

## Use of Theory of Change in Project Evaluations

---

### 1 INTRODUCTION

#### *What is a Theory of Change?*

1. Theory of Change is a method and an approach that, in recent years, has been increasingly used for designing and monitoring development interventions and also as a framework for use in evaluations. A Theory of Change (TOC) of a project intervention describes the processes of change by outlining the causal pathways from outputs (goods and services delivered by the project) through direct outcomes (changes resulting from the use of outputs by key stakeholders) through other 'intermediate states' towards impact, in UN Environment's case - long term changes that deliver (or lead to) environmental benefits and improved human living conditions.
2. A Theory of Change explains the process of change by outlining causal linkages in an intervention, i.e., its outputs, direct outcomes, 'intermediate states', and longer-term outcomes. The identified changes are mapped as a set of interrelated pathways with each pathway showing the required outcomes in logical relationship with respect to the others, as well as chronological flow. Each 'step' in the pathway is a prerequisite for the next. The change processes between outcomes/intermediate states may require certain conditions to hold (**assumptions**<sup>1</sup> - conditions that are beyond the direct control of the project) or may be facilitated by supporting actions or conditions (**drivers** - where the project has a measure of control and can make a meaningful influence). The TOC also clearly identifies the main stakeholders involved in the change processes and what role they play in, and/or how they are affected by, the changes.
3. A Theory of Change should be discussed and agreed by key actors (both in intervention design and in evaluation processes) so that it represents a shared understanding that describes the intervention. In essence, a TOC reflects a negotiated understanding or interpretation of the project intervention logic – it is both contextual and temporal. It should also be regarded as dynamic - subject to changes / modifications as contexts change over time. However, for evaluation purposes, the original stated targets and intended results of an intervention should remain apparent in the TOC, (i.e. the results that people are accountable for should remain explicit).
4. A TOC is best presented as a narrative description that is accompanied by a diagram. A diagram is often useful to show an overview of the causal pathways, the cause-to-effect relationship between different results / changes, and the drivers and assumptions that apply along the causal pathways. The narrative, however, will explain how or why one result is expected to lead to another, and should also present the roles of the main stakeholders in the change processes and how they can be affected by the changes resulting from the project intervention.
5. Figure 1 shows a very simple linear generic TOC diagram with two main causal pathways. The reality is seldom so simple: there are often many more pathways, and feedback loops etc.

#### *Use of TOC in evaluation*

6. Theory of Change analysis is most commonly used to assess an intervention's causal logic, effectiveness and likelihood of impact. However, it can assist with the assessment of other evaluation criteria. For example, it can be used to help verify alignment of the project with the organization's and

---

<sup>1</sup> Note that assumptions are not just a negatively formulated risk and they should be expressed as a contributing condition that needs to hold for a change process to happen.

the funders’ strategic priorities and also help in assessing the extent to which the project intervention responds to stakeholder priorities and needs, thus assisting the evaluation of strategic relevance of the intervention. In addition, TOC analysis can support the assessment of sustainability and up-scaling by providing a better understanding of the relative importance of outputs, outcomes, drivers and assumptions, along with the roles of stakeholders, in sustaining and up-scaling higher level results. TOC analysis is also useful to assess project efforts to promote higher-level results (inter alia by promoting drivers), and / or responding to changes in context and dealing with any necessary conditions that did not hold (assumptions).

*Note, in the figure below, that ‘assumptions’ are contributing conditions that are largely outside the sphere of influence of the project while ‘drivers’ are contributing conditions that can, to a large extent, be influenced by the project.*

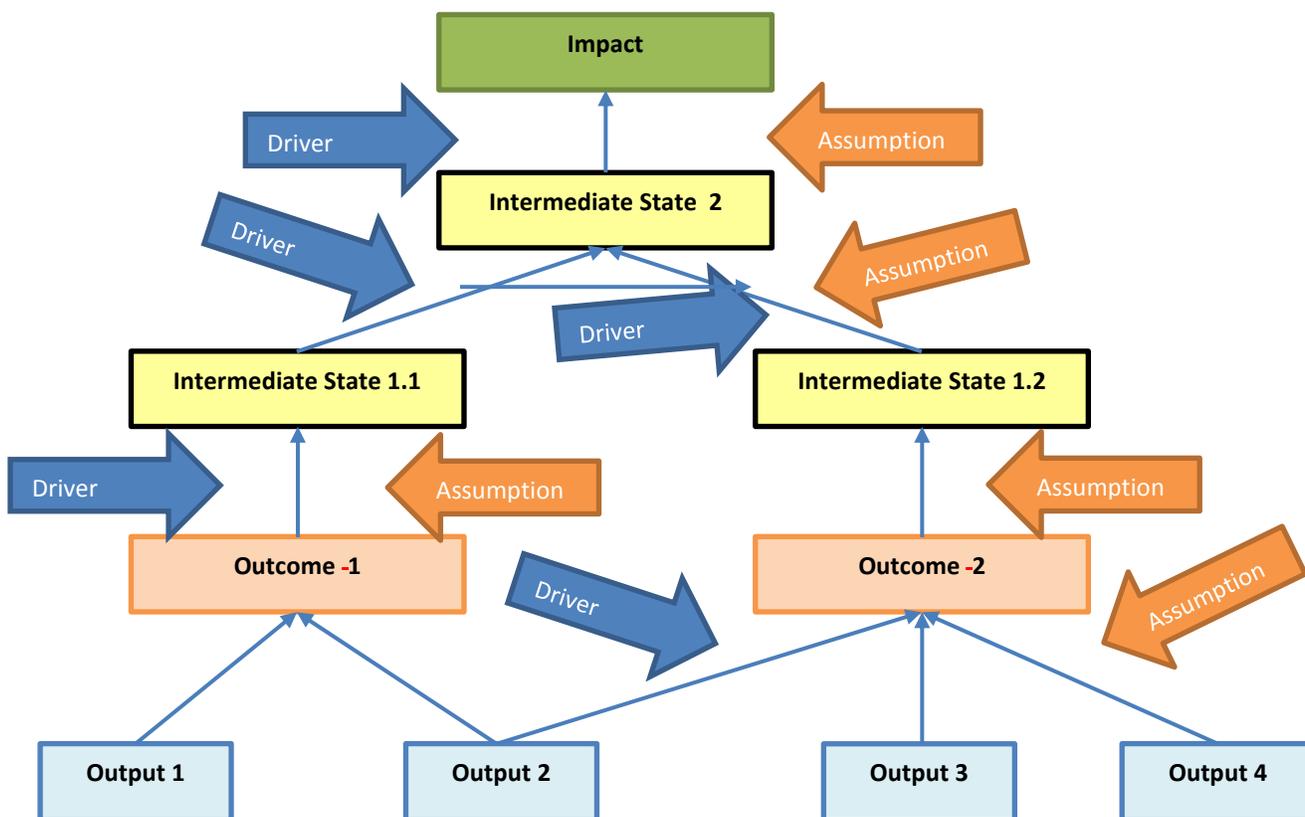


Figure 1. A simple, generic Theory of Change diagram

## 2 PREPARING THE THEORY OF CHANGE

7. The project’s **TOC at design** is prepared during the inception phase of the evaluation and refined during the evaluation process. As shown in Figure 2 below, the evaluation team should start off by extracting the TOC or intervention logic from the project document and then, during the evaluation process, update it based on formal changes in the project’s logical framework (logframe) and key informant feedback to obtain the **TOC at evaluation**.

### Step 1: Preparing the TOC at Design

8. More recent UN Environment project documents (ProDocs) may present a TOC narrative, possibly accompanied by a diagram. If a narrative and/or diagrammatic TOC exist, they need to be reviewed for completeness and consistency against the Logical Framework table and the narrative description of the intervention. If no TOC is presented in the ProDoc, then one needs to be prepared or ‘reconstructed’ from the Logical Framework table and the narrative description of the intervention. In both cases the evaluation team will need to examine the result statements and their causal logic from the project logframe and the drivers and assumptions from the narrative sections from the ProDoc (in particular from the critical success factors and risks sections). Stakeholder roles may be available from the description of the project intervention and the stakeholder and partner analysis sections.

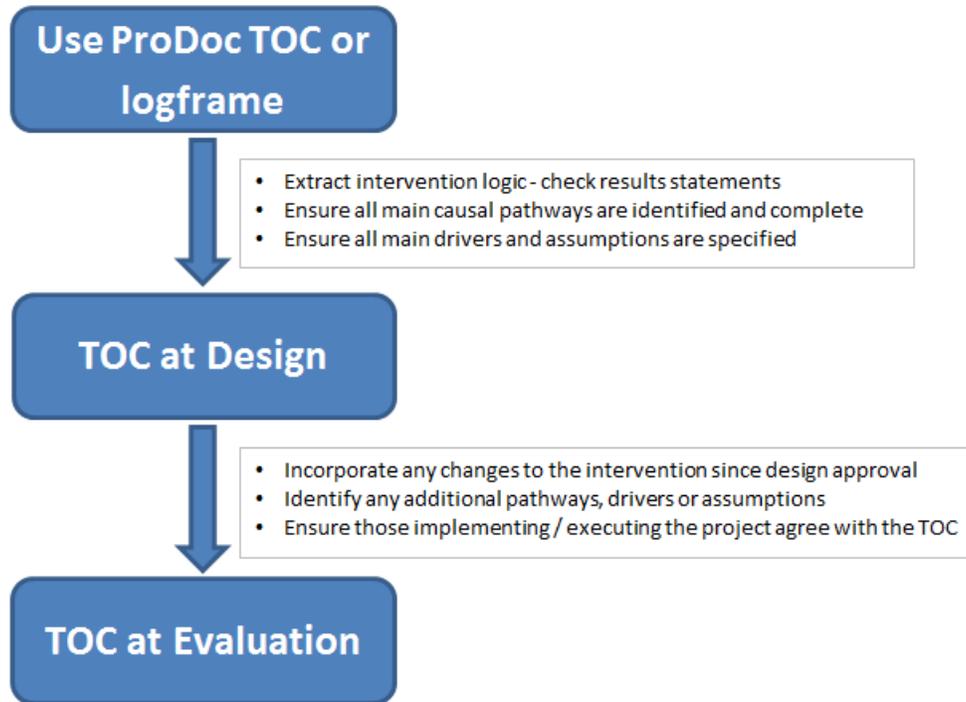


Figure 2. Sequence of TOC preparation in evaluation processes

9. The **TOC at design** should capture the intended causality of the intervention at the time of its formal approval. It should describe a logical sequence of direct outcomes, intermediate states and impacts and the identification of appropriate, assumptions, drivers and indicators along each causal pathway. The evaluator must take care to ensure that all the main causal pathways have been identified. The **TOC at design** is based on the results statements used in the ProDoc e.g. the project goal / objectives, project outcomes, project outputs etc. It is important that the original results statements feature (or are clearly referenced) in the TOC even if the results statements themselves do not match the current UN Environment definitions. This is to ensure that the results for which the project are held formally accountable are clearly presented and form a part of the evaluative framework. The **TOC at design** is reviewed and enhanced by inputs from the Evaluation Manager and then from the Project Manager as part of the preparation of the inception report. The **TOC at design** should:

- a. Clearly articulate the expected impact from the project: this should be an improvement in the state of the environment and related human living conditions. It can often be derived from the project purpose or goal / objective statement.

- b. Ensure the categories/levels of the results statements from the LogFrame are adjusted as needed to fit the current UN Environment definitions of outputs, direct outcomes, intermediate states and impact – without changing the original targets. Sometimes a results statement may need to be broken up in smaller ‘chunks’, some of which might be at different results level than the rest of the results statement. Activities are not represented in TOCs (unless they’ve been poorly articulated and are properly placed as outputs)<sup>2</sup>.
- c. Be comprehensive, all the main causal pathways must be represented and the causal linkages between results made explicit and, where necessary, adjusted. On the TOC diagram these causal linkages are indicated by arrows. The TOC narrative should explain how one result is contributing or leading to the next.
- d. Be plausible. Intermediate results should be added where the ‘leap’ from one result to another misses out important intermediary steps. Most frequently, these will be ‘intermediate states’ between direct outcomes and impact.
- e. Be complete, any missing drivers and assumptions are added and their role in the change processes explained. Any missing stakeholders involved in the change processes are identified as well as how they affect or are affected by the changes. Interdependencies between causal pathways are identified.
- f. Be measurable, the TOC should present (or clearly reference) indicators for the direct outcomes (as a minimum) and, ideally, for the intermediate states and impact in the main causal pathways. The indicators should be SMART<sup>3</sup>.

## Step 2: Preparing the TOC at Evaluation

10. During the main evaluation process the **TOC at design** is discussed with key actors involved in the implementation / execution of the project. Revisions and updates to the TOC are made to reflect any formal documented changes in the project’s intended results or intervention logic and to take into account any changes in external context of the intervention that may influence the causal pathways and the changing needs and priorities of stakeholders.

11. For example, in the course of project implementation, some project outputs or even whole components might have been canceled or added to respond to external changes (or misjudgments at design) regarding, among other things, stakeholder needs and priorities, resource availability, partner capacity and risk factors. The **TOC at evaluation** should reflect these changes, to the extent that these have been formally captured in project revision documents, revised LogFrames, Steering Committee minutes etc. The evaluation team will make sure that the **TOC at evaluation**:

- a. Includes any newly introduced results in the most recent LogFrame, adjusted as needed to fit the current UN Environment definitions of the different results levels – without changing the targets;
- b. The causal linkages between these added results and the other results statements in the TOC are made explicit and, where necessary, adjusted;
- c. Intermediate results are added where necessary;
- d. Any new drivers and assumptions are added and their role in the change processes explained, based on the updated problem tree;
- e. Interdependencies between causal pathways are identified; and
- f. Any new stakeholders involved in the change processes are identified, as well as how they affect or are affected by the changes.

<sup>2</sup> The evaluation team might consider preparing a table for inclusion in the evaluation report that shows the intervention logic/results hierarchy of the project design alongside that of the reconstructed TOC at design.

<sup>3</sup> Simple, Measurable, Accurate, Relevant/Realistic, Trackable/Time-bound

12. The evaluation team will discuss the revised TOC with main actors involved with the execution and implementation of the project to make sure that they have captured accurately the updated intent of the project and they agree with it. When the **TOC at design** has been updated and agreed it becomes **the TOC at evaluation**.

### 3 USE OF TOC TO INFORM EVALUATION CRITERIA

#### *Strategic Relevance*

13. The assessment of strategic relevance focuses on the extent to which the intervention is suited to the priorities and policies of the target group, recipient and donor and includes an assessment of the project's relevance in relation to UN Environment's mandate and its alignment with UN Environment's policies and strategies at the time of project approval. For example, UN Environment strategic priorities include the Bali Strategic Plan for Technology Support and Capacity Building<sup>4</sup> (BSP) and South-South Cooperation (S-SC). The BSP relates to the capacity of governments to: comply with international agreements and obligations at the national level; promote, facilitate and finance environmentally sound technologies and to strengthen frameworks for developing coherent international environmental policies. S-SC is regarded as the exchange of resources, technology and knowledge between developing countries. GEF priorities are specified in published programming priorities and focal area strategies.

14. The evaluation team can use the **TOC at design** to verify this alignment at the time of project approval. Under this criterion, the evaluation team should also assess whether the project objectives and implementation strategies were consistent with global, regional and national environmental issues and needs, and, in particular, the relevance of the project intervention to key stakeholder groups.

#### *Quality of Project Design*

15. UN Environment evaluations require a formal assessment of the project design quality. The **TOC at design** can be used to assess several aspects of project design and to develop relevant questions that explore how well stakeholders were involved during project design processes.

16. The evaluators can assess the intervention logic of the project by comparing the **TOC at design** with the LogFrame and narrative for the intervention (and the TOC in the Prodoc if it exists). This will help determine, among other things, whether project outputs are logically connected (from cause-to-effect) to direct outcomes, and whether direct outcomes are logically connected to expected impact. The assessment will consider whether all essential outputs and direct outcomes have been taken into account in the project design, and whether all necessary drivers and assumptions have been adequately considered. An important aspect here is to assess whether the project's focus is appropriate vis-à-vis: i) UN Environment's mandate, programme of work and comparative advantages; ii) government and other stakeholder priorities; iii) what causal pathways are expected to most strongly contribute to impact; iv) resources available (including time); and v) what is being addressed by other actors (to find complementarities and synergies, and avoid duplication). Also, the evaluators should verify whether appropriate strategies have been built into project design to promote the drivers and manage the risks of possibly invalid assumptions. As noted below, drivers and assumptions cannot only affect the likelihood of impact, but may also play a major role in sustainability, replication and up-scaling.

---

<sup>4</sup> <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

17. The evaluators can also use the **TOC at evaluation** to assess the quality of the stakeholder analysis in the Project Document, by verifying whether key stakeholders have been properly identified and assess whether sufficient analysis is provided on how different stakeholders can affect or be affected by project results; including the nature of relationships that exist among stakeholders; and how they should be incorporated into project design (as partners, beneficiaries, champions, victims, resistors etc.).

18. On the basis of the assessment of the project focus and the stakeholder analysis, the evaluation team will be able to pose questions to assess how well the most relevant stakeholders were involved during project design.

## *Effectiveness*

### *Achievement of outputs*

19. While the assessment of achievement of outputs should cover all programmed outputs at design and those outputs added by possible project revisions, it is often impossible to assess all project outputs with the same level of detail. The **TOC at evaluation** can be used to determine which project outputs are most essential for achieving the project's direct outcomes, and also may provide insights to assess the minimum characteristics and quality requirements for the project outputs so that they are fit to provide their expected contribution to the project outcomes. The assessment of the achievement of outputs can then focus on the most critical outputs and verify whether these meet the requisite characteristics and quality.

### *Achievement of direct outcomes*

20. In UN Environment, direct outcomes are defined as changes resulting from the use of project outputs by key stakeholders. The direct outcomes of an intervention are expected to result directly from the outputs, so the accountability of the intervention's project team for their achievement is high. Outcomes are often changes in capacity and behaviour at the individual and institutional level<sup>5</sup>.

21. The **TOC at evaluation** can be used to assess the internal logic of the project; the evaluators will verify whether project outputs are logically connected (from cause-to-effect) to intended direct outcomes. It is also used by the evaluation team when assessing the extent to which direct outcomes have been achieved and whether all necessary drivers and critical assumptions have been adequately considered.

22. Attribution can be difficult to establish in normative work and the **TOC at evaluation** can be helpful in identifying 'substantive contributions' or a 'credible association' between the project's efforts and the observed results by highlighting the interaction between different causal pathways, the roles played by key stakeholders involved in the project's implementation and whether drivers had the intended effect.

23. Some projects may not have defined their outcomes at an appropriate results level. Others may not have defined outcomes at all, but rather a project "goal", "purpose" or "objectives". The **TOC at evaluation** should have captured the intervention's intended changes at the direct outcome level, to make sure the effectiveness of the project can be appropriately assessed, (i.e. not assessed at the

---

<sup>5</sup> According to current development literature (e.g. UNDP) capacity exists at the individual level (individual knowledge and skills), institutional level (policies, organizational structures, and effective methods of management), and the societal level (responsive and accountable management and governance).

output level or any level above the direct outcome level - which would be beyond the project staff's 'locus of accountability'<sup>6</sup>). Note: The evaluation may also sometimes find effects that are attributable to the intervention beyond direct outcome level (see next section).

### *Likelihood of impact*

24. Theory of Change is commonly used in UN Environment evaluations to assess the likelihood that an intervention will lead to impact. Impact in UN Environment is defined as intended and unintended long-term changes in environmental benefits and human living conditions resulting directly or indirectly from UN Environment interventions. Often, impact takes more than the lifetime of a project to occur, and depends on the presence of several external conditions over which the project has limited or no control. Projects seldom collect and provide accurate baseline information and rarely have monitoring frameworks that inform the assessment of project-mediated changes at the impact level. Reliable information on a counterfactual (a comparable situation without the project) at the time of design and at the time of evaluation is also usually lacking. For these reasons, it is often not possible to measure actual impact of a project, but only to estimate the likelihood of, or potential for, impact using a theoretical approach based on the intervention's TOC.

25. Nevertheless the **TOC at evaluation** can be used to assess whether the direct outcomes are logically connected along the various causal pathways to the intended impact. It is also important to determine the relative importance of the different causal pathways within the TOC, as this might require the evaluators to allocate more weight to some changes along some causal pathways compared to others.

26. In assessing the likelihood of further changes or progression along the causal pathways from the direct outcomes the evaluators will review the presence of the necessary **drivers** and validity of **assumptions** presented in the **TOC at evaluation** and assess whether the project has made all reasonable efforts to promote drivers, and made the necessary adjustments (adaptive management) in case certain critical assumptions proved to be invalid.

27. The evaluators will actively search for evidence of attributable changes happening beyond direct outcomes i.e. achievement of intermediate states and possible early indications of impact (perhaps at a smaller scale). These early signs can strengthen confidence in the validity of the project's TOC.

28. Based on the above, the evaluation team will be able to make an informed judgment on how likely it is that the project will contribute to intended impact. If the internal logic of the project is strong, outcomes have been achieved, all drivers and assumptions are in place, and progress towards intermediate states and possibly impact at a smaller scale have been demonstrated, it is highly likely that the intervention will contribute to impact. On the other hand, if there are flaws in the internal logic of the project, some key outcomes have not been achieved, certain drivers or assumptions are not in place, or there is very little evidence of any progress towards intermediate states and impact, the likelihood that the intervention will contribute to impact will be much lower.

29. This logic has been formalized in the decision tree tool that aids the assessment of the achievement of results along each causal pathway and whether the necessary conditions for 'forward linkage' along the pathway are in place. An excel-based flow-chart (Assessment of Likelihood of Impact

---

<sup>6</sup> Intermediate states of an intervention are expected to result from its outcomes, with the support of certain drivers and assumptions. They are usually changes in capacity at the societal level or changes in individual, group or organizational *behavior* resulting from the application of capacities acquired at the individual and institutional level. Because achievement of intermediate states depends on the presence of favorable external conditions, the project staff of an intervention cannot be held accountable to the same extent for the achievement of intermediate states as they would be held accountable for the achievement of its outputs and outcomes i.e. outputs/direct outcomes are the locus of accountability for project staff.

Decision Tree) is available on the Evaluation Office website ([www.unep.org/evaluation](http://www.unep.org/evaluation)) to support this assessment. Essentially the approach follows a 'likelihood tree' from direct outcomes to impacts, taking account of whether the assumptions and drivers identified in the reconstructed TOC held. Each pathway is individually rated. The aggregate results across the main causal pathways for an intervention are used to determine the overall rating for likelihood of impact on a six-point scale (from 1=highly unlikely to 6=highly likely).

### *Catalytic role, replication and scaling-up*

30. The catalytic role of UN Environment interventions is embodied in their approach of supporting the creation of an enabling environment and encouraging partners/others to work towards common environmental goals. A catalytic role can be demonstrated through replication or scaling up. Replication is defined as the repetition of project approaches or application of project lessons in different implementation settings, while scaling-up is defined as the repetition of project approaches or application of project lessons in the same area, but on a much larger scale. Both replication and up-scaling should be undertaken by other actors and be funded by other sources than the project itself for it to be considered a catalytic effect.

31. The approach to assessing the replication and up-scaling potential of an intervention using TOC is very similar to the approach used for assessing its sustainability, except that here, the evaluators will focus on those direct outcomes, drivers and assumptions that are most necessary for replication and up-scaling of project results. The evaluation team can thus also use the **TOC at evaluation** to see whether replication and up-scaling have been built into the causal pathways and whether the necessary drivers and assumptions (external factors and conditions) promoting replication and up-scaling have been adequately considered in the project's intervention logic. To assess the likelihood of replication and up-scaling, the evaluators will assess the relative importance of direct outcomes, drivers and assumptions (presented in the **TOC at evaluation**) for enabling replication and up-scaling, and verify to what extent the most influential ones have been realised or are present. The reliability of this assessment can be enhanced by looking for early evidence of replication or up-scaling during the project lifetime. The TOC may also be used to formulate recommendations to enhance replication, by offering a 'prediction' of how an initiative might work/be adjusted to maximize results in a different implementation settings.

### *Environmental, social and economic safeguards*

32. During the project design process UN Environment Project Managers are asked to assess environmental, social and economic risks and to develop a management plan to respond to those issues identified as having either a 'moderate' or 'high' level of risk attached to them. The **TOC at evaluation** can be used to identify the unintended negative impact of the intervention and, combined with an analysis of the contributing conditions (i.e. assumptions and drivers), offer insight into whether safeguarding issues were adequately and appropriately identified and addressed within the project design and/or whether the project team were able to apply adaptive management skills to mitigate emerging safeguarding issues.

### *Monitoring and Reporting*

33. The **TOC at evaluation** can help the assessment of the quality of the monitoring design and the implementation of the project's monitoring system. Comparison of the information gathered by the monitoring system, its relevance to tracking the progress of the project in delivering the direct outcomes and higher level results and how it was used to adapt and improve project implementation /

execution, achievement of direct outcomes and ensuring sustainability, replication and up-scaling. The assumptions and drivers in the TOC are also relevant to assessing the extent to which external conditions were monitored for the management of risk.

34. The **TOC at evaluation** can also help with the assessment of the quality of the logframe (original and possible updates) as a planning and monitoring instrument.

### *Sustainability*

35. The assessment of sustainability is concerned with verifying whether the necessary conditions are in place for continuation of project benefits after the project has ended. The evaluation team can use the **TOC at evaluation** to inform an assessment of whether sustainability has been built into the causal pathways and whether the necessary drivers and assumptions (external factors and conditions) affecting sustainability have been adequately considered in the project's intervention logic and translated into action during implementation and any subsequent adaptive management.

36. The evaluators will assess the likelihood that the direct outcomes (taken from the **TOC at evaluation**) will be sustained, and what the relative importance is of the direct outcomes to sustain higher level changes. Indeed, as outcomes relate most often to individual and institutional capacity building, they are often by themselves assumed to contribute to sustainability. For instance, the adoption of a set of new regulations could be the basis of a lasting change in how a natural resource is being managed.

37. In addition to looking at the direct outcomes, the evaluation team will further assess sustainability of changes at intermediate state and impact levels by verifying the presence of drivers and validity of assumptions (presented in the **TOC at evaluation**) that affect sustainability of higher level results, considering their relative importance. Many drivers and assumptions required for progress along the causal pathways from outputs to impact are also required for sustaining positive changes. For reasons of standardization, those factors are categorized in socio-political factors, financial factors, and institutional factors.

### *Factors Affecting Performance*

#### *Preparation and readiness*

38. This evaluation criterion focuses on the inception or mobilisation stage of the project and considers the nature and quality of engagement with stakeholder groups by the project team, the confirmation of partner capacity and the development of partnership agreements as well as initial staffing and financing arrangements. The **TOC at design** can be used to help identify relevant questions regarding stakeholder engagement, and to gain insights into the minimum characteristics and quality requirements needed at inception for the project outputs to be delivered effectively (e.g. was partner selection appropriate given the nature of, and quality requirements for, project outputs). In addition, preparation for implementation has much to do with the creation of an enabling environment to conduct the project's activities in order to deliver the project outputs. The project logframe and workplan are also important sources of information to inform these aspects.

#### *Quality of project management and supervision*

39. The **TOC at evaluation** can help clarify the roles of the project management team that are necessary in delivering the project outputs and pushing change along the different causal pathways.

The evaluation team can use the **TOC at evaluation** to formulate relevant questions to explore whether the project team put sufficient effort into promoting drivers i.e. external factors over which the project can have influence that are needed to attain direct outcomes, and move beyond them towards intermediate states and impact. In addition, the actions needed to enhance the sustainability of outcomes and/or replication or up-scaling are also often captured in the TOC drivers. Further, a comparison of the **TOC at design** and the **TOC at evaluation** can help assess the adaptive management efforts made by the project team to respond to a changing context and react to invalid assumptions.

#### *Stakeholder participation and cooperation*

40. The evaluation team can refer to the **TOC at evaluation** to verify whether it includes an approach for sharing information and encouraging cooperation with partners, national/local project stakeholders and other UN Environment units, projects and programmes. The **TOC at evaluation**, stakeholder analysis and partner analysis should assist the evaluators in identifying the key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathways from activities to achievement of outputs, direct outcomes and intermediate states towards impact.

#### *Responsiveness to human rights and gender equality*

41. The **TOC at evaluation** can be used to identify causal pathways that are either dominated by the decision-making and actions of one gender group or which affect gender groups differently. When a gender perspective is used to review and interpret a theory of change different key actors and stakeholders may be identified and gender-responsive assumptions may be emphasized. Gendered understandings of causal pathways may suggest intervention strategies that need to be differentiated by the needs of different gender groups. Similarly, the TOC at evaluation can support an analysis of the needs of more vulnerable or under-represented groups.