WEDC Developing knowledge and capacity in water and sanitation

GUIDE 6

An introduction to the Logical Framework

Logical Framework Analyses are widely used by donors and governments in the planning and evaluation of development projects. They exist in various forms and are usually known as Logical Frameworks or 'logframes'. This guide introduces the concept of logframes, and describes why and how they are used.

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The Logical Framework is a tool to help strengthen project design, implementation and evaluation. This means that it is best used throughout the project cycle. It helps to organize thinking, set performance indicators, allocate responsibilities and communicate effectively.

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Introduction

Logical Framework Analyses are widely used by donors and governments in the planning and evaluation of development and disaster relief projects. They exist in various forms and under a variety of names, including 'OOIP' (Objective Oriented Intervention Planning), 'ZOPP' (Zielorientierte Projektplanung) or GOPP (Goal Oriented Project Planning). UNHCR call it OMS (Operations Management System).

The need for a framework

The logframe was developed in response to a number of common weaknesses in projects:

- a lack of common understanding among partners as to what the project entails;
- poorly focused objectives;
- key risks and assumptions inadequately identified and addressed;
- cause and effect linkages between objectives at different levels not adequately explored;
- activities and outputs that are insufficient, collectively, to achieve higher order objectives; and
- a lack of systematic monitoring and evaluation.

A logframe can help to resolve these shortcomings if it is applied, in a participatory manner, throughout the project cycle. A good understanding of its key concepts, application, potential benefits and limitations is useful for donor, government, agency and NGO staff alike. It is essentially a tool for deciding *what* to do rather than *how* and *when* to do agreed tasks.

Well-designed logframes can enable:

- a common understanding among the different project partners of what the project entails with agreed and focused objectives;
- a thorough exploration of the key assumptions and the cause and effect links between the various objective levels to reduce the risk of project failure;
- planned activities and outputs that are collectively necessary and sufficient to achieve the high order objectives; and
- a systematic framework for monitoring and evaluation.

Logframes should be seen as fluid and evolving rather than rigid plans. Indeed, it may be necessary to go back one or two stages. This is important because relief and development activities rarely follow a set-pattern; there is learning and change at every stage and so in practice,

flexible planning tools should take into account experience gained by project partners and key stakeholders at each stage. Their use can also encourage more effective monitoring and evaluation and ensures a more rigorous and accountable approach to relief and development work. In a rapidly changing environment, it is accepted that such a framework will be less than perfect and may need to change frequently to accommodate the situation on the ground and the view of all stakeholders.

What is a logframe?

The logframe consists of a 4 x 4 matrix with four column headings:

- Objective or narrative summary/ hierarchy of objectives;
- Objectively verifiable indicators (OVIs)/ measurable performance indicators;
- Means of verification/ monitoring and coordination; and
- Important assumptions and risks.

The UNHCR OMS matrix has an additional column heading for 'Rationale for UNHCR Involvement', to identify:

- the overall problem;
- the core problem by sectoral areas;
- causes;
- related activities; and
- existing resources.

The Logical Framework is a tool to help strengthen project design, implementation and evaluation. This means that it is best used throughout the project cycle. The Logical Framework is a simple tool that helps you:

- organize your thinking;
- set performance indicators;
- allocate responsibilities;
- communicate information on the project concisely and unambiguously.

The four rows relate to the levels of activity, from high level, strategic goals down to detailed lists of activities and input. See Table 1 on pages 9-10 for an example.

Developing a logframe

Many people initially have trouble in fully understanding how to use logframes. The best way to learn is through practice. The basic principle is to go from the more general to the specific. That is, begin with the summary of the objective for each level and the key assumptions, then try to put indicators and targets on the general statement of objectives. A logframe is best developed in the early stages of a project, together with project partners, so that there is shared ownership of its content. While the logframe is a useful tool for communicating the key aspects of a project to interested parties, it has

most relevance to those involved with developing and updating it. The process of making a logframe, though laborious, ensures that partners actually 'do planning' and take into account important issues that are likely to affect the success of the project.

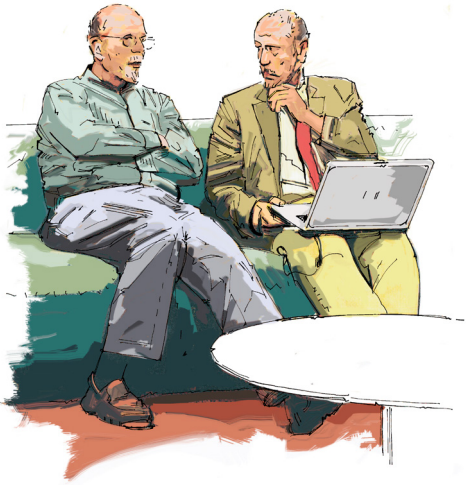
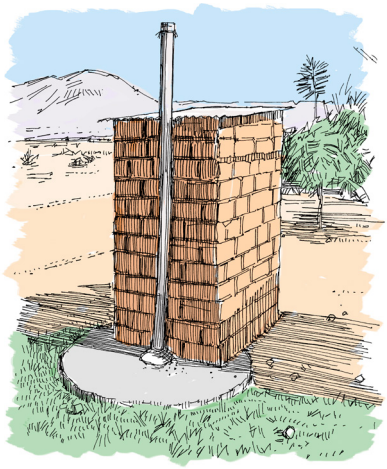


Figure 1. (Right) Well-designed logframes can enable a common understanding among the different project partners of what the project entails with agreed and focused objectives

Box 1. Composing an objective statement

Objective statements (e.g. Goals, purposes and outputs) should be phrased as if the task has been completed, e.g. *Pit latrine emptying system developed, agreed and implemented*. They should be strong action statements. A suitable indicator of the example objective may then be *60% of pit latrines that need emptying de-sludged by the second month of operation*, which will indicate how successfully the system has been implemented.



The use of phrases or words such as 'in order to', 'through' or 'by' should be avoided, because there will in effect be two levels of objectives in the one statement e.g. *Developing sustainable water sources through community mobilisation.* If 'developing sustainable water sources' is a project purpose, then 'community mobilisation' is an output or activity along with many other outputs and activities that are necessary to achieve the project purpose.

Components of a logframe

The overall goal

The goal is the *impact* that this project, if combined with others, will achieve. Usually this is a programme or sector objective. Very often, a portfolio of projects will share a common goal. It is sometimes called the 'aim' or 'main objective'.

The project purpose

The project purpose is *why* the project is being done. It describes the desired outcome. Ideally, a project should have only one purpose, so that activities and outputs have a clear focus. Projects with multiple purposes and a diverse range of outputs can be undermined by a lack of direction. It can also be called 'objective' or 'aim'.

Box 2. Project purpose – development examples

The purpose-level objective often entails changes in behaviour of the project beneficiaries. For example, a purpose typically describes the use of project outputs such as *handpumps used and maintained with minimal non-operating time*. The project team can try to support the communities and local private sector to maintain the handpumps as it is what the project is seeking to achieve, but it is not necessarily within their 'control'. Project outputs may need to be changed during the course of the project cycle in order to reduce the risk that the original project purpose will not be achieved.

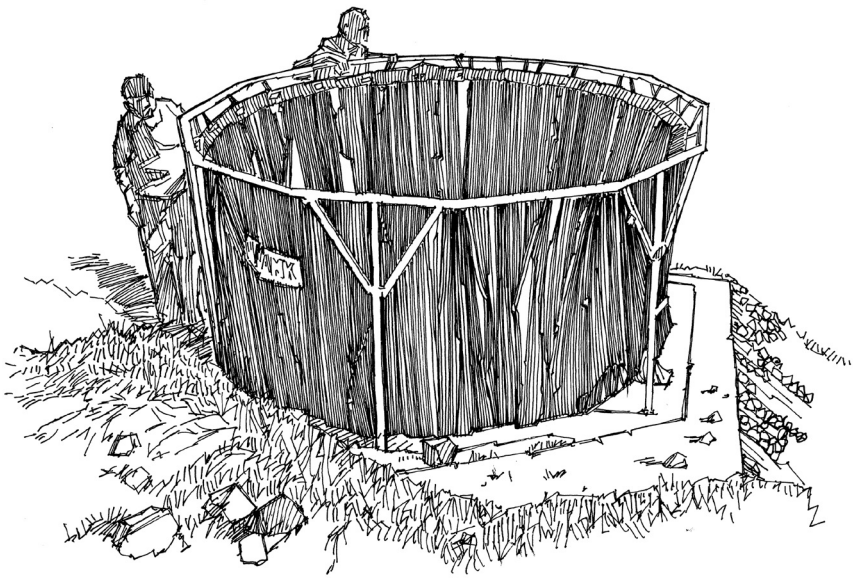
A related 'important assumption' may be that *local government leaders will permit funds to be spent on handpump spare parts*. This may not be within the control of the project team, but in order to achieve their project purpose, they could seek to persuade opinion leaders that by paying for repairs, people will not spend so much time going to distant water sources, so they can use that time to generate more income for the area.

A project purpose statement can also be drafted to encapsulate key concerns or problems experienced previously. For example, it may have been common in the project area that low water flows are experienced over time from standposts (inadequate), with poorer groups suffering most (inequitable) and schemes falling into disuse (non-sustainable). These concerns can be covered in a purpose statement like this: *Adequate, equitable and sustainable water services provided*. By putting such words in the purpose statement, it concentrates minds on these issues and indicators can be set to measure the degree of success in achieving these objectives. For example, *more than 90% of design flow achieved at all times* could be an indicator for adequacy.

Box 3. Project purpose – emergency relief examples

In emergency situations, where new water supplies need to be constructed in a very short time, it may only be feasible to think in terms of 'adequate' supplies. The purpose statement for such a short-term intervention could be *adequate quantity and quality of water services used by the target population*. Indicators could then be the agreed levels of quantity and quality set out the in the Sphere Standards, which can be used to monitor the levels of service to users.

In agreeing purpose statements, the project benefits should be maximised, so if refugee camps are to be maintained for many years, then sustainable services should also involve local communities and local host governments. However, if a relief organization is only providing services for a few months it may not be practical to aim for 'sustainable' services if they are going to be handed over or no longer required. An agreed purpose statement may be *adequate and functioning water and sanitation services that are effectively handed over to the responsible organizations at the appropriate time*, with indicators and milestones to define adequacy, functionality and handover.



For example, if 'water and sanitation services and hygiene behaviour is improved' (purpose) then 'the community's health will be improved' (goal), provided the assumptions hold true. Improvements in health and/or well-being are often at the goal level for water, sanitation and hygiene promotion projects, but so many factors effect people's health, such as the economic environment, nutrition etc., which are usually outside the 'manageable interest' of a project team.

Outputs

Outputs are *what* the project is to accomplish. These are the deliverables and can form the key objectives of the project terms of reference. Outputs are the results for which the project team can be held directly accountable and for which it is given resources.

A common problem is that the project outputs are not sufficiently comprehensive. For example, a stated output may be *piped water systems designed and constructed*. This makes no reference to related institutional or management factors important for success.

Activities

Activities define *how* you will do the project – the actions that will be implemented to accomplish the outputs and the inputs needed to resource these. Typically, three to seven actions or components are described in relation to each output, in just enough detail to outline a strategy and provide the basis for detailed planning at a later stage.

Activities should also include the basic actions of the project management team: the summary schedule of periodic meetings, monitoring events and evaluations. Some project teams highlight these activities by including statements such as *project management system installed and operational* in the outputs.

Verifiable indicators

These should be targeted in terms of quality, quantity and time. These indicators and the means of verification must be practical and provide a cost effective basis for project monitoring and evaluation.

Assumptions

The assumptions made at each level of a logframe are the necessary conditions or events over which the project has little or no control, for example, *sufficient water can be extracted from the river throughout each dry season*, or *the timely release of budget allocations*, or *security conditions remain stable*. Some assumptions relate to activities in other projects, for example *UNHCR registration project remains on schedule*, or *MSF clinic completed by start of 2002*.

While assumptions concern external conditions, the project may in many cases

be able to influence them, for example the contents of new water quality policy. If this is agreed in particular cases, then assumptions can be converted into objective statements (activities and outputs) e.g. *draft sector water quality policy agreed*, and thus become part of the scope of the project. In this way, the risks of project failure can be reduced.

The lower the degree of risk or uncertainly, the stronger the design of the project. 'Killer assumptions', i.e. those on which much depends, can have a huge impact on projects if they fail to hold true.

Verifying the logic: the 'if-then' test

The logframe is based on the principles of cause and effect; the better the causal links between items in the logframe, the better the project design. For example, if we promote a range of water supply options and develop local capacity to select and manage their preferred options, then appropriate facilities will be installed.

The logframe requires this logic to be made explicit, but the extent to which cause and effect linkages are realistic depends on the quality and experience of the design team. Production of a logframe cannot guarantee good project design.

The logical flow from one level of the logframe to the next can be verified using the 'if-then' test. The test works upwards from activities to outputs, then to the project purpose and goals. If all the stated activities are carried out, assuming the assumptions are correct, then the outputs should be achieved. If all the outputs are completed, assuming the assumptions are correct, then the project purpose should be achieved.

Assumptions add to the 'if-then' test. For example, if all the activities in a logframe are satisfactorily completed and all the assumptions hold true then the outputs at the next level should be achieved. If the project team doubt whether the stated outputs will be achieved, then it is worth reviewing outputs, activities and the assumptions to see whether they are necessary and sufficient.

Having reviewed a logframe using the 'if-then' test, the planning team may need to revise some sections.

Necessary and sufficient conditions

When finalising the logframe, a useful test is to ask the question at each objective level is 'Are these objective statements all *necessary* and are they collectively *sufficient* to achieve the objectives at the next level?'

The cause and effect relationship between the activity-to-output, output-to-purpose and the purpose-to-goal objectives describes the necessary and sufficient conditions for accomplishing project objectives, in a well-designed project logframe.

Table 1. Logical Framework Analysis

Project Title	
Objective Summary	**Objective Verifiable Indicators**
Goals (programme or sector objectives) Overall Purpose or Goal, the higher level development objective towards which the project is expected to contribute, the vision	**Measures of objective achievements** Direct or indirect measures which verify to what extent the Goal is fulfilled and demonstrate overall *impact* of the project
Project Purpose The immediate main objective which is expected to be achieved as a result of the project. Generally there should only be one Project Purpose statement, in order for the project team to focus their efforts effectively	**Existing or expected conditions at end of project (measuring Project *Outcomes*)** Direct or indirect measures to verify to what extent the Project Purpose has been achieved. (Quality, quantity, time and possibly location and target groups)
Outputs The results or outputs (as a whole and in effective combination) that the project management should be able to guarantee to specified target groups in order to achieve the anticipated outcome (project purpose)	**Magnitude of Outputs** Direct or indirect measures which verify to what extent the Outputs have been produced
Activities or Inputs The activities that have to be undertaken by the project and its partners in order to produce the Outputs. Sometimes inputs are added as a fifth, separate row	**Resources** The *Inputs* of goals, services or budgets necessary to undertake the activities and *processes*

Means of Verification	Important Assumptions
Sources of information and methods used Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the Goal has been achieved	**Assumptions for sustaining objectives** Important events, conditions or decisions necessary for sustaining objectives in the long run
Sources of information and methods used Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the Project Purpose has been achieved	**Assumptions for achieving overall Goal** Important events, conditions or decisions outside the control of the project necessary for the Goal to be obtained
Sources of information and methods used Which database is available or which documents have been drawn up or can be obtained elsewhere to prove that the Outputs have been achieved	**Assumptions for achieving project Purpose** Important events, conditions or decisions outside the control of the project necessary for the achievement of the Project Purpose
Sources of information and methods used Available records, vouchers etc for costs entailed, consumption of materials, use of equipment, inputs of personnel etc.	**Assumptions for achieving Outputs** Important events, conditions or decisions outside the control of the project necessary for the production of Outputs

Table 2. The if–then relationship in the logical framework

Objective Summary	**Objective Verifiable Indicators**	**Means of Verification**	**Important Assumptions**
Having achieved this Goal	Confirmed using this (these) impact indicators	Which are collected by this means	Then as long as these assumptions are true I should achieve the super Goal
Having achieved this Purpose	Confirmed using this (these)outcome indicators	Which are collected by this means	Then as long as these assumptions are true I should achieve the Goal
Having achieved these Outputs	Confirmed using this (these) output indicators	Which are collected by this means	Then as long as these assumptions are true I should achieve the Purpose
These Activities are done	And I will know they are done because I can measure using these input and process indicators	And find the parameters using this means	Then as long as these assumptions are true I should achieve the relevant Output

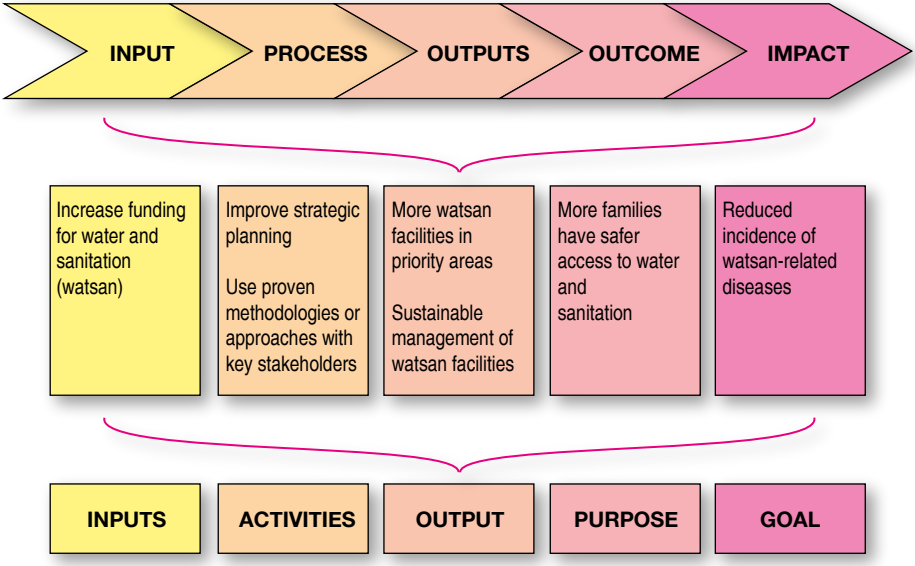


Figure 2. Results chain linked to logframe objectives

Figure 3. Many people initially have trouble in fully understanding how to use logframes

Box 4. Example: Project purpose OVI

If the purpose is, *improved water services,* the OVI could be '*90% of water points functioning and in use, with minimum discharges of 30 litres per person day, 3 months after project completion*.

It would be inappropriate, however, to use a reduction in water-related disease as an indicator, since this relates more closely to a goal statement.

Box 5. Example: Objective OVI

For an objective such as *improved water quality provided*, an OVI could be:

Step 1: Basic indicator: *Percentage* of *water samples that meet standards*

Step 2: Add factors for Quantity, Quality and Time: *Five Water quality samples are analyzed each month, and 95% meet WHO standards.*

Objectively verifiable indicators (OVIs)

The basic principle of the OVI column is 'if you can measure it, you can manage it'. Indicators reveal the successful accomplishment of objectives. They are not the conditions necessary to achieve a result but define in measurable terms the performance levels required. It is advisable to use the minimum number of indicators necessary to clarify what must be accomplished to satisfy the stated objective.

OVIs define not only the accomplishment necessary but also the level of performance necessary to reach the next objective level. It is therefore best to develop OVIs for the higher order objective first and work backwards through the causal chain: from goal to purpose then outputs and finally activities.

Developing OVIs

Normally, indicators are stated in terms of quantity, quality and time (and sometimes place and cost).

The act of putting numbers and dates on indicators is called targeting. Goals, purposes and outputs can all be given indicators and targets.

Begin with the basic indicator, ensure that it is quantifiable and then add a quality and time dimension. (Quantity + Quality + Time = QQT). Indicators should also be SMART (Specific, Measurable, Achievable, Relevant and Timebound).

It is also important to make a clear distinction between the basic indicator (e.g. % of water samples that meet standards), the current or baseline value and the proposed target value. These figures can be used to track trends in planned and actual performance.

Goal and purpose level indicators

Goal level indicators often describe programme or sector objectives towards which this and other projects are directed. As such, they may include targets beyond the 'manageable interest' of the project, such as *child mortality rate reduced*, which depends on other factors as well.

Figure 4. OVIs are useful for monitoring implementation.

The project purpose is the primary reason for undertaking the project and may be expressed in terms of behavioural or institutional change. This can makes OVIs difficult to set, though they become the key indicators of overall project success.

Output and activity level indicators

Output indicators often feature in the terms of reference for the project.

If, for example, one of the outputs is *Road maintenance management system designed, agreed and implemented* then an appropriate indicator *could be '95% of potholes filled, commencing April 2008'.*

OVIs at the output and activity level are useful for monitoring implementation.

Means of verification (MOV)

The means of verification (MOV) describe the sources of information that will demonstrate what has been accomplished. Verification is sometimes difficult and may require special funding, for example when a survey is needed in order to verify that *85% of installed water points are in full working order*. Indicators must be verifiable by some means; if they are not, find another indicator.

Survey costs for verification need to be planned in good time with adequate budgets. Health impact is particularly difficult to assess and indicators based on morbidity changes should be avoided.

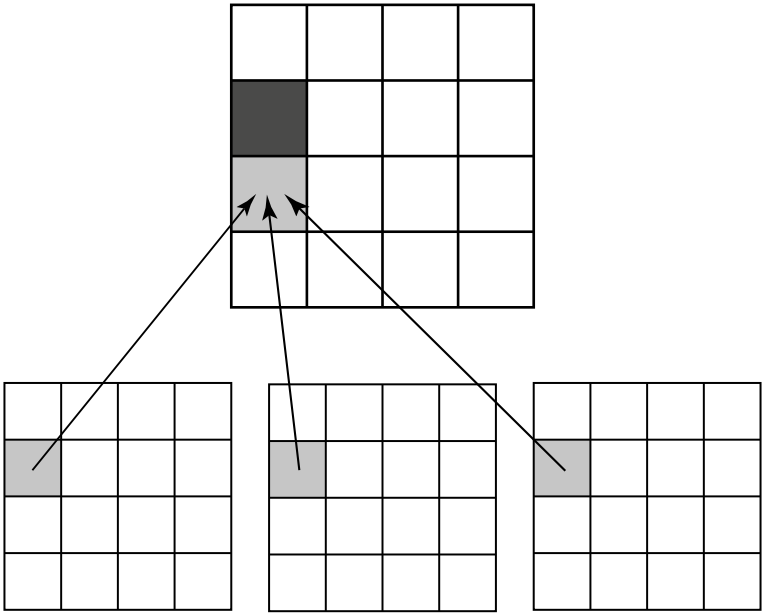


Figure 5. Project purposes form programme outputs

Uses and limitations of the logframe

On completion of a project logframe, review each step in its development with key stakeholders, apply the tests described above and make sure that it is clear and understandable to people who have not been involved. Once the logframe is complete and agreed, work can begin on strategies for implementation.

The logframe is an aid to logical thinking in all types of projects, but particularly

Figure 6. The logframe is an aid to logical thinking

in multi-disciplinary, innovative projects where there is a degree of experimentation. To be used effectively it does require a clear understanding of subtle differences in language, so care needs to be taken in its use when language translation is a problem.

Logframe analysis is a very useful aid to monitoring and evaluation because of the systematic links between objectives, indicators and assumptions. However, care needs to be taken in recognising changes in the external environment (physical, economic, social etc.) over the course of time. Much of the value in completing a logframe occurs from the shared understanding that emerges amongst those people who were involved in its design.

It is therefore worth devoting sufficient time for the project team and key stakeholders to develop and agree the project logframe through workshops and meetings.

Logframes can also be developed for sub-projects, which then feed into larger project or programme logframes (see Figure 5).

Figure 7. Once the logframe is complete and agreed, work can begin on strategies for implementation.

References and further reading

BOND, 2003. *Logical Framework Analysis.* London: British Overseas NGOs for Development

DFID, 1998. *Engineering KAR Logical Framework Notes.* London: Department for International Development (DFID)

DFID, 2009. *Guidance on using the revised Logical Framework, How to note: a DFID practice paper.* London: Department for International Development (DFID)

NORAD, 1996. *The Logical Framework Approach (LFA): handbook for objectives-oriented planning.* 3rd ed. Oslo: Norwegian Agency for Development Cooperation (NORAD)

TEAM TECHNOLOGIES, INC., 2005.*The Logframe Handbook: a Logical Framework Approach to project cycle management.* [online]. Washington, DC: World Bank. [viewed 22/11/2011]. Available from: http://www-wds.worldbank.org/servlet/main?menuPK=64187510&pagePK=64193027&piPK=64187937&theSitePK=523679&entityID=000160016_20050607122225

UNHCR, 2001. *Project Planning in UNHCR: A Practical Guide on the Use of Objectives, Outputs and Indicators.* [online]. Washington DC: UNHCR. [viewed 22/11/2011]. Available from: http://www.the-ecentre.net/resources/e_library/doc/Project%20Planning%20in%20UNHCR.pdf

WELL, 1998. *DFID Guidance Manual on Water and Sanitation Programmes. Loughborough:* WEDC, Loughborough University. [also online]. [viewed 22/11/2011]. Available from: http://wedc.lboro.ac.uk/knowledge/bookshop.html

Box 6. Logframe design checklist

1. The project has one Purpose.
2. The Purpose is not a reformulation of the Outputs.
3. The Purpose is within the manageable interest of the project team, although not necessarily within its control
4. The Purpose is clearly stated.
5. All the Outputs are necessary for accomplishing the Purpose.
6. The Outputs are clearly stated.
7. The Outputs are stated as results.
8. The Activities define the action strategy for accomplishing each Output.
9. The Goal is clearly stated.
10. The 'if-then' relationship between the Purpose and Goal is logical and does not miss important steps.
11. The assumptions at the activity level do not include any pre-existing conditions (These are listed separately).
12. The Outputs plus the assumptions at that level produce the necessary and sufficient conditions for achieving the Purpose.
13. The Purpose plus assumptions at that level describe the critical conditions for achieving the Goal.
14. The relationship between the Inputs/resources and the Activities is realistic.
15. The relationship between the Activities and Outputs is realistic.
16. The relationship between the Outputs and the Purpose is realistic.
17. The vertical logic among Activities, Outputs, Purpose and Goal is realistic as a whole.
18. The indicators at the Purpose level are independent from the Outputs. They are not a summary of Outputs but a measure of the Purpose.
19. The Purpose indicators measure what is important.
20. The Purpose indicators have quantity, quality and time measures.
21. The Output indicators are objectively verifiable in terms of quantity, quality and time.
22. The Goal-level indicators are objectively verifiable in terms of quantity, quality and time.
23. The Inputs described at the activity level define the resources and costs required for accomplishing the Purpose.
24. The Means of Verification column identifies where the information for verifying each indicator will be found.
25. The Activities identify any actions required for gathering Means of Verification.
26. The Outputs define the management responsibility of the project.
27. When reviewing the Logical Framework, you can define the evaluation plan for the project.
28. The Purpose indicators measure the project impact to be sustained.
29. The Output strategy includes a description of the project management systems.
30. The team designing the project are completely exhausted!

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