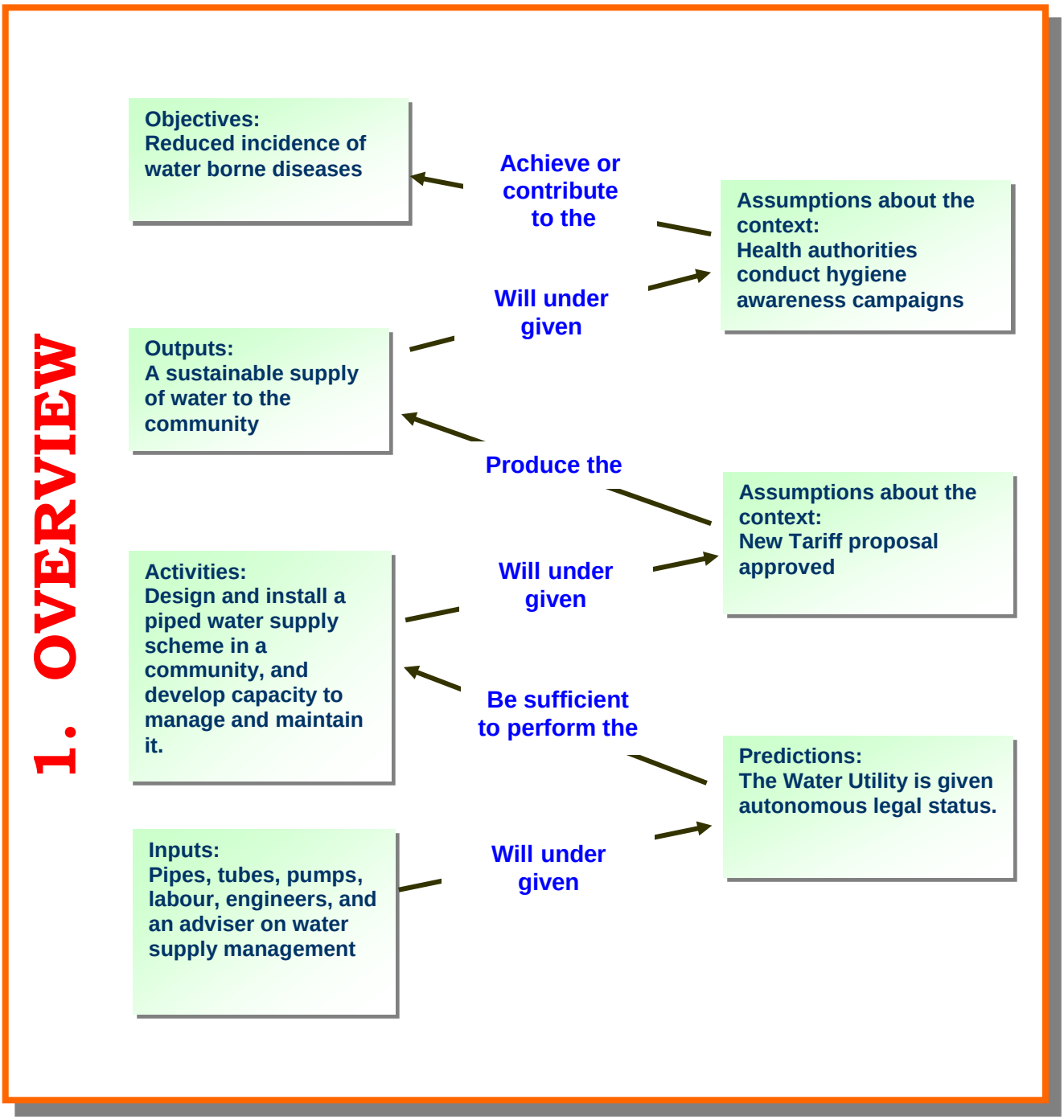



**The logical framework approach is a framework for designing change processes, monitoring progress and evaluating impacts.**

# Logical Structure of Projects



# Ordering the elements of the change process in a logical structure: example



# 2. Analysing the Situation

**Focus on the Context**
**(Stakeholder Analysis)**

**Focus on Problems**
**(Problem Analysis)**

**Focus on Objectives**
**(Objectives Analysis)**

**Focus on Choice**
**(Selection of a preferred Implementation Strategy)**

**Focus on Action**

# Problem Analysis and Problem Tree

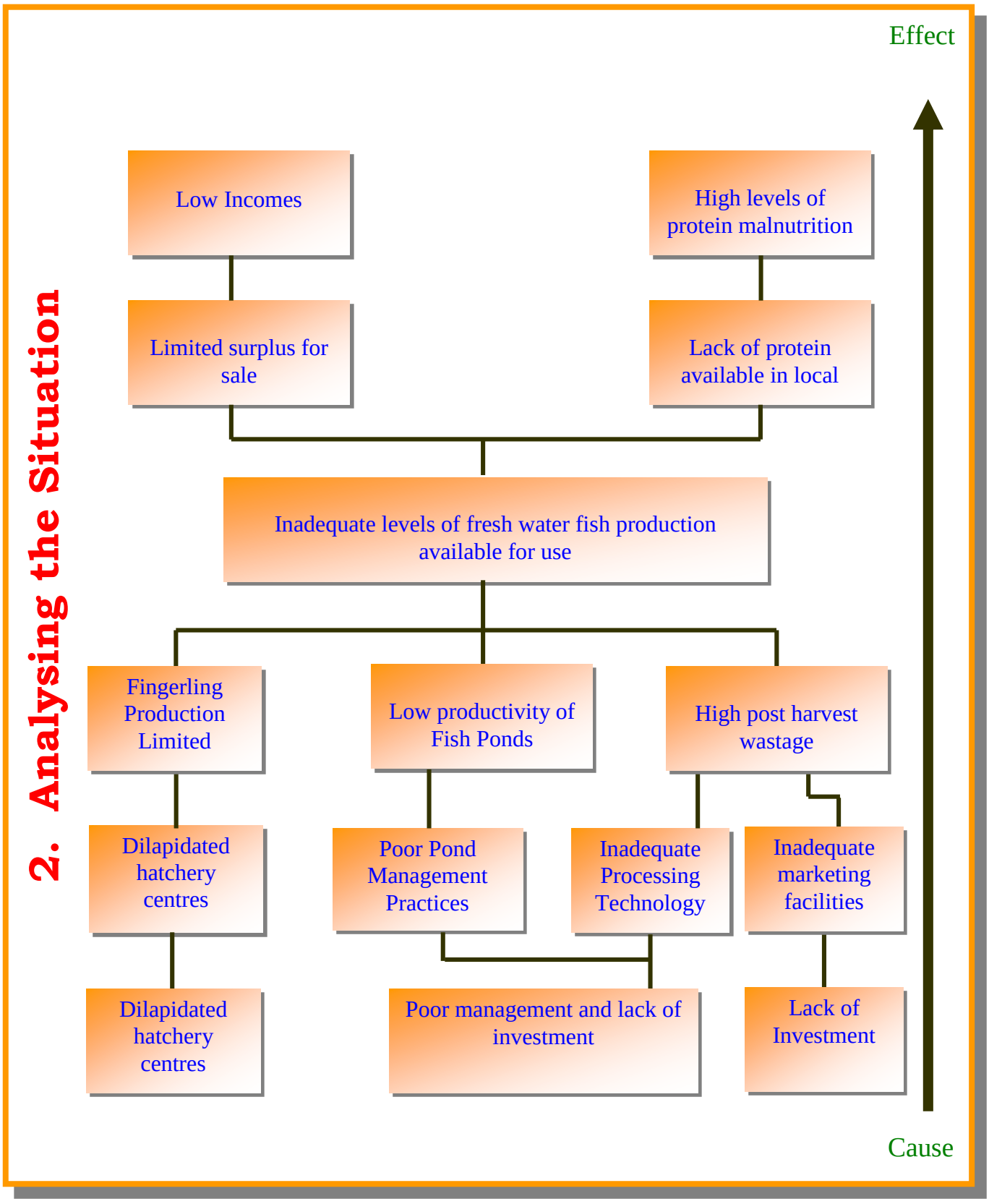
2. Analysing the Situation

**Identifying what are the main problems and establishing the cause and effect relationships between these problems.**

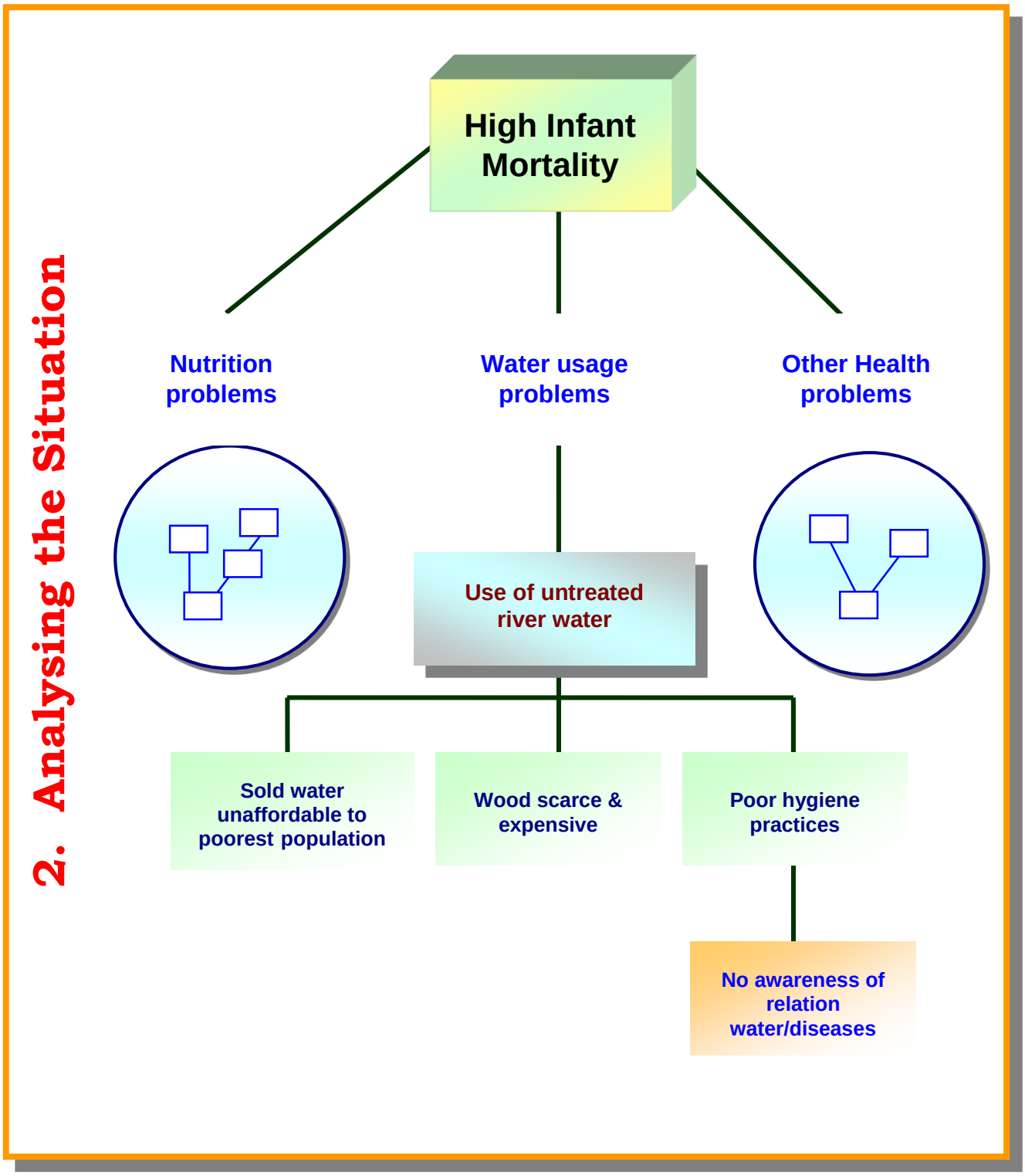
**The problem focus zooms attention in on the situation that we want to address/ or the issues that prevent us from achieving a desired situation. When working with problems we can:**

- **Identify problems and "problem-owners"**
- **Structure problems and relations between them**
- **Develop a shared perception of problems**
- **Develop options for which problems to concentrate on**

# Problem Tree Structure



# Focus on Problems:
# Example: Infant Mortality and Water



# Main Steps in Preparing the Problem Tree:

## 2. Analysing the Situation

1. **Identifying and Listing the Main Problems.**
2. **Identifying Core Problems.**
3. **Identifying Cause and Effect.**
4. **Checking the Logic.**
5. **Drafting the Problem Tree Diagram.**
6. **Dealing with Overall Constraints.**

# Stakeholder Analysis

2. Analysing the Situation

**The main purposes of stakeholder analysis are:**

- **To better address distributional and social impacts of projects, programs and policies; and**
- **Identify existing or potential conflicts, and factor appropriate mitigation strategies into activity design.**

**Stakeholder analysis thus about asking the questions: "Whose problem" and, if a project intervention strategy is proposed: "Who will benefit".**

# Stakeholder Analysis

2. Analysing the Situation

**The main steps in stakeholder analysis include:**

- **Identify the principal stakeholders (these can be various levels, e.g.: local, regional, national);**
- **Investigating their roles, interests, relative power and capacity to participate;**
- **Identifying the extent of cooperation or conflict in the relationship between stakeholders, and**
- **Interpreting the findings of the analysis and defining how this should be incorporated into project design.**

# Focus on the Context

2. Analysing the Situation

**We will depart from and act in a context; it will change over time, it will influence us and we can influence it. Relevant contextual factors are among others;**

- **Stakeholders**
- **Policy concerns that the participants must relate to**
- **Uncertainties and risks**

**Working in the Context Focus serves to set the frame for the project and the options available to us.**

# Stakeholder Analysis Matrix

## 2. Analysing the Situation

### How Affected by the Problem(s)

| Stakeholder | How affected by the problem(s)? | Capacity/motivation to participate in addressing the problem(s) | Relationship with other stakeholder (e.g. partnership or conflict) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### Expected Impacts of Proposed Intervention/Solution

| Stakeholder | Stakeholder's main objectives | Positive impacts/benefits | Negative impacts/costs | Net impact |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# Analysis of Objectives

2. Analysing the Situation

- Objectives trees should be prepared after the problem tree has been completed and initial stakeholder analysis has been undertaken.
- The objective tree uses exactly the same structure as the problem tree, but with the problem statements (negatives) turned into objective statements (positives).
- The results of the stakeholder analysis may have helped to give better focus to priority problems and not all of the original problem statements may therefore need to be translated into objective statements.
- While the problem tree shows the *cause and effect* relation between problems, the objective tree shows the *means – end* relationship between objectives. This leads directly into developing the project's narrative description in the Logical Framework Matrix.

# Stating the Objectives

2. Analysing the Situation

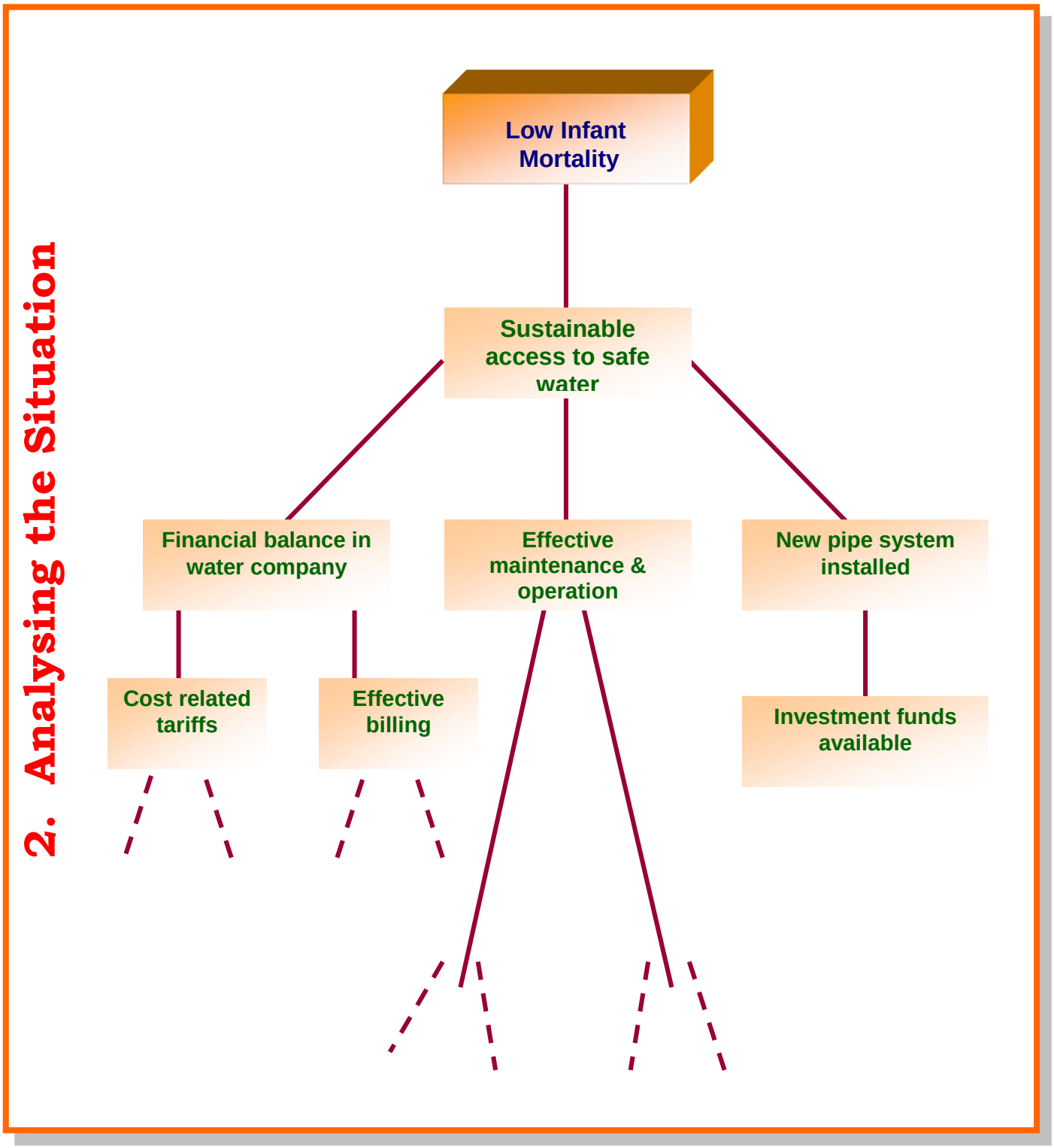
- Once the negative statements from the problem tree have been re-worded to positive statements, you should then check:
- Are the statements clear and unambiguous?
- Are the links between each statement logical and reasonable? (Will the achievement of one help support the attainment of another that is above it in the hierarchy?)
- Is there a need to add any other positive actions and/or statements? More detail may be required.
- Are the positive actions at one level sufficient to lead to the result above?
- Is the overall structure simple and clear? Simplify if possible or necessary

# Focus on the Objectives

2. Analysing the Situation

- The objective focus is future-oriented, clarifying our vision of a desired future situation. When we focus on objectives, we can:
- Identify objectives and "objective-owners"
- Structure objectives and relations between them
- Develop options for what objectives to pursue.

# Focus on Objective:
# Access to Safe Water



# Analysis of Alternative Strategies

2. Analysing the Situation

**The type of questions that might need to be asked (and answered) could include:**

- **Should all of the identified problems and/or objectives be tackled, or a selected few?**
- **What is the combination of interventions that are most likely to bring about the desired results and promote sustainability of benefits?**
- **What are the likely capital and recurrent cost implications of different possible interventions, and what can be realistically afforded?**
- **Which strategy will best support participation by both women and men?**
- **Which strategy will most effectively support institutional strengthening objectives? And**
- **How can negative environmental impacts be best mitigated?**

# Typical Assessment Criteria:

**2. Analysing the Situation**

- ❑ **Benefits to target groups – equity and participation**
- ❑ **Total cost and recurrent cost implications**
- ❑ **Financial and economic viability**
- ❑ **Technical feasibility**
- ❑ **Ability to repair and maintain assets**
- ❑ **Sustainability**
- ❑ **Contribution to institutional strengthening and management capacity building**
- ❑ **Environmental impact, and**
- ❑ **Compatibility of project with sector or program priorities.**

# Focus on Choice

2. Analysing the Situation

**The choice focus concentrates on comparing and choosing, where the first three focus areas concentrate on developing options. When working in the choice focus we bring in elements from the other focus areas to:**

- ❑ **Estimate the resources that are available**
- ❑ **Create an overview of options**
- ❑ **Assess options**
- ❑ **Make a choice**

# Focus on Action

2. Analysing the Situation

**The Action focus puts wheels under the strategy chosen and selects concrete, specific operations that can be monitored in relation to the context we are acting in. When focusing on action we:**

- ❑ **Specify objectives chosen, results, activities and resources needed**
- ❑ **Identify critical assumptions about the context**
- ❑ **Check that the project is logically consistent**
- ❑ **Establish indicators that allows monitoring of project progress and impact**

# Resource Analysis

**2. Analysing the Situation**

1. **Quantify the estimated human resource availability, in suitable categories.**

2. **Quantify the estimated financial means, indicate sources.**

3. **Analyze and list the core human, managerial and institutional strengths of the possible project organization and of important other stakeholders upon which the project depends.**

4. **Analyze and list the core weaknesses of the human and institutional capacity available for the project.**

# Scenario Development

## 2. Analysing the Situation

1. Identify 3-6 alternative options for the immediate objective from the graphic presentation made in the Objectives Focus Area. Brainstorm further options.

2. Identify, for each immediate objective, the strategy for achieving the objective. If alternative strategies are feasible for the same objective, list each objective – strategy combination as a separate scenario.

3. Identify, for each objective option, the stakeholder that will be willing and able to commit himself/herself actively to the achievement of the objective.

4. Identify the primary target group for each option, i.e. the group that will be directly affected by the future situation described in the objective. Refer to the Stakeholder Analysis.

5. Identify the problem clusters that are addressed by each objective option.

# Comparing Scenarios

## 2. Analysing the Situation

1. **Identify and list priority comparison areas by:**
   - ❑ **Revising the Stakeholder Mapping from the Context Focus Area**
   - ❑ **Revising the Policy Concerns list from the Context Focus Area**
   - ❑ **Revising the Values and Principles list from the context Focus Area**
   - ❑ **Revising the Uncertainties & High Risk List from the Context Focus Area.**

2. **Include other relevant areas, e.g. costs, relation to expected resources, other uncertainty factors and risks.**

3. **Design a comparison framework.**

4. **Identify a three-level verbal assessment scale for each comparison area, e.g. low, medium, high.**

5. **Assess all scenarios in each comparison area.**

# Choosing

## 2. Analysing the Situation

1. All participants suggest their preferred choice of scenario.

2. If there is disagreement, identify the comparison areas where conflicts are located. Switch back to other focus areas to identify possible omissions or unclarities influencing the comparison scheme.

3. If a choice is made overruling diverging viewpoints, make sure this is done explicitly and the background for the decision clearly defined.

4. Clarify and summarize the purpose and strategy of the choice in a few simple, focused sentences. This is, in effect, the answer to the initial focus question.

# Focus on Choice:
# Scenarios – Water Supply

2. Analysing the Situation

| No. | Immediate Objective | Strategy to achieve Immediate Objective | Who will take ownership of the Immediate Objective? | Primary Target Group | Main Problem Area Addressed |
|---|---|---|---|---|---|
| 1. | Safe water supply, 15 year horizon | System rehabilitation, training in operation and maintenance | National Water Authority | Population using river water | Use of river water |
| 2. | Sustainable supply of safe water | System rehabilitation, institutional development, training in all fields. | Water company management and board chairman. | Water company staff. | Financial, technical and institutional weaknesses of water company. |
| 3. | Decrease of water borne diseases. | Awareness promotion, health education, demonstrations | Local health authorities, local NGO. | Women in disease affected areas. | Current hygiene practices |

# Comparison Framework – Water Supply

2. Analysing the Situation

| Comparison Areas / Scenarios | Cost | Community support | Future financial sustainabilit | Future institutional sustainabilit | Health impact | Uncertainty | Global risk |
|---|---|---|---|---|---|---|---|
| 1. Safe water | M | H | L | L | M | L | L |
| 2. Sustainable safe water, autonomy | H | M | H | H | M | M | M |
| 3. Decrease of water borne diseases | L | M | L | M | M | M | L |

L = Low, M = Medium, H = High

# FORMAT

## 3. The Logframe Matrix

- The result of the logical framework analysis is presented in a matrix.
- The matrix should provide a *summary* of the project design and, when detailed down to output level, should generally be no more than five pages long.
- The Logframe matrix has four columns and usually four of five rows, depending on the number of levels of objectives used to explain the means-ends relationship of the project.
- The *vertical logic* identifies what the project intends to do, clarifies the causal relationships, and specifies the important assumptions and uncertainties beyond the project manager's control (columns 1 and 4).
- The *horizontal logic* defines how project objectives specified in the project description will be measured, and the means by which the measurement will be verified (columns 2 and 3). This provides the framework for project monitoring and evaluation.

# Logframe Matrix Structure and Sequence for Completion

## 3. The Logframe Matrix

| Project Description | Indicators | Means of verification (MOVs) | Assumptions |
|---|---|---|---|
| Goal | Indicators | MOVs | |
| Purpose | Indicators | MOVs | Assumptions |
| Component Objectives | Indicators | MOVs | Assumptions |
| Outputs | Indicators | MOVs | Assumptions |
| Activities | Milestones specified in activity schedules and scope of services | Management reports on physical and financial progress | Assumptions |

# Vertical Logic

3. The Logframe Matrix

## If-then causality

**Constructing the project description of the matrix involves a detailed breakdown of the chain of causality in the project design. This can be expressed in terms of:**

- **IF inputs are provided, THEN activities can be undertaken;**
- **IF activities are undertaken, THEN outputs will be produced;**
- **IF outputs are produced, THEN component objectives will be achieved;**
- **IF component objectives are achieved, THEN the project purpose will be supported;**
- **IF the project purpose is supported, this should then contribute towards the overall goal.**

**Each level thus provides the rationale for the next level down: the goal helps define the purpose, the purpose the component objectives, and so on down the hierarchy.**

# Vertical Logic

3. The Logframe Matrix

## Management Influence

**The Logframe helps to indicate the degree of control managers have over the project.**

**The *necessary* and *sufficient* conditions within the vertical logic are another way of viewing this issue. These indicate that:**

- **Achieving the purpose is *necessary but not sufficient* to attain the goal. This is because the project is but one of a number of projects or initiatives that contribute to the goal.**
- **Producing the project outputs is *necessary but may not be sufficient* to achieve the component objectives. Other factors beyond the project's control are again likely to have an influence on achievement of component objectives.**
- **Carrying out project activities should be *necessary and sufficient* to produce the required outputs (although some risks will always remain).**

# Vertical Logic

3. The Logframe Matrix

## Project Components

**A project component consists of a sub-set of inputs, activities and outputs that serve a single purpose. Components may be identified on the basis of their sectoral, functional or institutional focus. For example an agricultural training project might include components which focus on:**

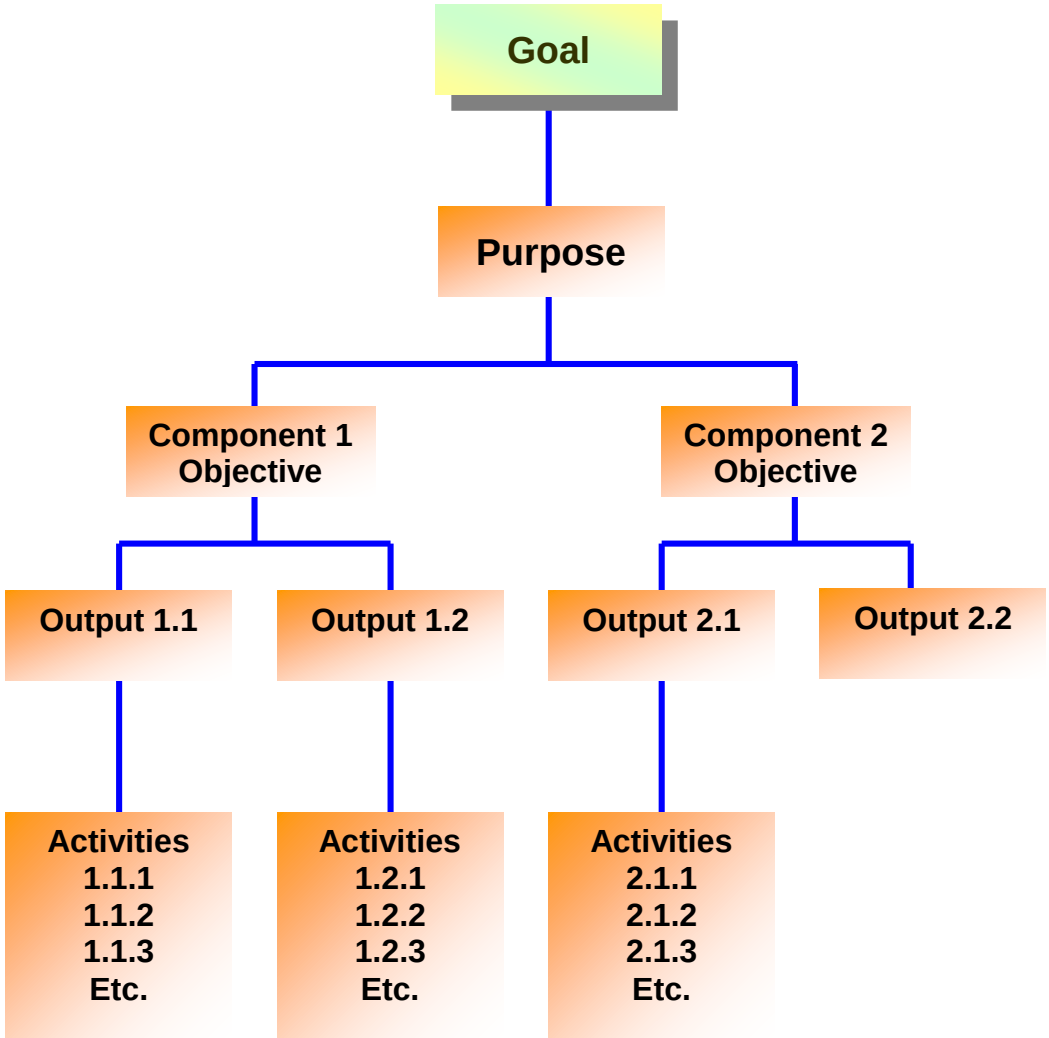
- **Training program design and delivery**
- **Facilities upgrading**
- **Student loans scheme, and**
- **Project management**

**Each of these components has a different technical focus, is likely to be managed by different groups within the targeted institution(s), and therefore merit being designed as separate project components.**

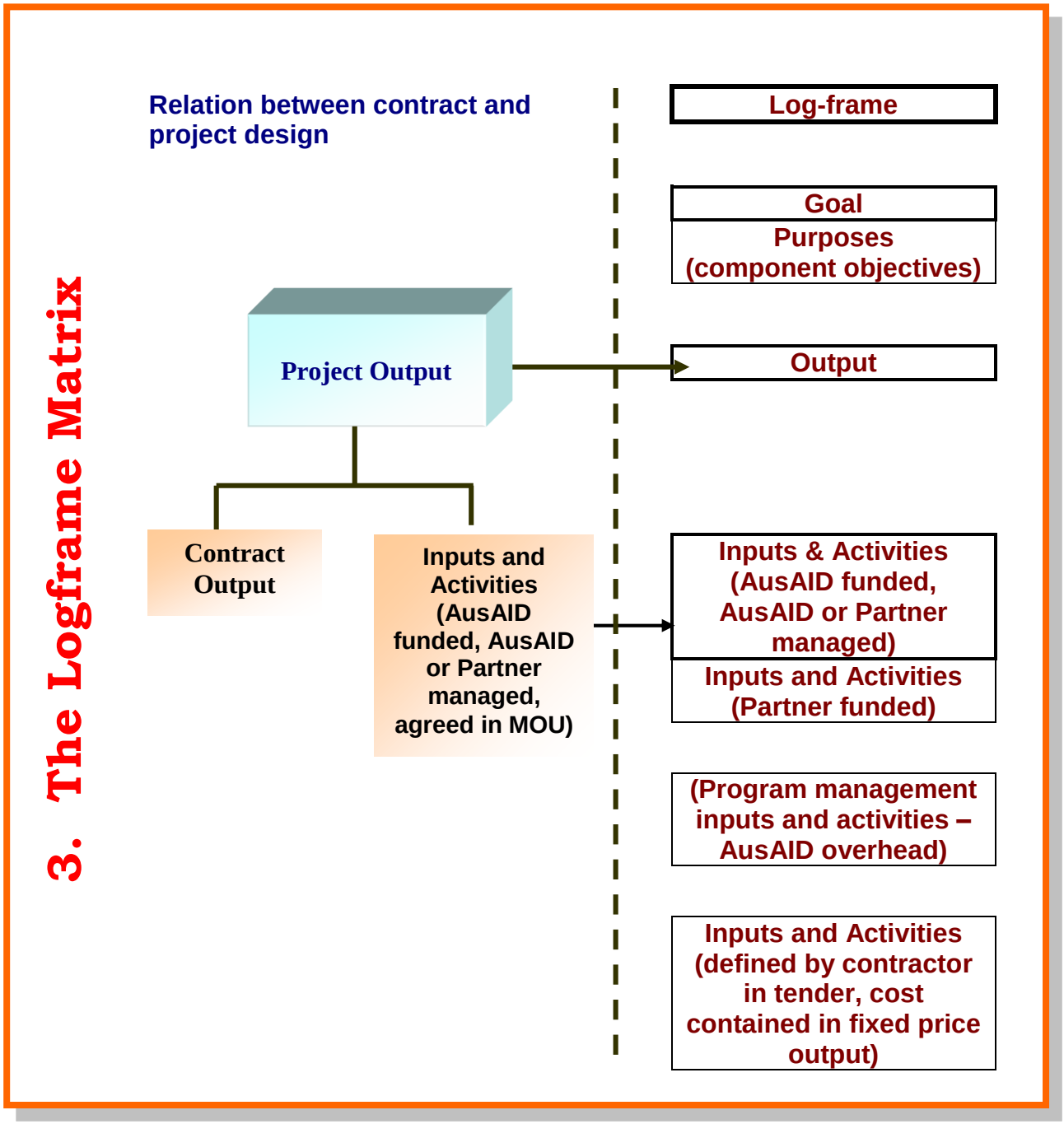
# Reference Numbers and Flow Charts

3. The Logframe Matrix

**Using reference numbers is a useful device to help the Logframe user negotiate around the logic of the matrix, particularly when the matrix is presented on more than one page. This helps the reader understand which activities, outputs and purposes are linked and also provides a clear reference point when preparing activity, resource and cost schedules linked to the Logframe matrix.**

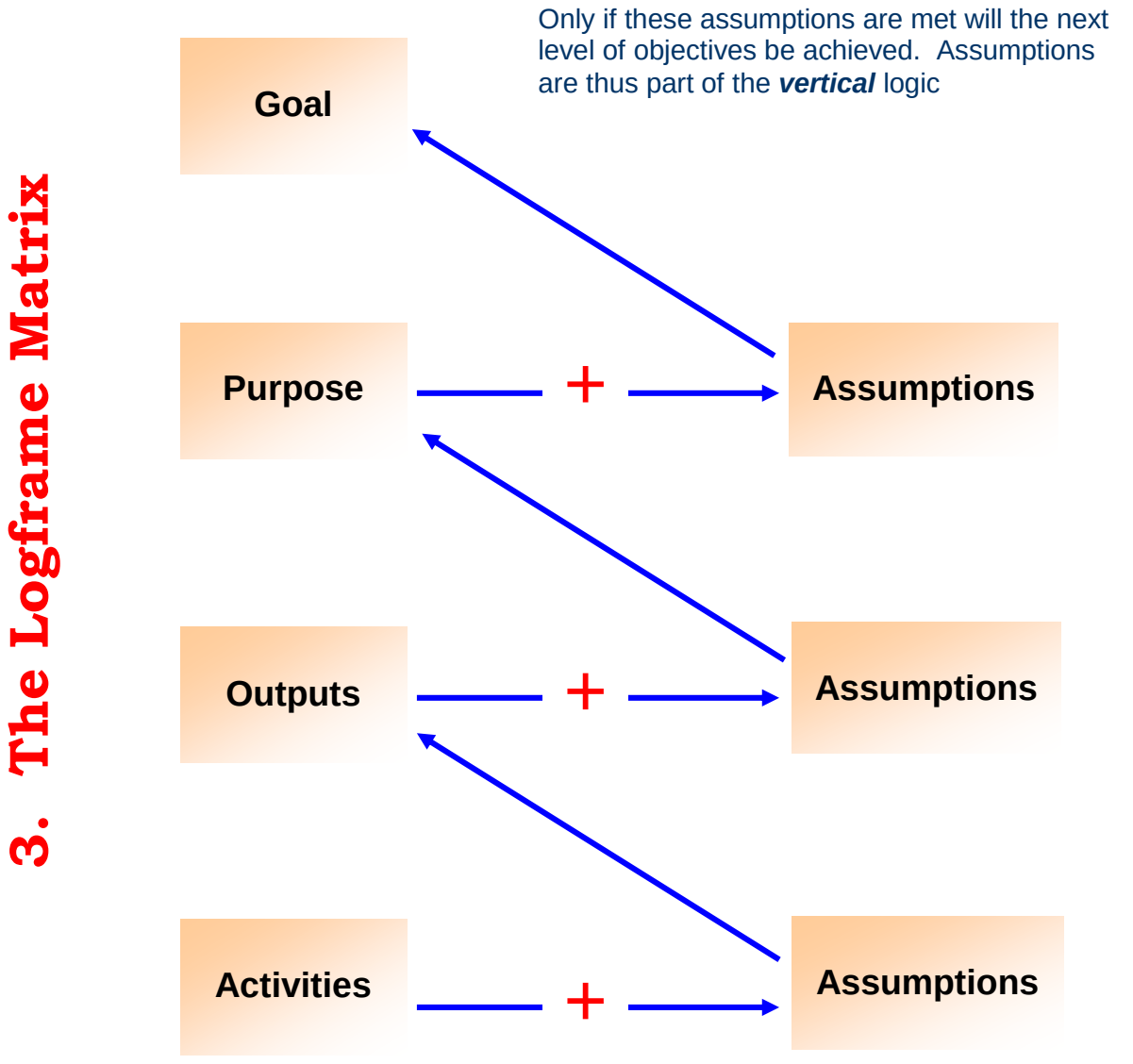


# Project and Contractible Outputs

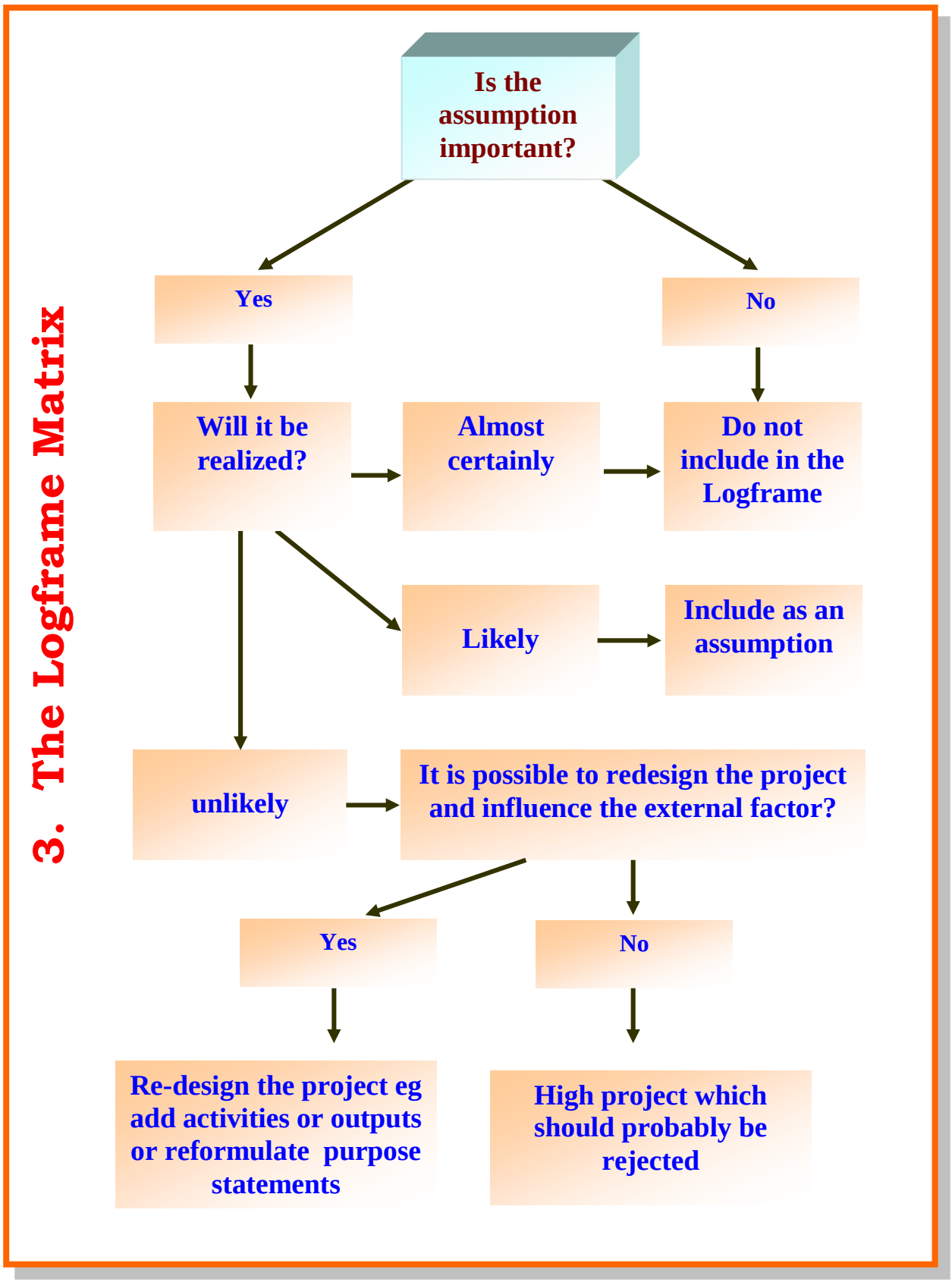


# Relationship between Assumptions and Objectives

3. The Logframe Matrix



# Assumptions Decision Tree



# Horizontal Logic

3. The Logframe Matrix

## Link to Monitoring and Evaluation

**The horizontal logic of the matrix helps establish the basis for monitoring and evaluating the project. The link between the Logframe and monitoring, review and evaluation is shown:**

| Logframe hierarchy | Type of monitoring and evaluation activity | Level of information |
|---|---|---|
| Goal | Ex-post evaluation | Outcomes/impact |
| Purpose | Review | Outcomes/effectiveness |
| Component Objectives | | |
| Outputs | | |
| Activities<br><br>Inputs | Monitoring | Input/Outputs |

# Horizontal Logic

3. The Logframe Matrix

## Testing the Project Description

**Once the project description and assumptions have been drafted (columns 1 and 4 of the matrix), the next task is to identify the indicators that might be used to measure and report on the achievement of objectives (column 2), and the source of that information (column 4). Because one reads *across* the matrix when analyzing indicators and means of verification, this is referred to as the "horizontal logic".**

**In considering how the achievement of objectives might be measured/verified, one is required to reflect on the clarity of objective statements, how feasible they will be to achieve, and how they might be more specifically defined.**

# Indicators

3. The Logframe Matrix

**Indicators specify how the achievement of project objectives will be measured and verified. They provide the basis for monitoring project progress (completion of activities and the delivery of outputs) and evaluating the achievement of outcomes (component objectives and purpose).**

**There are no absolute principles about what makes a good indicator of physical achievement, however the SMART characteristics listed below (Specific, Measurable, Attainable, Relevant, Timely) are useful.**

***Specific*** Key indicators need to be specific and to relate to the conditions the project seeks to change.

***Measurable*** Quantifiable indicators are preferred because they are precise, can be aggregated and allow further statistical analysis of the data. However, development process indicators may be difficult to quantify, and qualitative indicators should also be used.

***Attainable*** The indicator (or information) must be attainable at reasonable cost using an appropriate collection method.

***Relevant*** Indicators should be relevant to the management information needs of the people who will use the data.

***Timely*** An indicator needs to be collected and reported at the right time to influence many management decisions.

# Means of Verification

3. The Logframe Matrix

**The different means (and costs) of collecting information must also be considered when choosing appropriate indicators.**

**The following questions should be asked and answered:**

- ***HOW*** should the information be collected, e.g. sample surveys, administrative records, national statistics (as in the census), workshops of focus groups, observation?
- ***WHAT SOURCE*** is most appropriate? E.g. Who should be interviewed? Does the Bureau of Statistics already collect the required information? Is the source reliable?
- ***WHO*** Should do it? e.g. extension staff, supervisors, an independent team?
- ***WHEN*** and how often should the information be collected, analysed and reported? e.g. monthly, annually, according to seasonal cropping cycles?
- ***WHAT FORMATS*** are required to record the data being collected?

# Indicators of Process

3. The Logframe Matrix

## Example of Indicators of Development Process

| Objective | Possible Indicators | Means of Verification |
|---|---|---|
| To increase awareness of, and community capacity to address, the local causes of environmental pollution. | Levels of awareness among different groups within the community (men, women, children) about specific environmental health and pollution issues. | Sample survey at schools, of women's groups and of male household heads conducted at the beginning of the project and after two years. Conducted by environmental health officers using questionnaire to rank levels of awareness of specific issues |
| | Establishment of community based environmental health and management committee. Membership, meetings and number and type of activities initiated. | Records of elected committee members, regularity of meetings and minutes of decisions made. Analysed and scored against established criteria every six months by management committee members |
| | | Observation of how meetings are conducted and levels of participation.. Undertaken by environmental health officers in line with planned schedule of meetings. |

# Some Strengths and Weaknesses of LFA

3. The Logframe Matrix

**For all its potential advantages LFA provides no magic solution to identifying or designing good programs or projects, no matter how clearly understood and professionally applied.**

**To help avoid the common problems and possible dangers, those using the Logframe should:**

- **Emphasise the importance of the LFA *process* as much as the matrix *product*.**
- **Ensure stakeholders participate in the analytical process.**
- **Avoid using the matrix as a blueprint through which to try and exert control over the project.**
- **Treat the matrix as a presentational summary. Keep it clear and concise.**
- **Be prepared to refine and revise the matrix as new information comes to light.**
- **Expect the first Logframe to be a draft which will require reworking.**
- **Do not place too much emphasis on detailed target specification within the matrix during the planning stages.**

**When LFA is used in a flexible manner and a consultative approach is taken, it is a powerful analytical tool to support project planning and implementation.**

# Strengths and Weaknesses of LFA

## 3. The Logframe Matrix

| Issue | Potential strengths | Common problems | Possible dangers |
|---|---|---|---|
| Vertical Logic | Provides logical link between means and ends<br>Places activity within broader development environment.<br>Encourages examination of risks. | Getting consensus on objectives<br>Reducing objectives to a simple linear chain.<br>Inappropriate level of detail (too much or too little). | Oversimplification of objective<br>Objectives become to rigid (blueprint)<br>Ignoring unintended effects.<br>Hides disagreements. |
| Horizontal Logic | Requires analysis of whether objectives are measurable.<br>Helps establish monitoring and evaluation framework. | Finding measurable indicators for higher level objectives and “social” projects.<br>Establishing unrealistic targets too early. | Downgrading of less quantified objectives.<br>Rigid targets.<br>Information overload. |
| Format and application | Links problem analysis to objective setting.<br>Visually accessible and relatively easy to understand.<br>Can be applied in a participatory way. | Prepared too late and mechanistically.<br>Problem analysis and objective setting not always linked.<br>Risks marginalized.<br>High demands for training and judgment. | The same fixed format applied in all cases.<br>Used for top-down control.<br>Can alienate staff.<br>Becomes a fetish rather than a help. |