

APPROACH PAPER:

Scoping Study: Meta-Evaluation of Natural Resource Management Interventions linked to Climate Change

i. Introduction

This approach paper outlines the details of a proposed scoping study that will help increase the knowledge and understanding of evaluations of Natural Resource Management (NRM) interventions linked to climate change. The objective is to uncover the challenges, useful methodologies, potential solutions and areas for further research on this topic.

The proposed study will be undertaken on behalf of the Climate-Eval Community of Practice (www.climate-eval.org), hosted by the Global Environment Facility Independent Evaluation Office (GEF IEO). Climate-Eval was formed as a result of the 2008 International Conference on Evaluation Climate Change and Development, held in Alexandria, Egypt. It is a community of over 2,000 members including monitoring and evaluation practitioners in government and development cooperation agencies, civil society organizations, and academia. Climate-Eval has conducted three state of the art studies, published a book, organized webinars to share knowledge, and boasts an electronic repository of almost 400 reports on issues of climate change and development evaluation.

As part of its second phase of work, Climate-Eval added focus towards building evaluation capacities in climate change and development interventions with an emphasis on NRM. The findings and recommendations of this study will be presented at the 2nd international conference of evaluating climate change and development, to be held in Washington D.C. in November, 2014.

The Linkage between Climate Change and Natural Resource Management (NRM):

To simplify, NRM can refer to the management of land, water, ecosystems, genetic resources, and biodiversity¹. Sustainable or Integrated NRM refers to the incorporation of aspects of resource use into a system of sustainable management to meet the goals of resource users, managers and other stakeholders² (e.g. to meet production, food security, profitability, risk aversion and sustainability goals).

Such a definition takes into account the two-way relationship between NRM and climate change. That is to say that climate change affects natural resources in various ways (e.g. desertification and land degradation, deforestation, biodiversity loss, natural disasters, water scarcity, etc.) and is in turn affected by NRM interventions through both adaptation and mitigation activities, which aim to stop or slow down its processes (Corfee-Morlot et al, 2003).

NRM can be divided into sub-themes where many approaches to tackle effects of climate change already exist, such as: Biodiversity Conservation & Ecosystems Management (e.g. Ecosystems based Adaptation); Community based NRM (e.g. Community based Adaptation); Sustainable Land

¹ <http://www.fao.org/nr/aboutnr/en/>; <http://www.unep.org/ecosystemmanagement/>

² Douthwaite et al, 2004; Convention on Biodiversity – COP5 Decision V-6.

Management (e.g. managing land degradation/ desertification); Sustainable Forest Management/ REDD+; Resilience/DRR; Coastal zone management; Integrated Water Resource Management; and Food Security/ Sustainable Livelihoods (e.g. Climate-smart Agriculture).

Challenges in the Evaluation of NRM and Climate Change:

Large investments are made into environmental programs and projects addressing local, national and global environmental problems. Yet evaluation evidence lags due to challenges that range from political and ideological differences to lack of transparency and inadequate sharing of data, to methodological challenges in measuring results (Uitto, 2014). Common challenges that are specific to environmental evaluations include but are not limited to: issues with time horizons; scale; data quality & credibility; evaluation design; and complexity (Birnbaum&Mickwitz, 2009)(Margoluis et al. 2009)(Preskill, 2009).

Environmental evaluators come from a diverse set of disciplines and professional paths. They must focus not only on the ecological aspects and direct changes to environmental status but also the changes on the human side, through social and/or economic effects. This is what Rowe (2012) refers to as a two-system evaluand approach. This involves different stakes for different stakeholders, and necessitates collaboration between those dealing with the ecological (hard-science) aspects and those responsible for the human aspects (e.g. policies and regulation).

Innovative Approaches and Looking Ahead:

Although there is limited evidence so far, some authors and practitioners have shown how these challenges can be tackled and where more efforts can be directed. For example, Miteva et al (2012) have explored common issues in evaluation of conservation interventions and argue for a new emphasis based on better theory, methods and data. Better theory involves enhancing internal and external validity, improving counterfactuals, and accounting for the two-way relationship between humans and ecosystems. Better methods include removing bias, analyzing spillover effects, and measuring variables over a longer time period. Better data includes gathering more and better socioeconomic and institutional data from relevant locations when setting baselines, and improving collaboration between environmental scientists and economists during analyses of ecological data.

Similarly, Margoluis et al (2009) advocate for building evaluation design into program design at the outset, and bridging the divide between biologist-social scientist and practitioner-researcher groups. With regards to conservation evaluations, they suggest using 'matched control/comparison groups' as a quasi-experimental design option. Bruyninckx (2009) explores the issue of social and ecological mismatch of scale, and explores frameworks such as the DPSIR framework; and Hilden (2009) explores approaches to tackling the time horizon issue by testing competing theories of change through accounting for initial impacts as well as lagged effects.

Thus evaluation can learn a great deal from what has already been tried and tested, as well as by probing the gaps where there is thus far not enough evidence. There are bound to be certain evaluative challenges, gaps, solutions, and innovative approaches that have not yet been systematically reviewed and compared with a view to improving quality and effectiveness of evaluations. One way to uncover

these challenges is to conduct a scoping study of all evidence relevant to this field, and synthesize the findings with a view to informing future research and improved evaluation capacities.

ii. Purpose, Objectives, and Audience

Purpose:

The overlying purpose of this study is to strengthen evaluation of NRM interventions that contain aspects of climate change adaptation or mitigation. The study will do this by highlighting some of the challenges and discuss how these can be tackled. It is meant to be an *exploratory*, “goal-free” study , as it aims to “map out” the terrain that would help develop an agenda for future work of the evaluation community.

The expected benefit of this study is to provide evaluators with an overview of the main evaluative issues on the topic, improve capacity in undertaking evaluations (especially in the South), and increase usefulness of evaluations for policy makers, decision-makers in government agencies, stakeholders and local communities. The longer term impact envisaged is that actors in the field will be better informed on the basis of solid evidence gathered.

Objectives:

- a) Identify **approaches** to evaluation of NRM interventions that have a linkage with climate change;
- b) Uncover the main **challenges/issues** faced by such evaluations;
- c) Identify **gaps**: areas of intervention that lack evaluations; issues that aren’t covered in evaluations;
- d) Highlight **potential solutions** and innovative methods that can be applied to the evaluations;
- e) Build an **evidence base** of relevant literature and evaluations; and
- f) Outline areas where **further research** could be beneficial in yielding knowledge that could improve the practice of evaluation in this domain.

Key Study Questions:

The key questions are derived from some of the main challenges in environmental evaluations mentioned on page 2, but are by no means an exhaustive list. These challenges are described below, followed by the questions that broadly relate to each:

Classification/ Typology of Evaluations

NRM interventions can be classified into resource use; environmental; and conservation interventions (Rowe, 2012). Environmental evaluations can be framed in many ways, depending on the questions being asked. The focus of evaluations can be on public policies, on specific actions, or on projects and programs (Mickwitz&Birnbaum, 2009).

Evaluations may also be defined in terms of frameworks of results such as outcomes, impact, process, thematic, real-time, joint, country/regional/global programme etc. Apart from this, they can also be defined by when they are carried out: e.g. Ex-ante, Mid-term, Terminal, Ex-post, etc³.

Q1: What typologies can be used to classify evaluations that currently exist on the topic? For example, by intervention; type of evaluation; region; sector; NRM approach/sub-theme, etc.?

Q2: What national, global, regional and organizational M&E frameworks exist for NRM interventions? How do they incorporate effects/aspects of climate change?

Q3: What types of evaluation methods and approaches are used in the scoped evaluations?

Evaluation Design

Environmental projects often operate with limited time and resources making it unfeasible to use counterfactuals or experimental designs in evaluations (Ferraro, 2009). This is partly because comparisons to test the effectiveness of an evaluation and attribution can be tricky with evaluands located at the intersection of human and natural systems.

Theories of change (TOC) are an important part of impact pathways as they help explain causality and describe the assumptions behind the causal linkages. They set out models of how the intervention is expected to contribute to the desired results. In setting up TOCs, accounting for rival explanations (counterfactuals) becomes critical given the high level of uncertainty and lack of data involved. Ultimately, the type of evaluation design chosen will involve tradeoffs between resource/ time constraints and internal and external validity.

Q4: What evaluation designs are used in evaluations scoped for the study? Which are frequent and which are innovative? Which ones are the most suitable for various types of NRM interventions? What are the advantages and drawbacks of each?

Q5: How is the Theory of Change approach used in the scoped evaluations? What counterfactuals are used in this approach?

Time Horizons and Scale

Effective framing of evaluations requires appropriate attention to timing—determining both when to do an evaluation and how to bound the time period being evaluated (Mickwitz&Birnbbaum, 2009). Differing time horizons for observing changes in natural and social systems often do not correspond well with each other. Evaluators may be expected to assess impacts of short-term policies and programs on environmental outcomes that may take decades to be revealed.

Environmental problems such as deforestation or climate change typically take place across numerous spatial scales, which often do not match scales of political jurisdictions. Other problems of scale can be seen in conservation interventions that deal with mobile species, such as migratory birds or fish, which can distort the baseline/ data and or measures of spillover effects.

Q6: How do the scoped evaluations accommodate problems of time horizons?

³ UNDP Evaluation Handbook <http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf>

Q7: How do evaluations deal with the problem of mismatch between ecological and socio-economic scales?

Data Quality and Credibility

Data quality and credibility depends upon valid, reliable and impartial data. Reliability and validity can be improved through improving the quality of sampling and data gathering; and using mixed methods of collecting data (e.g. triangulating multiple sources of data)⁴.

Issues with data quality and credibility in environmental evaluations include error and bias; pseudo-replication; 'effect modifiers' that make attribution problematic; unreliable impact and outcome data; internal and external validity; and whether to use qualitative or quantitative data (Pullin&Knight, 2009). These issues are further complicated when evaluators use different methods of data collection which cannot be compared, and when they do not collaborate/ share data.

Q8: What are some of the common challenges in improving the quality and credibility of data in evaluation of NRM interventions?

Valuation of Natural Resources

Environmental economics has developed methods to use economic valuation for environmental policy decisions and cost-benefit analyses. There are many advantages and disadvantages of such an approach, and there is considerable debate about the methods (Brauer, 2003). One of the issues that evaluations must consider is accounting for how human interests and cultures differ in how they use and value natural resources (Rowe, 2012).

Q9: What methods are used for economic valuation in the scoped evaluations?

Utilization and Influence

The utility of NRM evaluations can be increased when all affected stakeholders are involved at every stage, including design and implementation. This makes the evaluation salient, legitimate, and credible (Clark, Mitchell, & Cash, 2006). Furthermore, evaluations must focus as much on learning and knowledge creation as they do on accountability.

A constructive partnership among all relevant stakeholders is essential for generating evaluation knowledge and ensuring uptake and ownership⁵. This partnership must include bringing in people with skills and experience in social as well as natural sciences (Mickwitz&Birnbaum, 2009).

Q10: What approaches are used to increase the utility of evaluations?

Audience:

The target audience includes the Climate-Eval community of practice, evaluators, environmental scientists, economists, and policymakers involved in development and sustainable natural resource management.

⁴ UNDP Evaluation Handbook: <http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf>

⁵ <http://nrmonline.nrm.gov.au/catalog/mql:2338>

iii. Methodology for the Scoping Study

This study will draw on secondary sources of information including existing evaluations. It will use an iterative synthesis approach to respond to the study objectives and key questions outlined above.

Secondary Sources

The consultant will do an exhaustive and wide-ranging search of all material relevant to evaluation of NRM interventions that contain aspects of climate change. This would include publications by evaluation offices of development and environmental organizations, evaluation journals, grey literature, studies, and reviews. The search should also include locating organizations and individuals that are relevant to the domain and what those groups have published.

Possible keyword searches include: “Natural Resource Management”; “Environment” & “Evaluation”; “Natural Resources” & “Evaluation”; “M&E” and “Sustainable Development”; “Natural Resource Management” and “Climate Change”; “Sustainable NRM” and “Evaluation”, etc. Relevant literature may be retrieved using ‘pearl-growing’ or ‘snow-balling’ techniques (Arksey & O’Malley, 2005).

Desk Review of Evaluations

A desk review of relevant evaluations will be conducted to broaden the evidence base for selected themes of the scoping study. Possible resources that can be consulted include the Climate-Eval library, and various evaluation **databases and libraries**. These may include but are not limited to:

- Climate-Eval e-library of evaluations: <https://www.climate-eval.org/eLibrary>
- UNDP Evaluation Resource Center: <http://erc.undp.org/index.html>
- ADB Independent Evaluation Resources: <http://www.adb.org/site/evaluation/resources>
- UNEG Database: <http://www.uneval.org/evaluations/reports/>
- USAID Development Experience Clearinghouse: <https://dec.usaid.gov/dec/content/evaluations.aspx>
- Inter-American Development Bank: Office of Evaluation and Oversight: <http://www.iadb.org/en/office-of-evaluation-and-oversight/evaluations,1578.html>
- OECD Eval Resource Center (DEReC): <http://www.oecd.org/derec/>
- DfID Evaluation Reports: <https://www.gov.uk/government/collections/evaluation-reports>
- World Bank Independent Evaluation Group: <http://ieg.worldbank.org/webpage/evaluations>

Synthesis of Findings

An iterative approach is proposed to select relevant material for the scoping study, and to decide on the appropriate method of synthesis of findings. Discussions and consultation with the community of practice in the form of blogs, online platforms, and webinars can be carried out at the beginning, mid-point and final stages of this process. Such an approach will alleviate ambiguity about the research focus and expected outputs, and help balance the feasibility of the study with its breadth and comprehensiveness (Arksey & O’Malley, 2005).

Possible forms that the analysis can take include a meta-analysis, systematic review, thematic synthesis, cross-case comparison, critical interpretive analysis, and framework synthesis, to name a few.

Key Products:

The final product will be in the form of a report to be shared with and reviewed by the community of practice before publication. The report must address all of the objectives as well as the key questions, including any other questions that may arise during the study.

vi. Roles and Responsibilities

A senior consultant will lead the scoping study, hired by the GEF Independent Evaluation Office on behalf of the Climate-Eval community of practice. The Climate-Eval moderation team will facilitate the communication and discussion between the consultant and the community members, via focus group discussions, postings on the Climate-Eval forum, and email.

Self-selected members of the Climate-Eval community of practice and experts will be consulted in key steps of the scoping study preparation, such as in the identification of scope, target audience, validation of results, and addressing the main issues that will be encountered in conducting the study, among others.

vii. Schedule

The preparation of the scoping study will be conducted between August 1st and September 30th, 2014. The consultant is required to propose a detailed schedule of activities outlining the key steps of the study.

viii. References

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