METHODFINDER

Practitioner's Guide:

Problem Tree Analysis

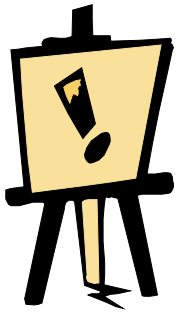
Deutsche Gesellschaft für
Technische Zusammenarbeit
(GTZ) GmbH

Bundesministerium für
wirtschaftliche Zusammenarbeit
und Entwicklung

Concept and Layout: Dr. Nikolaus Schall / Michael Becker

Problem Tree Analysis

Brief Description



The problem tree technique helps to define the problems surrounding a project and it provides a way to order these problems into cause-effect relationships.

Tree diagrams are multi-purpose, visual tools for narrowing and prioritising problems, objectives or decisions. Information is organized into a tree-like diagram. The main issue is represented by the tree's trunk, and the relevant factors, influences and outcomes will show up as systems of roots and branches. In a project context, tree diagrams can be used to guide design and evaluation systems. As a community participation exercise, tree diagrams can help people to uncover and analyse the underlying causes of a particular problem or to rank and measure objectives in relation to one another.

Examples of different kinds of trees are:

- A **decision tree** can be used to illustrate costs and benefits associated with decisions, for example regarding options for a project evaluation system.
- A **problem or problem-cause** tree illustrates dependent and independent variables that affect a particular problem, and it can be useful in teasing out the underlying causes of complex problems.
- An **objectives tree** can be used to discern between priority needs and less significant needs. Often it makes sense to create problem trees and objective trees in tandem, since identifying problems is the first step to setting objectives that remedy them.

Photo 1:
Presenting the results of a problem tree analysis

Problem Tree Analysis

Proposed Main Users

Private and public sector regional, urban or sectoral planners.

Purpose of the Method

A problem tree is used to:

- Provide a guiding rationale for systems design and evaluation,
- Indicate how one or more problems are the causes of a higher level problem (i.e. the effect),
- Shows how problems are actually interrelated,
- Highlights problems that need to be tackled consecutively to resolve the main constraint,
- Provides an objective basis for monitoring and evaluating changes at a later stage,
- Helps to assess the level of effort and later on impact a project will have to achieve to overcome the problems.

The materials needed are a surface on which to draw (newsprint, paper, chalkboard or the ground) and markers, pens or chalk.

Problem Tree Analysis

Advantages

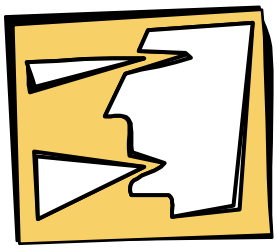
- The simplicity of organizing the exercise and its emphasis on visualization and discussion make it easy to use across cultures in both rural and urban settings.
- The actual causes of problem(s) can be more effectively determined and addressed.
- The "real" problems can be addressed rather than just the symptoms.
- A good overview of the "extent" of the problems can be visualised quickly.

Limitations

- Listing of possible solutions at an early planning stage easily hampers objective and open-minded problem analysis.
- There is tendency to focus only on the problems that have been mentioned, other important problems are often ignored as a result.
- The problem tree gives no indication of the "magnitude" of the problem. The implication is that all problems are seen as being equally important.
- The "problem tree" technique is a tool that is useful in the identification and analysis stages. Users must have the knowledge and skills to use it and they must also understand the project environment.
- The contention is that any problem that involves transforming either material or abstract objects from one state to a goal state, in other words any problem can be analysed in this way.
- There is only an infinite availability of resources or time to resolve all of the problems. There is a need to determine the most economical solution, something that is not addressed by the trees analysis technique.

Problem Tree Analysis

Principles & General Procedures



Problem trees may be constructed to aid project design and evaluation. A problem tree consists of constraints linked hierarchically in a tree graph; problems at the lower level contribute or cause problems at the higher level. The problems that define the root causes of the core problem are usually found at the lowest level. Problem trees are one of many forms of tree diagrams (e.g. including objectives trees).

There are two approaches for developing a problem tree:

Group approach

As part of a planning group a workshop is typically conducted with all relevant role players. This can be a community level workshop with people directly affected by the problem or a workshop on a higher level where representatives of the people concerned and of the support system are invited to participate.

Team approach

Through an analysis carried out by a core team of planners, based on the results of a number of problem identification procedures carried out on various levels and with various resource persons.

The identification of problems is most reliable when undertaken in a participatory way. It is important that planners take into account different groups, and consider both general and group-specific problems. For example, men and women often perceive problems in different ways. Problem analysis must go beyond a simple listing. The stakeholders should address questions such as why the problems occur and why they persist. Joint discussion of these questions is, in itself, a valuable forum for learning and can provide vital information. In the problem analysis, problems should be stated as a situation that needs to be improved, and not in a form, which expresses the absence of a solution. For example, rather than saying "a lack of hospitals", the problem should be "high infant mortality".

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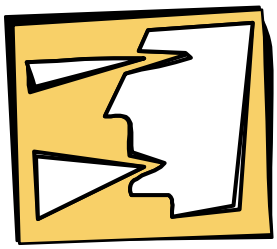

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The following main steps need to be undertaken to develop a problem tree:

1. List all the problems that come to mind. Problems need to be carefully identified: they should be existing problems, not possible, imagined or future ones. The problem is an existing negative situation, it is not the absence of a solution.
2. Identify a core problem (this may involve considerable trial and error before settling on one).
3. Determine which problems are "Causes" and which are "Effects"
4. Arrange in hierarchy both Causes and Effects, i.e., how do the causes relate to each other - which leads to the other, etc.

Another way of describing the process:

1. Participants briefly review the major problem orally.
2. A tree trunk is drawn and a word or a symbol, which notes the problem is drawn into the trunk.
3. Limbs and leaves are drawn (by the facilitator or, preferably by a participant) in several directions.
4. Participants suggest different dimensions of the problem, and each limb is designated to represent a separate dimension.
5. A root system, symbolizing the causes of the problem, is drawn under the tree.
6. The group suggests possible causes of the problem; each root is marked with a picture or a phrase, which represents a cause.
7. Once the tree is completed, participants discuss the causes, probing into the extent to which each cause determines the major problem. For example, a cause may be major or minor, one-time or permanent.
8. A well-defined problem tree can be a useful place to start an objectives tree. Eliminating the root causes on a problem tree can become the branches of an objectives tree.

Problem Tree Analysis

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