



# Experiences with systematic triangulation at the Global Environment Facility



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## ABSTRACT

Systematic triangulation may address common challenges in evaluation, such as the scarcity or unreliability of data, or the complexities of comparing and cross-checking evidence from diverse disciplines. Used to identify key evaluation findings, its application has proven to be effective in addressing the limitations encountered in country-level evaluation analysis conducted by the Independent Evaluation Office of the Global Environment Facility (GEF). These include the scarcity or unreliability of national statistics on environmental indicators and data series, especially in Least Developed Countries; challenges in evaluating the impacts of GEF projects; and inherent difficulties in defining the GEF portfolio of projects prior to the undertaking of the evaluation. In addition to responding to the need for further developing triangulation protocols, procedures and/or methodologies advocated by some authors, the approach offers a contribution to evaluation practice. This applies particularly to those evaluation units tasked with country-level evaluations in international organizations, facing similar constraints.

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## 1. Introduction

The scarcity or unreliability of data and the complexities of comparing and cross-checking evidence from diverse disciplines are among the most common challenges evaluators face, particularly – but not exclusively – in evaluations of project and programme support to the environment provided by the international donor community to developing countries. These challenges are also faced in country-level evaluations conducted by the Independent Evaluation Office (hereafter referred to as Office) of the Global Environment Facility (GEF).

The GEF is one of the most important, if not the most important multilateral fund specifically supporting environmental projects and programmes throughout the world. It was set up as a partnership institution in the early 90s to serve as a financial mechanism to the international environmental conventions. It does so providing financial support to enable countries that are signatories to these conventions to abide to their commitments. Support is provided on five main subjects, called 'GEF focal areas', which include as diverse environmental sectors as biodiversity, climate change, land degradation, international waters and chemicals, corresponding to a rather diversified set of scientific domains such as ecology, soil science or chemistry, just to name a few.

In 2005, the GEF Council requested the Office to begin conducting evaluations of the GEF portfolio of projects at country level. Since then, country-level evaluations have become a consolidated stream of evaluation work of the Office.<sup>1</sup> The purpose of GEF country-level evaluations is to provide the GEF Council with an assessment of how GEF support is implemented at country level, a report on results from GEF support in all GEF focal areas, and an assessment on how this support is linked to national environmental and sustainable development agendas as well as to the GEF mandate of generating global environmental benefits within its focal areas.

## 2. Purpose

The way GEF country-level evaluations are conducted, in terms of objectives, main evaluation questions, scope, process, evaluation methodologies and tools, has remained consistent through time in order to facilitate comparison across country portfolios at the end of each GEF replenishment phase.<sup>2</sup> Another salient feature of GEF country-level evaluations is that the period covered by these

<sup>1</sup> A complete list of countries having undergone CPEs can be found on the Office's website.

<sup>2</sup> GEF CPE Standard TORs, process description and main evaluation methodologies and tools used in CPEs are available on the Office's web site (<http://www.thegef.org/gef/CPE>).

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evaluations is rather long, often going back to 20 years, i.e. to the start of GEF operations in a given country. This is due to the necessity of having a sufficient number of projects in the portfolio that are completed since long enough time for environmental impact to be observable.

The earlier Country Portfolio Evaluations (CPEs) faced several contextual and methodological limitations, including: (a) scarcity or unreliability of national statistics on environmental indicators and data series, especially in Least Developed Countries (LDCs); (b) unreliability of project performance and results data from the older projects; (c) challenges in evaluating the impacts of GEF projects – many GEF project formulation documents, especially the older ones, do not clearly or appropriately specify the expected impact and sometimes even the outcomes of projects; and (d) inherent difficulties in defining the GEF portfolio of projects prior to conducting the CPE.

Many of these limitations, and especially data scarcity and unreliability, are also faced by those evaluation units of other international organizations tasked with the conduct of country-level evaluations. As for the Office, many of the highlighted initial difficulties have remained, partly because of the very nature of the GEF. Being a global institution based on partnership, project-related information is often located in the management information systems of both international and national GEF partners and Agencies. Such systems do not necessarily communicate with each other. Over the years, several of the Office's evaluations have highlighted weaknesses in the GEF Project Management Information System (PMIS), which is designed to serve as a central information hub for the GEF partnership as a whole. Updating the project portfolio data prior to conducting the evaluation analysis has been and remains a challenge in several evaluations conducted by the Office, including CPEs.

To address those challenges, in 2009 the Office started to adopt more consistently mixed or multiple methods approaches to its CPEs. This involved the gathering of a substantial amount of additional original evaluative evidence through diverse methods, such as case studies, cross-checking of the portfolio under analysis directly with the agencies concerned prior to undertaking the evaluative analysis, quantitative data gatherings from available international databases, online surveys, among others. This contributed to partly address the data challenges. In 2010 the Office went further and identified systematic triangulation as a valid option for addressing the remaining challenges. After an in-depth review of the existing literature on mixed-methods research as well as of triangulation experiences in evaluation practice from the international cooperation sector, the Office designed, tested and adopted a systematic approach to triangulation with the main purpose of strengthening the analysis of data and identifying reasonably solid and reliable evaluation findings. The approach is described in detail in a note aimed at providing guidance and methodological support to internal staff and external consultants involved in the Office's country-level evaluations.<sup>3</sup>

This article provides a self-assessment of how effective the Office's systematic approach to triangulation has been in identifying key findings in its CPEs. By presenting the case of one international agency's systematic approach to triangulation when undertaking country-level evaluations, the article offers a contribution to evaluation practice, particularly to those evaluation units tasked with country-level evaluations in international organizations, facing similar constraints.

### 3. Defining triangulation and its main purpose

Triangulation is a powerful research technique that facilitates the cross-verification using more than two sources. In particular, it refers to the application and combination of several research methodologies in the study of the same phenomenon (Bogdan and Biklen, 2006). By combining multiple observers, theories, methods, and empirical data, researchers aim at overcoming the weaknesses, intrinsic biases and the problems that are often found in single method, single-observer and single-theory studies.

In social sciences, where many examples of applied triangulation are found, the concept of triangulation is often used to indicate that more than two methods are used in a study with a view to double-check, or even triple-check, results. The assumption is that a study's finding is more solid if different methods lead to the same result. If only one method is used, there may be a temptation to be over-confident in the strength of the findings. If an investigator uses two methods, the results may contradict each other. By using three methods to get to the answer for one question, two of the three may produce similar answers and therefore provide greater certainty. Alternatively, three clashing answers could be produced, indicating that the question needs to be reframed, methods reconsidered, or both.

Over the years, a number of scholars have attempted to give a precise definition of triangulation and categorize its existing typologies. Jick (1979) broadly defines triangulation as the use of multiple methods – mainly qualitative and quantitative – in studying the same phenomenon for the purpose of increasing study credibility. Cohen and Manion (1985) define triangulation as an “attempt to map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint”. According to O'Donoghue and Punch (2003), triangulation is a “method of cross-checking data from multiple sources to search for regularities in the research data”. Altrichter et al. (2008) (pp. 147) explain the usefulness of triangulation, which “gives a more detailed and balanced picture of the situation”.

Denzin (1970) identified four basic types of triangulation: (a) *Methodological triangulation*: involves using more than one method to gather data, such as interviews, observations, questionnaires, focus groups and documents; (b) *Data triangulation*: involves time, space, and persons; (c) *Observer triangulation*: involves multiple researchers in an investigation; and (d) *Theoretical triangulation*: involves using more than one theoretical scheme in the interpretation of the phenomenon under study.

Most articles found in literature deal with data, theories and/or methods triangulation, while observer triangulation is less prominent. Triangulation types and subtypes can be combined depending on interests, research problems and questions (Table 1).

The Office's systematic approach to triangulation has been designed with the specific purpose of identifying key evaluation findings. In most of the existing literature on triangulation – intended as use of multiple sources of qualitative and quantitative information and/or data collection and analysis methods – the main purpose of triangulation is either: (a) the validation of results in a study, or (b) the deepening of the understanding of and insight into such results. Box 1 summarizes a selection of quotes illustrating various authors' conceptualization of triangulation and its related purpose.

There is a rich scientific literature on multidisciplinary and interdisciplinary research that is relevant to triangulation, as it tackles the difficult issue of how to use methods from different scientific domains in a coherent way and how to achieve synthesis or higher-level understanding. This discussion has not been explored for this article, which describes evaluation practice rather than issues raised in the philosophy of science.

<sup>3</sup> The CPE triangulation methodological note is available on the Office web site (<http://www.thegef.org/gef/CPE>).

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