SUPPLEMENTARY TOOL

Problem analysis approaches

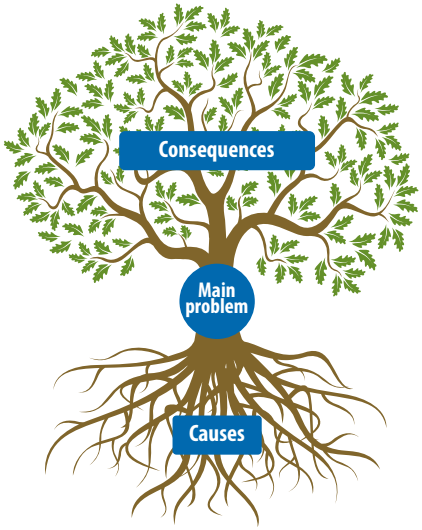
There are many simple approaches developed to help planners analyse problems in a way that identifies root causes and provides the starting point for solutions. This tool provides a basic overview of three of these approaches.

Tips

- All these approaches work best in a small group setting (six to eight people), and with good facilitation to ensure consensus on the root causes.
- Make sure participants have the necessary basic knowledge required to understand the problem and its context.
- Avoid over-simplifying the problems at hand; problems may have complex and interrelated causes, which these approaches should help you explore.
- When using the "problem tree" and "fishbone diagram", make sure you have a large space/paper on which to capture all the potential root causes.

Problem tree

The problem tree is a visual method of analysing a problem. The tree maps the links between the main issue and its resulting problems, as well as its root causes, helping to find a solution in a structured way. In this way, the process helps to question assumptions, break down the problem into manageable pieces, improve the understanding of the problem for developing solutions, and prioritize consequences and actions. It also helps to build shared understanding, purpose and action, which are crucial for planning processes involving multiple agencies and sectors.



Key steps

Step 1: Discuss and agree the main problem/concern and write it in the centre of a large flip chart (trunk).

Step 2: Add the causes of the main problem onto the chart below the main problem, with arrows leading to the problem (primary roots).

Step 3: For each of the causes, write the factors that lead to them, again using arrows to show how each one contributes (secondary roots).

Step 4: Draw arrows leading upwards from the main problem to the various effects/consequences of the main problem (branches).

Step 5: For each of these effects, add any further effects/consequences (leaves).

Make sure to list all solutions, concerns and decisions on a separate sheet, to inform the rest of the planning process. See **ODI planning tools: problem tree analysis**.

Tip

Rephrase the problem(s) into positive desirable outcomes to convert root causes and consequences into root solutions and establish actions and entry points.

Five "whys"/root cause analysis

Initially developed by the Toyota Corporation to optimize its manufacturing process, this method relies on interrogating a problem or an event to identify cause and effect. It is a simple method that involves asking "why" or "what caused this problem" repeatedly to arrive at further causes, with each "why" prompting another. The method assumes that "why?" needs to be asked around five times to arrive at the root cause. The root cause should point toward a process or behaviour that is failing or missing, and that can be changed through action (i.e. it cannot be a factor beyond the control of the programme, such as the climate or the political regime). Aside from helping to identify and address the root causes, this approach also helps identify interim opportunities, at each "why" level, to intervene and address problems, especially if the root cause is difficult to address in the short term.

Key steps

Step 1: Agree and clearly state the specific problem.	e.g. WASH activities were not included in the NTDs annual plan
Step 2: Discuss: why did the problem happen? Record the response.	e.g. government WASH stakeholders did not participate in the last NTD planning process
Step 3: To determine if the response is the root cause of the problem, ask: "If this response were corrected, is it likely the problem would recur?" If the answer is yes, it is likely this is a contributing factor, not a root cause.	e.g. even if the WASH department/ministry participated in the planning process, activities would not have been included in the plan, i.e. the lack of participation is a contributing factor but not a root cause
Step 4: If the answer provided is a contributing factor to the problem, the team keeps asking "why?" until there is agreement from the team that the root cause has been identified.	→ Why did the WASH stakeholders not participate in the meeting? *Response: the meeting was not in the planning schedule of the department* → Why is it not part of the planning schedule? *Response: because the department is not accountable to contributing to NTD goals* → Why is the department not accountable to contributing to NTD goals? *Response: because NTD progress indicators are not part of the accountability framework of the WASH sector*

It can take three to five "whys" to get to the root cases, but it can take even more depending on the complexity of the issue. The team should keep going until it agrees the root cause has been identified. In the above example, the root cause identified by the team is the lack of shared indicators, resulting in a lack of incentives for the government WASH department to get involved in NTD planning. If the NTD department tried to address the problem by sending information on the planning meeting to the WASH department, the root cause would not be identified or solved.

Fishbone analysis

The fishbone analysis, or diagram, can also be used in a group setting to identify the root causes of a specific problem, and builds on the "five whys" method to help organize multiple root causes under specific themes or problem areas to illustrate and/or communicate the relationships among several potential (or actual) causes of a problem. The diagram was originally developed by Kaoru Ishikawa (*Guide to quality control*. Tokyo; 1968.)

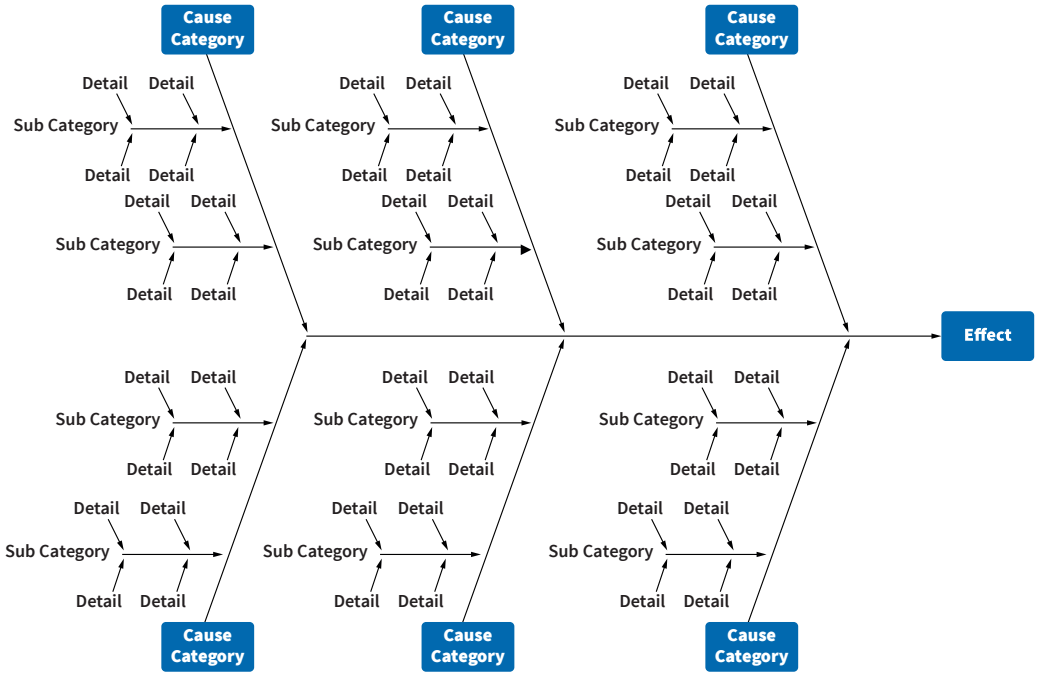
Key steps

Step 1: Agree the "head" – the diagram can be used in two ways:

- → negative consequence: with a problem as the "head" of the fish
- → positive: with the goal or target of the process as the "head" of the fish.

Step 2: Using a long sheet of paper, draw a line horizontally along the page (the "spine" of the fish). At one end of the line, add the problem or goal as the "head" of the fish.

Step 3: Draw lines coming out of the spine at an angle – the "bones" of the fish. At the end of each line, write a category of causes that lead to the problem (negative consequence) or the target (positive consequence). These could include: processes (coordination, planning), human resources, inputs (e.g. financial resources), policies, procedures, etc.



Step 4: Brainstorm: Discuss each category of causes: how does each one impact the effect? For example, how do human resources affect the achievement of the effect, or undermine it? Use the "five whys" method described above to describe the problem and root causes under each category, creating subcategories as needed.

Step 5: Discuss the details of each subcategory: for example, under human resources, you may list training, skills, recruitment and retention issues. Note: problems that come up frequently at this stage, or that have a major impact, may need to be turned into a specific category and therefore have their own separate "bone".

Step 6: List all points under each subcategory. When doing this, consider which issues have the biggest possible impact on the final result. Looking at the diagram together, circle anything that seems to be a root cause. Prioritize the root causes.

Step 7: Use the priorities to inform the rest of the planning process, turning them into actions to include in the activity plan.