Toolkit on
Monitoring and Evaluation
of Environmental Peacebuilding

Acknowledgments

Overall Table of Contents for the Toolkit

1 Introduction

Table of Contents for the Introduction

Environmental peacebuilding is a rapidly growing field of practice and research at the intersection of the environment, conflict, and peace. Due to the newness of the field, the inherent intersectionality of the work, and the complexity and volatility of the context of this work, effective monitoring and evaluation (M&E) is both essential and underdeveloped. For the purposes of this Toolkit, M&E also implicitly includes design and learning. This Toolkit provides a comprehensive approach for practitioners and evaluators seeking to design and implement M&E systems for environmental peacebuilding interventions. This chapter provides an overview of the Toolkit.

This chapter:

- Provides the context and motivation for the Toolkit.

- Outlines the objectives and provides a roadmap for the Toolkit.

- Discusses the intended audience.

- Provides guidance on how to use the Toolkit.

- Presents the methodology underlying the development of the Toolkit.

1. Introduction

Environmental peacebuilding is a new and rapidly evolving field of research and practice. For the purposes of this Toolkit, **"environmental peacebuilding" includes a wide range of activities at the intersection of environment, conflict, and peace; in many instances, interventions[1] may not be labelled as "environmental peacebuilding."[2]**

Monitoring and evaluation (M&E) are important to the field for multiple reasons. In addition to the traditional and limited notion of accountability to donors, M&E also supports accountability to intervention participants and beneficiaries, within an organization, and to peers. For environmental peacebuilding, M&E is also important for fostering learning, and thus improving future design and implementation of interventions, as well as early warning on an often dynamic and volatile context. Notwithstanding its importance, M&E is underdeveloped.

This Toolkit provides guidance to practitioners on designing and implementing M&E systems for interventions at the intersection of environment, conflict, and peace. Informed by a growing body of experience in environmental peacebuilding M&E and supplemented by experience in M&E of interventions from the environmental, peacebuilding, and development sectors, this Toolkit provides approaches and tools. Specifically, the Toolkit provides information to practitioners on the importance of M&E, challenges, good practices, considerations, and available resources for undertaking the M&E of environmental peacebuilding interventions.

This chapter provides an introduction to the Toolkit. It outlines the Toolkit's context, objectives, use, and methodology to guide practitioners as they navigate the document.

---

1. For purposes of this Toolkit, the use of term **"interventions" includes a range of projects, programs, and other activities.**

2. For further exploration of the scope of environmental peacebuilding, see Section 0.2 of the Primer.

1.1. Context

As the field of environmental peacebuilding matures, a primary limitation has been effectively monitoring and assessing the effects of related interventions, both short- and long-term, intended and unintended (Nanthikesan & Uitto 2012).

The high levels of complexity and uncertainty associated with many environmental peacebuilding interventions complicate M&E because traditional approaches to M&E are not designed for fields defined by such complexity and uncertainty (Pearson d'Estrée 2019a). As a result, the **M&E of environmental peacebuilding is complicated by five key challenges:**[3]

- Environmental peacebuilding integrates environmental and peacebuilding pathways, each of which has different objectives and metrics; it can be challenging to combine the different objectives and metrics traditionally used for environmental interventions with peacebuilding interventions, and vice versa.[4]

- Environmental peacebuilding often evolves with long time horizons. This means that, oftentimes, impacts can only be detected after an intervention ends—sometimes years later.

- Environmental peacebuilding is an emerging field, resulting in many implicit and underdevel-oped theories of change that rely on anecdotal and/or deductive evidence rather than proven strategies. Additionally, many environmental peacebuilding interventions combine multiple theories of change.

- Environmental peacebuilding often operates in dynamic and insecure contexts, which can make M&E activities unsafe at a time when it is all the more important to expand the range of perspectives captured through these activities.

- M&E of environmental peacebuilding engages a multiplicity of actors and systems, complicating efforts to collect data and evaluate why and how change occurs.

As environmental peacebuilding interventions are necessarily multidimensional and take place in complex settings, **many of the more traditional and discipline-specific M&E standards currently available are often insufficient.** As alluded to in the fifth and final challenge, the layers of complexity in environmental peacebuilding interventions make it impractical to simply aggregate M&E indicators and

---

3. See, e.g., Ide et al. 2021; Woodrow & Jean 2019; Pearson d'Estrée 2019b; Nanthikesan & Uitto 2012.

4. For further discussion of these challenges, see Section 0.4 of the Primer.

approaches. Indeed, policy and academic approaches regarding how to best carry out M&E are often untethered from the needs of and demands on those carrying out environmental peacebuilding interventions, making M&E problematic and intimidating.

The difficulty in doing M&E for environmental peacebuilding and the consequent limited evidence of the effects of this field of practice have been substantial barriers to understanding whether these interventions are achieving their intended objectives. This has, in turn, complicated the mobilization of funding for environmental peacebuilding from governmental, intergovernmental, and foundation sources. **With limited evidence to validate the various approaches, it has been (and will remain) challenging to identify and scale up those approaches that are most effective in particular contexts.** The long-term viability of environmental peacebuilding as a field depends on developing more effective approaches to monitoring, evaluation, and learning for the future.

While there is substantial peer-reviewed literature on M&E for peacebuilding (e.g., Pearson d'Estrée 2019a, b; Woodrow and Jean 2019; Abu-Nimer & Nelson 2021; Menkhaus 2004), for environment (e.g., Uitto 2019; Conley and Moote 2003; Carleton-Hug & Hug 2010; Chess 2010), and for sustainable development (e.g., Patton 2010; Zall Kusek & Rist 2004), **literature on M&E for environmental peacebuilding is largely absent.** What does exist tends to focus on post-conflict interventions involving natural resources (e.g., Nanthikesan & Uitto 2012; Brusset 2016) and in multinational collaboration on natural resources management (Uitto 2004).

Scholars have recognized the need for more tailored M&E processes for environmental peacebuilding projects (e.g., Ide et al. 2021). Nanthikesan and Uitto (2012) outlined the particular needs of evaluations in post-conflict settings, including the insufficiency of traditional quantitative approaches and difficulty in ascertaining project impacts due to divergent stakeholder perspectives. Uitto (2004) addressed

have developed innovative approaches to asses interventions at the intersection of environment, conflict, and peace.[5]

One of the challenges, then, is expanding the limited peer-reviewed literature by integrating the substantial body of learned experience on environmental peacebuilding M&E. Abu-Nimer (2019) illustrates how such learned experience can be captured rigorously, albeit in the context of M&E for peacebuilding more broadly rather than environmental peacebuilding specifically.

The literature on M&E—both on environmental peacebuilding and more broadly—highlights some important trends. The first trend in both environmental peacebuilding and its M&E is the importance of inclusion, conflict sensitivity, and gender considerations (e.g., Ide et al. 2021; Farnum 2020). Increasingly, environmental peacebuilding focuses on power dynamics (e.g., Morales-Muñoz 2022). In that context, environmental peacebuilding interventions often seek to understand and reform who has control over and access to natural resources (Jensen & Kron 2018). In addition to the substance of environmental peacebuilding, it is increasingly recognized that the process of environmental peacebuilding should be participatory, gender-inclusive, and conflict sensitive (Ide et al. 2021; Johnson, Rodriguez & Hoyos 2021).

the proactive peacebuilding role of environmental interventions by highlighting the importance of M&E in promoting cooperative management of international waterways. In particular, Uitto stressed the need for transparent and participatory M&E processes to build trust around shared water management.

Notwithstanding the limited peer-reviewed literature on the topic, institutions have of necessity developed M&E approaches for their environmental peacebuilding interventions. IMPACT, formerly Partnership Africa Canada, has combined its data on conflict in mineral supply chains with longer-term evidence of local security and development in areas affected by extractive activities. The Center for Conservation Peacebuilding (CPeace) has also dedicated attention to improving its M&E strategy. The pioneering toolkits for conflict-sensitive conservation produced by International Institute for Sustainable Development (IISD) and Conservation International (CI) touch on M&E (Hammill et al. 2009; Ajroud et al. 2017, respectively). An evaluation of the implementation of CI's toolkit by Woomer (2018) explores M&E in environmental peacebuilding projects, particularly focusing on their relevance, accessibility, and effectiveness. And various evaluations and thematic reviews

---

5. See, for example, Boxes 4.7 (Assessing the Potential for Environmental Peacebuilding over Shared Waters through EcoPeace Middle East's 25+ Years of Experience in Israel, Palestine, and Jordan), 4.8 (Thematic Review of Climate Security Projects Supported by the UN Peacebuilding Fund), and 4.9 (Evaluation of GEF Support in Fragile and Conflict-Affected Situations) in this Toolkit, as well as Brusset 2016.

With the growing recognition of the importance of these three dynamics—inclusion, conflict sensitivity, and gender—in environmental peacebuilding, M&E of environmental peacebuilding has also mainstreamed inclusion, conflict sensitivity, and gender in both substance (*what* is being monitored and evaluated) and process (*how* the monitoring and evaluation is undertaken).

The second trend is that the M&E community has recently begun **shifting toward evaluations of contributions rather than attribution** (e.g., Pearson d'Estrée 2019b; Patton 2020). This is the result of the recognition of the complexity of the various contexts in which interventions take place and represents a more realistic and flexible approach to M&E. However, it also represents a challenge for understanding the degree to which an intervention affects outcomes and, thus, for assigning value or judging its effectiveness.

While there is a dizzying array of M&E approaches generally, there has been an **increasing focus on theories of change, rather than on quantitative metrics** (Patton 2020). At the same time, there is growing interest in how big data, geospatial data, and frontier technologies can support quantitative approaches to M&E, particularly for environmental peacebuilding. Balancing the use of quantitative and qualitative data in M&E and understanding the value of each is another area ripe for additional exploration.

Recognizing the complexity and dynamism of environmental peacebuilding (and peacebuilding more generally), there is also a **shift to utilize an adaptive management framework for framing evaluation** (Jean, Woodrow & Pearson d'Estrée 2019). While this may be relatively new to peacebuilding, there is a stronger body of literature in the environment sector, where adaptive management has been utilized for decades (e.g., Walters 1986; Lee 1999; Bruch 2009). Adaptive management poses promising opportunities for environmental peacebuilding M&E, but more research is needed to understand its use and effects.

Objectives and Roadmap

The primary objective of this Toolkit is to increase knowledge of and access to overall approaches and specific tools to more effectively monitor, evaluate, and learn from interventions at the intersection of environment, conflict, and peace.

By improving M&E, the Toolkit more broadly aims to build the evidence base regarding the effectiveness of environmental peacebuilding approaches as well as the accuracy and relevance of their respective theories of change. By building the evidence base, the Toolkit in turn seeks to catalyze greater allocation of financial and personnel resources to environmental peacebuilding interventions, improve the impacts of those interventions, and reduce negative unintended consequences.

The Toolkit is a starting point to further develop and improve M&E of interventions at the intersection of environment, conflict, and peace. It offers both proven and innovative tools and approaches, often drawing upon practices in adjacent fields (e.g., environmental programming). The Toolkit also introduces emerging issues for M&E of environmental peacebuilding such as the use of big data, geospatial analysis, and frontier technologies and attempts to help practitioners and researchers better understand them and their potential utility.

The structure of the Toolkit follows the intervention cycle. As such, it contains four substantive chapters: design, monitoring, evaluation, and learning. The design chapter details important considerations and practices for framing outcomes and goals, developing theories of change, designing an approach to M&E, and choosing indicators for environmental peacebuilding M&E. The monitoring chapter explores the ongoing and organized process of collecting, analyzing, and using information about an environmental peacebuilding intervention's activities and effects, emphasizing strategies to address tensions surrounding
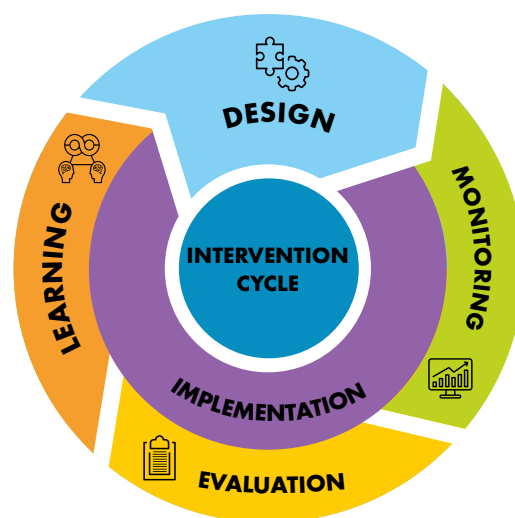
transparency and information sensitivity. The evaluation chapter discusses reasons, considerations, and approaches for conducting and sharing systematic assessments of an ongoing or completed intervention's design, implementation, and effects. Lastly, the learning chapter offers insight concerning why and how practitioners should design an M&E plan that emphasizes learning and how a learning-focused approach can guide opportunities for improvement.

There are two additional resources. First, a Primer—essentially Chapter 0—is available for practitioners who are new to M&E and/or environmental peacebuilding. It provides background on key concepts related to the M&E of environmental peacebuilding. Those who are already proficient in M&E and environmental peacebuilding may opt to bypass the primer. At the end of the Toolkit, there is a glossary that defines and explains key terms.

1.3. Intended Audience

The Toolkit is tailored to practitioners. Specifically, it offers practical, digestible guidance for practitioners interested in or presently designing and implementing M&E for an environmental peacebuilding intervention. These practitioners include:

- staff who are responsible for developing and implementing interventions as well as doing the M&E for those interventions; and

- M&E professionals who are called upon to design and implement an M&E system for environmental peacebuilding interventions.

While the Toolkit focuses on M&E for environmental peacebuilding, practitioners working in adjacent fields such as development, environment, and peacebuilding may also find the Toolkit useful (Patton 2010). Accordingly, the Toolkit engages these distinct communities both to learn from and inform them.

This Toolkit is a product of a broader project on "Monitoring and Evaluating Environmental Peacebuilding Interventions: Best Practices and Guidance for

Practitioners," undertaken by the Environmental Law Institute (ELI) and the Environmental Peacebuilding Association (EnPAx) and supported by the United States Institute of Peace (USIP). The project is generating four key deliverables that target different audiences:

- the Toolkit, which focuses on practitioners, and a companion primer that provides background information on environmental peacebuilding, on M&E, and on particularities of environmental peacebuilding M&E;

- a policy brief for funders and other decision-makers that presents the findings in accessible language that lays the groundwork for institutional change;

- a review article for an academic audience that synthesizes the state of knowledge to date and outlines a research agenda for environmental peacebuilding M&E; and

- a subsite on environmental peacebuilding M&E (https://m-and-e.environmentalpeacebuilding.org) and a reinvigorated M&E Interest Group of the Environmental Peacebuilding Association, which can provide ongoing platforms for continuing learning and apprenticeship exchange on the topic after the project is completed.

Thus, while decision-makers and researchers might be interested in the Toolkit for various reasons, there are separate products that target specific constituencies and topics areas.

1.4. How to Use the Toolkit

The Toolkit has been designed to be usable by a range of different people in different ways and at different times. It is primarily intended as a resource to help practitioners understand their options and think through an approach that is most appropriate to their context, needs, and capacities.

There are both print and digital versions of the Toolkit. The digital version is available at https://m-and-e.environmentalpeacebuilding.org/toolkit. In addition to the content from the print version, the digital version includes expansion modules for certain sections that provide additional analyses and examples.

A. Context-Based Thinking

Above all, this Toolkit **serves as a framework to inform how practitioners perceive, design, and undertake M&E** for their own environmental peacebuilding interventions. It is not meant to be a prescriptive manual from which practitioners draw one-size-fits-all theories, designs, and approaches.

Operating at the interface between environment and conflict and varying greatly across geographies, objectives, sectors, and scales, **environmental peacebuilding is highly contextual and must be shaped with consideration of the distinct contexts in which interventions are situated.** As practitioners navigate the Toolkit, it is important they keep in mind the unique contexts of their particular interventions, including level, scale, communities, conflict, resources, and politics, as they think through the M&E for those contexts.

When using the Toolkit, context considerations should extend to the entire M&E process, including design,

monitoring, evaluation, and learning. M&E for one environmental peacebuilding intervention may look drastically different than that of another. Theories of change will differ, as will indicators and datasets.

The Toolkit seeks to help practitioners understand how to think about the particular issues at hand, consider the options, select those that are most appropriate, and adapt as necessary. There are two key aspects here. First, the focus is on building understanding, not sticking to a checklist. At the end of each chapter (and sometimes embedded within chapters), there are worksheets. These worksheets present options and considerations; they are not checklists. Second, given the importance of context and the often dynamic and volatile situations, it is necessary to adapt the selection and implementation of approaches. Throughout the Toolkit, the user will find boxes entitled "Something to Consider," which briefly highlight key considerations and why they should be contemplated.

Right sizing an M&E system for environmental peacebuilding interventions can be particularly challenging. Environmental peacebuilding interventions range in scale, timeframe, and budget, with varying institutional practices regarding M&E. This Toolkit is designed to be relevant—and adaptable—across these scales, timeframes, budgets, and institutional practices. What is feasible, or even required, for a multilateral development bank or UN agency may not work for a community-based organization. The Toolkit highlights a wide range of approaches that are important for various reasons; not all of these approaches are feasible in all contexts, though, so **it is incumbent on the practitioner to consider what is feasible in their particular context and adapt** (including right-size) their M&E approach accordingly.

Indicators represent one particularly context-specific component of environmental peacebuilding M&E. Although examples of indicators are included in the Toolkit, they are not universally applicable. Because environment-conflict and environment-peace dynamics manifest differently in different places and at different levels, standardized indicators across interventions would be rather abstracted and unhelpful. The use of streamlined indicators would also reduce the nuance captured, including by defaulting to qualitative indicators that do not capture why or how change occurred.

Context-based indicators are important to environmental peacebuilding M&E because the relationship of environment, peace, and conflict looks different for local interventions than for regional or national. The scales of data collection must be similarly relevant to an intervention's context; data collected at household scales will not, for example, indicate change at the regional scale. And, similarly, national-level data will not effectively convey changes achieved (or not) at a community level.

Another distinct characteristic of indicators for environmental peacebuilding M&E lies in the function of environmental peacebuilding M&E to capture not only environmental or peacebuilding change but also the linkages of these dimensions. As a result, practitioners should also use indicators and techniques that lend insight to the interconnectivities of an intervention's various dimensions. These considerations are discussed further in Chapter 2 (Design).

B. Toolkit Versions

The Toolkit may be accessed through print or virtual mediums, each of which offers unique advantages and disadvantages for the practitioner. For those with unstable technological resources may be suitable to access it virtually. While the print version may present navigation challenges due to the Toolkit's length, the virtual version facilitates greater ease of use because practitioners can flow to different chapter tabs, sections, and external resources.

Both versions of the Toolkit contain the foundational information for environmental peacebuilding M&E, which can then be explored further in expansion modules (available only online). Whereas the foundational information will emphasize central concepts and strategies, expansion modules will provide more detailed information and external learning resources. Expansion modules are available for certain sections, namely those for which more information is available.

Should a practitioner specifically seek information about a particular environmental peacebuilding M&E dimension, each chapter is designed to stand alone with its own list of references. This will enable practitioners to focus their learning on specific topics in cases where they are most interested in specific M&E components.

C. Key Components

Contained within each chapter each chapter are one or more related worksheets for practitioners. Worksheets provide a comprehensive, digestible overview of the section material and contain various questions and activities. Worksheets seek to inform and prompt practitioners to develop their own environmental peacebuilding M&E approaches, considering each section's respective material and their particular context.

Throughout the Toolkit, practitioners will also find text boxes and figures, both of which expand on cross-cutting topics for environmental peacebuilding M&E. Text boxes offer supplementary examples and information to the surrounding body of the main text, addressing topics such as gender and insecure contexts. In addition, boxes highlight important considerations ("Something to Consider"). Figures, in contrast, visualize topics that otherwise be challenging to explore solely in text.

To indicate cross-cutting topics, icons are included throughout the Toolkit. There are icons for gender, right-sizing, data, design, monitoring, evaluation, and learning. Practitioners should look for these icons to identify the various places in which a specific topic is addressed.

In cases where practitioners seek definitions for key terms, they may refer to the glossary, located in the Toolkit's appendix. The glossary provides broad summaries of important key terms and explores different definitions of key terms by different stakeholders and fields.

1.5. Methodology

This Toolkit responds to the shortcomings of existing M&E literature to capture the distinct characteristics and challenges of monitoring and evaluating interventions in a young and emerging environmental peacebuilding field. Recognizing that experience in M&E of environmental peacebuilding per se has been relatively modest to date, the project team sought to collect and synthesize learning regarding: (1) M&E approaches of environmental peacebuilding interventions (relatively limited); (2) M&E approaches of adjacent situations, such as environment, sustainable development, and peacebuilding; and (3) innovative and emerging approaches that may be adapted to environmental peacebuilding M&E approaches.

The relevance and robustness of the Toolkit was reinforced by the guidance of practitioners, researchers, policymakers, and funders. The creation and engagement of an expert Advisory Group was integral to ensuring a broader range of perspectives in the development and vetting of the key issues and recommendations for how to conceptualize and approach environmental peacebuilding. The project Advisory Group included 13 leading practitioners and researchers, including those with expertise in M&E, environmental

peacebuilding, peacebuilding, and environmental programming.[6] Throughout the research and development of this Toolkit, the Advisory Group, members of the EnPAx M&E Interest Group, and selected practitioners and scholars provided feedback and guidance regarding the scope, tone, and content of the draft outputs.

Moreover, recognizing that the practitioner community possesses substantial relevant knowledge that has yet to be captured in the published literature, the research went well beyond a conventional literature review to include the gray literature, interviews with diverse practitioners, and broader consultations with the environmental peacebuilding and M&E communities.

A. Literature Review

Early in the project, the project team conducted an extensive review of approaches and lessons in the peer-reviewed and gray literature for M&E approaches relevant to environmental peacebuilding, including M&E approaches for environmental conservation, peacebuilding, and sustainable development

---

6. Members of the Advisory Group included (in alphabetical order): Eric Abitbol, Maria Bang, Jessica Baumgardner-Zuzik, Tim Ehlinger, David Jensen, Erica Key, Francine Madden, Shanna McClain, Hector Morales Muñoz, Martha Mutisi, Tamra Pearson d'Estrée, Divine Shingirai Chakombera, and Juha Uitto.

pathways. More than 200 articles, books, reports, and other resources were identified, including 20 evaluations. These materials reflected a diverse set of sources, fields, scales, resources, and conflict dynamics. To better understand and utilize these resources, the team utilized a typology based on the following characteristics:

M&E Principles, Approaches, and Challenges	Country or Region	Project Phase or Evaluation Type
Field	Scale	Theory of Change
Project Implementer	Stage of Conflict	Resource Type
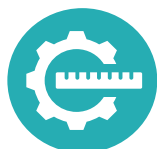
Of the literature reviewed, peer-reviewed journal articles represent the largest source, totaling 110 of the resources consulted. Research articles and gray literature account for the second and third most common literature sources and represent 44 and 33 resources, respectively. The types of articles drawn from these sources also vary. 98 case studies and 92 analyses constitute the two largest classes of article types and are followed in quantity by 43 evaluations and 29 how-to articles.

The literature resources span fields and contexts. 134 resources are situated within the Peacebuilding field, 83 in Development, and 46 in the Environment. Resources from Humanitarian and Environmental peacebuilding fields are represented to a lesser

yet still notable extent, where each of these fields accounts for 41 resources. A multitude of resources were implicated in these interventions. 37 publications focused on water, 32 on land, 26 on biodiversity, and 25 on protected areas. And these interventions were situated across a variety of scales. At 72, interventions at the local scale were most common, followed by 69 and 50 interventions at the national and regional scales, respectively.

The literature review resulted in an annotated outline that covered the reasons for conducting environmental peacebuilding M&E (emphasizing learning), challenges, effective conceptualization strategies, and best practices. Throughout the review, the project team maintained a running list of questions, gaps, and further research needs.

B. Practitioner Consultations

The project team consulted with a series of practitioners in different organizations to capture the largely unreported approaches and experiences from the practitioner community. A snowball approach was utilized to engage project managers, evaluators, and individuals leading M&E efforts within their respective institutions (Biernacki and Waldorf 1981). Many of the initial respondents were recruited by leveraging the extensive personal networks of the project team and Advisory Group in addition to reaching out through the Environmental Peacebuilding Association and Environmental Peacebuilding Community of Practice. Ultimately, the team interviewed 20 practitioners with experiences across different scales, geographies, and environmental peacebuilding pathways.

In addition, the project team conducted consultations with practitioners and researchers from the M&E community and within the environmental peacebuilding community. These consultations included a series of webinars, peer-to-peer learning workshops on specific topics, and events at larger conferences. To identify opportunities for implementing and evaluating big data, frontier technologies and geospatial data, the project team consulted the United Nations Environment Programme (UNEP), the Advisory Group, and other practitioners and researchers.

These interviews and consultations expanded the project team's understanding of the practical opportunities, constraints, and trade-offs associated with environmental peacebuilding M&E.

C. Identifying Key Issues, Approaches, and Good Practices

The project team then sought to integrate the findings from the literature review with information from the interviews and consultations to develop an outline of approaches, considerations, and learning. With the Advisory Group's guidance, the team then synthesized the research to identify key issues, approaches, good practices, limitations, and uncertainties.

During this stage, attention focused on identifying particular environmental peacebuilding pathways (and theories of change) and considering how they may be affected by the intervention's scale, type of intervention, contextual factors, and other factors. For example, the team examined whether environmental peacebuilding M&E methodologies, indicators, and practices are gender-sensitive—and the implications if they are not.

Inputs Sought!

We welcome your inputs to improve this Toolkit. Please send:

- corrections or clarifications on the existing text
- suggestions regarding guidance for practitioners on issues related to environmental peacebuilding M&E (it could be to expand existing guidance in certain ways or entirely new points)
- case studies and mini-case studies
- feedback on this Toolkit

All inquiries should be addressed to bruch@eli.org.

D. Vetting the Findings

After the initial identification of the list of key issues, approaches, good practices, limitations, and uncertainties, the project team vetted the findings through Environmental Peacebuilding Association webinars, discussions with the Advisory Group and other experts, and sessions at larger conferences. As the EnPAx Secretariat, ELI held a series of webinars for members of the M&E Interest Group, the Association membership, and the broader evaluation community to share the initial findings and seek feedback. These sessions invited diverse practitioners and scholars to ground-truth the approaches to, methodology of, and theory behind environmental peacebuilding M&E that emerged from the research and interviews. The topics for these webinars were structured around the key issues identified.

E. Final Development Stages

The knowledge from vetted findings was converted into guidance on good practice in environmental peacebuilding M&E in a digestible, ready-for-use Toolkit for practitioners. The final version was translated into French and Spanish.

References

Abu-Nimer, Mohammed. 2019. "Overcoming Challenges in Peacebuilding Evaluation: An Illusion or a Possibility?" In *New Directions in Peacebuilding Evaluation*, ed. Tamra Pearson d'Estrée. Rowman & Littlefield.

Abu-Nimer, Mohammed, & Renáta K. Nelson (eds.). 2021. *Evaluating Interreligious Peacebuilding and Dialogue: Methods and Frameworks*. Vol. 3. De Gruyter.

Ajroud, Brittany, Nathalie Al-Zyoud, Lydia Cardona, Janet Edmond, Danny Pavitt, & Amanda Woomer. 2017. *Environmental Peacebuilding Training Manual.* Conservation International.

Biernacki, Patrick, & Dan Waldorf. 1981. "Snowball Sampling: Problems and Techniques of Chain Referral Sampling." *Sociological Methods & Research* 10(2): 141-163.

Bruch, Carl. 2009. "Adaptive Water Management: Strengthening Laws to Cope with Uncertainty." In *Water Management Beyond 2020*, ed. Asit K. Biswas, Cecilia Tortajada, & Rafael Izquierdo. Springer.

Brusset, Emery. 2016. *Evaluation of the Environmental Cooperation for Peacebuilding Programme.* United Nations Environment Programme.

Carleton-Hug, Annelise, & J. William Hug. 2010. "Challenges and Opportunities for Evaluating Environmental Education Programs." *Evaluation Program Planning* 33(2): 159-64.

Chess, Caron. 2010. "Evaluating Environmental Public Participation: Methodological Questions." *Journal of Environmental Planning and Management* 43:769-784.

Conley, Alexander, & Margaret A. Moote. 2003. "Evaluating Collaborative Natural Resource Management." *Society and Natural Resources* 16(5): 371-386.

Farnum, Becca. 2020. *Nature as Diplomat: Scale, Agency, and Purpose in Environmental Peacebuilding.* PhD Dissertation. King's College London. https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.803313

Hammill, Anne, Alec Crawford, Robert Craig, Robert Malpas, & Richard Matthew. 2009. *Conflict-Sensitive Conservation: Practitioners' Manual.* International Institute for Sustainable Development.

Ide, Tobias, Carl Bruch, Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Richard Matthew, & Erika Weinthal. 2021. "The Past and Future(s) of Environmental Peacebuilding." *International Affairs* 97(1): 1-16.

Jean, Isabella, Peter Woodrow, & Tamra Pearson d'Estrée. 2019. "Scrambling after Moving Targets: Monitoring & Evaluation Applied to Adaptive Management Approaches in Peacebuilding." In *New Directions in Peacebuilding Evaluation*, ed. Tamra Pearson d'Estrée. Rowman & Littlefield.

Jensen, David, & Amanda Kron. 2018. "Environmental Peacebuilding and the United Nations." In *Routledge Handbook of Environmental Conflict and Peacebuilding*, ed. Ashok Swain & Joakim Öjendal. Routledge.

Johnson, McKenzie F., Luz A. Rodriguez, & Manuela Quijano Hoyos. 2021. "Intrastate Environmental Peacebuilding: A Review of the Literature." *World Development* 137:105150.

Lee, Kai N. 1999. "Appraising Adaptive Management." *Conservation Ecology* 3(2): [online].

Menkaus, Ken. 2004. "Impact Assessment in Post-Conflict Peacebuilding." Interpeace.

Morales-Muñoz, Héctor. 2022. "Literature Review on Climate Security and Environmental Peacebuilding: Risks and Opportunities in the Andean Region. Social Science Research Council.

Nanthikesan, Suppiramaniam, & Juha I. Uitto. 2012. "Evaluating Post-Conflict Assistance." In *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding*, ed. David Jensen & Steve Lonergan. Routledge.

Patton, Michael Quinn. 2020. Blue Marble Evaluation: Premises and Principles. Guilford Press.

Patton, Michael Quinn. 2010. Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use. Guilford Press.

Uitto, Juha I. 2019. "Sustainable Development Evaluation: Understanding the Nexus of Natural and Human Systems." *New Directions for Evaluation* 2019, no. 162 (June): 49-67.

Uitto, Juha I. 2004. "Multi-country Cooperation around Shared Waters: Role of Monitoring and Evaluation." *Global Environmental Change* 14:5-14.

Walters, C.J. 1986. Adaptive Management of Renewable Resources. Macmillan Publishers.

Woodrow, Peter, & Isabella Jean. 2019. "Getting Do No Harm to 'Stick': Successes, Failures and Varied Approaches." CDA Collaborative and Peacebuilding Evaluation Consortium. https://www.cdacollaborative.org/publication/getting-do-no-harm-to-stick-successes-failures-and-varied-approaches/

Woomer, Amanda. 2018. Conflict Sensitivity and Conservation: Evaluating Design, Implementation, and Practice. Doctoral dissertation at Kennesaw State University.

Zall Kusek, Jody, & Ray C. Rist. 2004. "Ten Steps to a Results-Based Monitoring and Evaluation System: A Handbook for Development Practitioners." World Bank. https://openknowledge.worldbank.org/handle/10986/14926

Table of Contents

Design is the process whereby information about a problem or challenge, its context, and relevant stakeholders is gathered, assessed, and then used to plan an intervention that addresses the problem, whether fully or partially. It is a multi-step process that includes parallel activities of context assessment, root cause analysis, the development of an intervention logic or theory of change, and laying out plans for monitoring, evaluating, learning from, and modifying the intervention as it is implemented.

This chapter will help you:

- Be aware of the monitoring, evaluation, and learning dimensions to consider when designing environmental peacebuilding interventions.

- Be familiar with the four core context analysis activities that inform design processes, namely, needs assessments, stakeholder identification and analysis, conflict analysis, and environmental and social impact assessment.

- Understand the key considerations—including systems theory and complexity, gender, participation and inclusion, and conflict sensitivity—to bear in mind when designing environmental peacebuilding interventions.

- Develop appropriate theories of change for environmental peacebuilding interventions.

- Develop appropriate indicators for environmental peacebuilding interventions.

- Develop appropriate plans for monitoring, evaluation, and learning as part of the design process.

2.1. Introduction

For purposes of this Toolkit, **"design" is the process whereby information about a problem or challenge, its context, and relevant stakeholders is gathered, assessed, and then used to plan an intervention that addresses the problem**, whether fully or partially. It is a multi-step process that includes parallel activities of context analysis (including root cause analysis), the development of an intervention logic or theory of change, and laying out plans for monitoring, evaluating, learning from, and modifying the intervention as it is implemented. A good design process that is intentionally undertaken in an inclusive, participatory, and conflict-sensitive way is essential for relevant, effective, and sustainable interventions that avoid doing harm. It is also imperative for good monitoring, evaluation, and learning, since it is challenging to monitor and evaluate an intervention that lacks clear logic. Developing a plan for monitoring, evaluation, and learning at the start also helps ensure that there are shared expectations about the process of collecting information on and assessing the intervention and that sufficient resources are available to undertake these activities.

While the specific designs of environmental peacebuilding interventions (i.e., projects, programs, and other activities) are beyond the scope of this Toolkit, the design phase also includes many dimensions related to monitoring, evaluation, and learning. This Toolkit, and particularly this chapter, focuses on those dimensions.
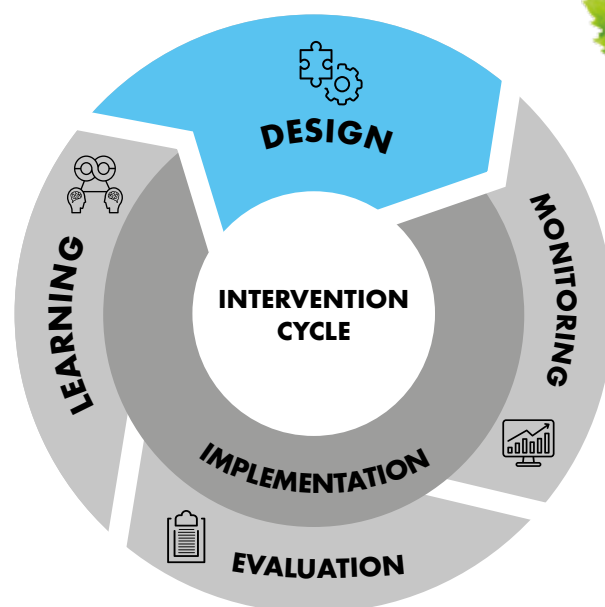
Design of environmental peacebuilding interventions is different in three important ways. First, there are often **blind spots**. While environmental peacebuilding interventions are at the intersection of environment/natural resources/climate change and peace/conflict/security, the people and organizations designing an intervention often come from a particular sector (environment, peace, etc.). They have specific training, expertise, and mandates that can leave gaps when it comes to the multi-dimensional work of environmental peacebuilding. The various context analysis tools outlined in this chapter help to identify and address potential blind spots (e.g., a conflict analysis that helps a conservation organization to understand conflict dynamics and risks). Second, as a new field, **environmental peacebuilding theories of change are often under-developed**. There is evidence to support these theories of change, but it

tends to be anecdotal, so we do not reliably know when a particular theory of change will work under the circumstances of a particular conflict context. Third, there is a paucity of **indicators** that span both the environmental and peace/conflict dimensions, and there is a dearth of overarching indicators that would be relevant across all environmental peacebuilding theories of change and activities (and indeed there is a question regarding whether overarching indicators are something to strive for).

This chapter on Design has two major sections: first, preparing for design, and then undertaking the design itself.

The section on preparing for design focuses on what a practitioner needs to know as they design the intervention and the accompanying monitoring, evaluation, and learning dimensions. These include four common assessment tools: needs assessment, stakeholder identification and analysis, conflict analysis, and environmental and social impact assessment (ESIA). It also includes four key considerations: systems theory and complexity, gender, participation and inclusion, and conflict sensitivity.

The design section focuses on three elements that are particularly important to designing environmental peacebuilding interventions: theories of change; indicators; and plans for monitoring, evaluation, and learning. For each of the three elements, we describe general good practices and then consider the environmental peacebuilding dimensions.

Environmental peacebuilding is a meta-framework that comprises a wide range of activities across the conflict life cycle operating at different scales and using different natural resources and environmental features. As such, there is a substantial and diverse range of theories of change, each with its accompan-

ying indicators. Annex 2-I provides an illustrative list of environmental peacebuilding theories of change, and Annex 2-II provides an illustrative list of indicators that may be used for monitoring and evaluating environmental peacebuilding interventions. At the end of this chapter, there are worksheets to guide practitioners on theories of change, indicators, and integrating gender.

2.2. **Preparing for Design**

Before actively undertaking the process of designing an intervention, it is necessary to collect and synthesize information on the context, including the needs for the intervention, the conflict context, and the potential environmental and social impacts of the intervention. It also requires consideration of key dynamics, including systems and complexity, gender, participation and inclusion, and conflict sensitivity. These are discussed in turn.

A. Context Analysis

Environmental peacebuilding interventions often take place in contexts that are complex, multi-scalar, and multi-layered. As a result, it is essential that practitioners have a comprehensive and holistic understanding of the context in which they

work in order to effectively develop those interventions and their underlying theories of change. This understanding encompasses contextual information such as

- the root causes and drivers of conflict and environmental challenges,

- current governance institutions and mechanisms,

- existing environmental features and natural resources, and

- sociocultural norms, as well as any other dynamics that have the potential to either exacerbate conflict and environmental challenges or promote peace and sustainability.

Depending on resources and the need to implement an intervention on short notice, it may not always be

feasible to develop a full, comprehensive context analysis (see Box 2.1).

For this reason, **context analysis is a fundamental step in preparing to design an environmental peacebuilding intervention.** Because of the multifaceted nature of environmental peacebuilding work, a comprehensive context analysis needs to address the conflict, the environment, and the needs of relevant stakeholders. A context analysis could therefore include any of the following analytical activities:

- A needs assessment

- A stakeholder identification and analysis (SHIA), including the personas tool

- A conflict assessment

- An environmental and social impact assessment (ESIA)

These assessments focus on specific aspects of the intervention context and ultimately contribute to the identification of clear and attainable environmental peacebuilding objectives or outcomes, the pathways to achieving those outcomes, and indicators for measuring results (UNDG 2017).

In addition to providing information for good intervention design, context analyses also generate contextual and system awareness among staff and stakeholders who may not fully understand the current dynamics without such an analysis. If done well, context analyses—and particularly needs assessments—can also build stakeholder buy-in for the intervention; if stakeholders are involved in the process and if it results in an intervention grounded in their needs, they are more likely to support that intervention. Finally, context analyses may also produce information for baseline values for quantitative or qualitative indicators (discussed in Section 2.3). A similar analysis repeated periodically throughout the intervention can help to map the intervention's progress and any evolving challenges; it is also a good tool for monitoring.

Box 2.1: Something to Consider – Right-Sizing your Context Analysis
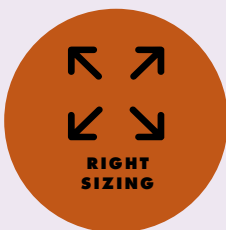
It is important to adapt the assessments discussed here to your particular context, including the available resources, conflict constraints, and cultural norms. Choose processes or methods that are based on your specific intervention's needs. That said, it is generally helpful to spend some time on each type of assessment; when combined, they provide a more exhaustive picture of the context and, thus, a better starting place for intervention design.

environmental governance, and natural resource management on the one hand and conflict and peacebuilding on the other (Le Billion 2001; Kovach & Conca 2016). Research has found that historically some post-conflict assessments often overlooked or failed to appropriately prioritize key environmental concerns (Kovach & Conca 2016). Conducting a comprehensive context analysis allows one to understand not only what the environmental concerns are but also how they may be intertwined with conflict dynamics.

Additionally, **environmental peacebuilding work is likely to benefit from participatory and inclusive context analyses that involve multiple stakeholders with different perspectives and areas of expertise.** Each stakeholder's unique perspective and specific skillset or experience helps to develop a more complete picture of the context, including crucial elements that can make or break an intervention. Additionally, as mentioned above, participatory and inclusive processes can (if done in a conflict-sensitive manner) improve the likelihood of an intervention's success.

A context analysis grounded in systems thinking can also help the intervention to more accurately and fully capture important contextual dynamics. Using systems thinking, a context analysis can map and help to prioritize the myriad social, economic, cultural, and geographic aspects of the context and produce an awareness that can further augment the relevance, effectiveness, and sustainability of an intervention while also setting the stage for capturing the impacts of intervention activities on those systems over time.

Objectives of a Context Analysis

While there are many general resources available on different types of context analysis such as those described here, these analyses serve several particularly important functions within the scope of environmental peacebuilding work. One of these is **understanding the linkages between environmental changes,**

Timing

It is recommended that you conduct a context analysis prior to designing an intervention and then update it regularly (and as appropriate) during the intervention's implementation. This helps to proactively ensure that the resulting intervention is grounded in that context and designed to be responsive to key context dynamics, which in turn means it is more likely to be relevant, effective, efficient, sustainable, and impactful. When you conduct a context analysis, it is important to acknowledge that it will necessarily rely on imperfect information, and (depending on the fluidity of the context) it will likely need to be completed quickly in order to be of use.

Context analyses can also be used reactively to respond to changes in the context and undesirable intervention results or continuously as a component of the monitoring and evaluation (M&E) plan. Since analysis of an intervention's operating context significantly shapes its theory of change and selection of activities, regular review and reassessment of that operational context once the intervention is underway has the potential to transform the intervention's future direction and implementation (see Figure 2.1). This reassessment of an intervention's context—known as "triple-loop learning"— is explored in more depth in Chapter 5 (Learning).
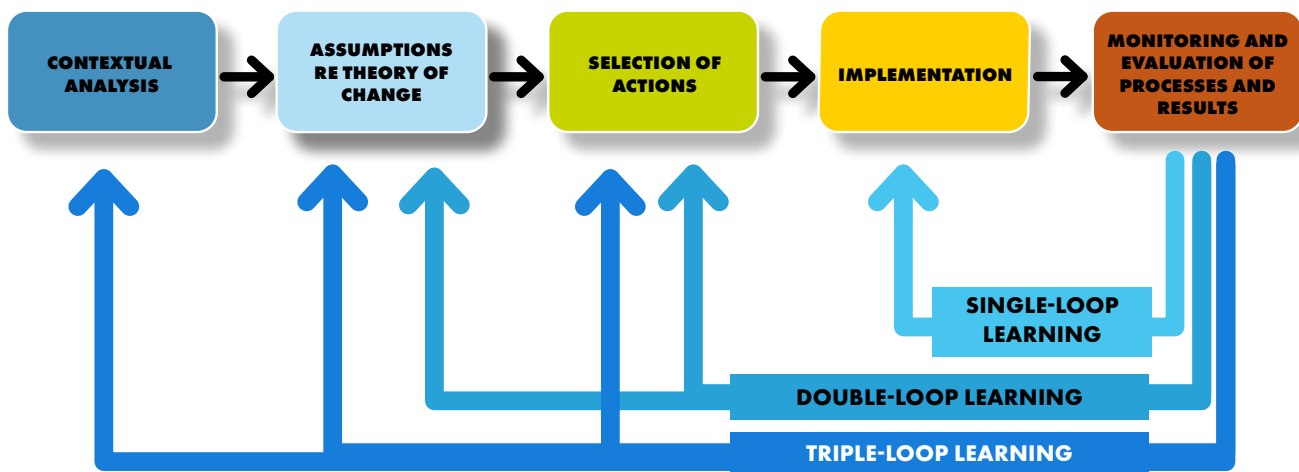
Figure 2.1: Learning Feedback Loops
Source: ELI, drawing upon Tamarack Institute (n.d.).
Note: This figure does not show the more complex dynamics often present in learning processes.

Needs Assessment

A needs assessment is a process for identifying, understanding, and prioritizing gaps between the current situation and the desired situation or results (Kaufman et al. 2003; Watkins, Meiers, & Visser 2012). As such, needs assessments are precursors to and essential for defining the appropriate strategies, solutions, or activities for an intervention.

They provide value by offering logical, rigorous, and structured methods for collecting information and making decisions based on that information[1]. It is important to note that the gaps identified in a needs assessment will differ based on who is defining the current situation, the desired result, and the ways of achieving it. See Box 2.2 for examples of different needs assessments.

How to Conduct a Needs Assessment

To ensure an appropriately full understanding of intervention-related needs, a needs assessment generally consists of the following steps:

1. **Identify scope:** As a starting point, determine what decisions the assessment is meant to inform, and based on that, the boundaries of the assessment. These boundaries will be geographic (where), thematic (what), and they should also address methodology (how) and beneficiaries, participants, and stakeholders (who, with particular consideration of gender). An assessment of scope should adopt a systems approach to assess risks, impacts, and opportunities. For environmental peacebuilding interventions, needs assessments need to capture the conflict dimensions of environment and natural resources as well as the environmental dimensions of conflict. Similarly, it can be valuable to incorporate stakeholder perspectives early on, including at the scoping stage. That said, both the broader systems approach and stakeholder engagement can take substantial resources, so it behooves intervention designers to right-size these steps.

---

1. Post-conflict needs assessment processes have included Post-Conflict Needs Assessment (PCNA), a Poverty Reduction Strategy Paper (PRSP), and a UN Development Assistance Framework (UN-DAF) (Kovach & Conca 2016).

Box 2.2: Types of Needs Assessments

This section focuses on project-level needs assessments. However, there are several other types of needs assessment tools and frameworks depending on the scale and size of the project. The following is an illustrative list of other types of needs assessments:

Strategic Needs Assessments:

- World Bank Post-Conflict Needs Assessment (PCNA): http://web.worldbank.org/archive/website00523/WEB/PDF/PCNA_TOO.PDF

- Post-Disaster Needs Assessment (PDNA): https://www.who.int/publications/i/item/post-disaster-needs-assessment-guidelines

- Poverty Reduction Strategy Paper (PRSP): https://documents.worldbank.org/en/publication/documents-reports/documentdetail/681651468147315119/macroeconomic-and-sectoral-approaches

- The UN Development Assistance Framework (UNDAF): https://unsdg.un.org/resources/united-nations-development-assistance-framework-guidance

- Environmental Needs Assessment in Post-Disaster Situations: https://wedocs.unep.org/bitstream/handle/20.500.11822/17458/env_needs_assmt_post_disaster.pdf?sequence=1&amp%3BisAllowed=

Project-level Assessments:

- World Bank, A Guide to Assessing Needs: Essential Tools for Collecting Information, Making Decisions, and Achieving Development Results: https://documents1.worldbank.org/curated/en/644051468148177268/pdf/663920PUB0EP-I00essing09780821388686.pdf

- UNDP, MDG Needs Assessment Tools: https://www.undp.org/publications/mdg-needs-assessment-tools

- Operational Needs Assessment: https://www.forvis.com/article/2022/04/how-operational-assessment-can-help-plan-future

2. **Consult stakeholders:** Broad-based stakeholder participation during a needs assessment will allow practitioners to triangulate information, synthesize a more comprehensive and accurate contextual understanding, and yield more constructive dialogue and cooperative decision-making. Ask the following questions:

   a. Who needs to be involved, particularly from the perspective of the intervention's likely sustainability? Make sure to consider those who have been historically marginalized, who have the power to support or undermine the intervention, and who have a unique perspective to contribute.

   b. What role do these stakeholders play?

   c. Who are the spoilers?

   d. Who will serve as partners or provide expertise?

   e. How can these stakeholders be engaged in a conflict-sensitive way?

3. **Identify needs:** Needs are gaps in results. Processes, activities, or resources are the means to move from current conditions to desired results. Therefore, for this step, you should focus on the underlying needs (gaps in results) rather than the mechanisms (processes, activities, or resources) to address them. To do this:

   a. Explore and gather information about current conditions or state of affairs, including both environmental and conflict dynamics.

   b. Explore desired or optimal conditions or states of affairs.

c. Utilize a participatory and inclusive approach when possible. Remember that different stakeholders or stakeholder groups will likely not agree on the most important needs.

d. Remember to explore the different kinds of needs (see Box 2.3).

Box 2.3: Something to Consider – Different Types of Needs

Remember that needs may differ depending on who articulates them and how. There are four types of needs to consider when conducting a needs assessment (Bradshaw 2013):

1. **Normative needs** are those that an "expert" may identify, such as those related to achieving or maintaining a nutritional or ecological standard.

2. **Felt needs** are what an individual or group wants or feels is important. It is based entirely on their perceptions.

3. **Expressed needs** are needs that an individual or group explicitly asks for in some way.

4. **Comparative needs** are those that arise when one group is lacking something that another, similar group has.

When conducting a needs assessment, be inclusive of different stakeholder groups and use multiple methods to capture as many of these needs as possible.

4. **Analyze**

    a. Analyze the information collected to understand the difference or "gap" between current and desired conditions.

    b. Prioritize identified needs and "gaps." Environmental peacebuilding work engages and affects a variety of stakeholders and systems, and it is important to remember that different stakeholders will likely have different priorities.

    c. Think through systems dynamics: How do the various components or pieces of the systems interact or affect each other, and how might they in the future? How might an intervention interact with the conflict and environment context and vice versa?

5. **Decide/Design**

    a. Design the intervention to address (diminish or eliminate) the gap between existing and desired states (Altschuld & Watkins 2014). In

environmental peacebuilding work, this will likely mean a diversity of activities to address the various environmental and conflict conditions and their root causes.

    b. Prioritize decisions based on stakeholder consultation, available resources, feasibility, systems analysis, and the degree of potential impact. Stakeholder buy-in at this stage can increase the effectiveness and sustainability of your intervention.

Stakeholder Identification and Analysis

INCLUSION / PARTICIPATION

This Toolkit emphasizes the importance of both participation and inclusion throughout the M&E process. But how do you know if you are including the right people? Or if you have inadvertently missed important groups? Moreover, different groups may require different approaches to engagement. For example, there may be language considerations or gender considerations.

> **Box 2.4: Selected Stakeholder Identification and Analysis Resources**
>
> O Babiuch, William M., & Barbara C. Farhar. 1994. "Stakeholder Analysis Methodologies Resource Book," https://www.nrel.gov/docs/legosti/old/5857.pdf
>
> O Bryson, John M. 2004. "What to Do When Stakeholders Matter." Public Management Review 6(1): 21-53.
>
> O Carribean Natural Resources Institute. 2004. "Guidelines for Stakeholder Identification and Analysis: A Manual for Caribbean Natural Resource Managers and Planners," https://www.betterevaluation.org/sites/default/files/Guidelines_for_stakeholders.pdf

A critical starting point for participation and inclusion is identifying who the various stakeholders are and understanding their interests. Stakeholder identification and analysis (SHIA) is a process by which a team developing an intervention identifies, seeks to understand, and emphasizes the various groups who may be affected by or affect an intervention (Bryson 2004). SHIA examines the nature of a particular group's interests (livelihoods, health, religion, food security, etc.) and how those interests may interact with the intervention. SHIA

also examines how much power (and the nature of that power) a stakeholder group wields. There are a variety of toolkits and guidance—many of which are tailored to environmental interventions—to assist teams in conducting SHIA (see Box 2.4). As Box 2.5 illustrates, cross-border interventions can be particularly challenging, although the dynamics illustrated in Box 2.5 may also be found within a single country.

When conducting a SHIA in a fragile or conflict-affected setting, it is important to consider:

- **What are the stakeholder's interests in a resource/this intervention *in relation* to other groups?**

    O Have different stakeholders fought over the resource?

    O Are there competing claims and narratives?

    O Even if there is no historical interest in a resource, how would this stakeholder group view the situation if another stakeholder group benefitted? [In polarized settings, a gain by one group is often interpreted as a loss by a competing group.]

- **How much power does this group have *in relation* to other groups?**

    O And is the power positively aligned with certain groups (allies)? Negatively aligned (competitors)? Neutral?

Box 2.5: Understanding Different Perspectives for Cross-Boundary Cooperation

Incorporating different perspectives is especially important for environmental peacebuilding interventions. Actors within an environmental peacebuilding intervention can have different agendas regarding what constitutes "peace" or what the pathway toward "peace" is. Indeed, the concept of peace and whether it is a good idea may be contested. Therefore, framing a project as "environmental peacebuilding" (or even peacebuilding more broadly) may not be as important as focusing on framings that help intervention staff and evaluators understand what is important for the various groups that the intervention aims to help.

For example, a study done on transboundary cooperation projects between Israel and Palestine found that "the true peacebuilding significance of cooperative environmental initiatives is often ambiguous, largely dependent upon the context in which the initiatives are carried out" (Aryaeinejad et al. 2015, p. 77).

Cooperation held different meanings for different actors, with peacebuilding being only one of the many meanings. Palestinian beneficiaries perceived cooperation mainly as a means of meeting immediate water needs. Israeli institutional actors, on the other hand, found these projects to primarily symbolize Israeli humanitarianism and political obstacles, while weakly symbolizing peacebuilding and survival. At the same time, other groups such as Palestinian institutional actors and the Israeli technical community held other, different perceptions.

This study illustrates that cooperation is often a strategy that actors are willing to work through to achieve their own objectives, rather than a pathway to peace. Recognizing the different motivations for cooperation within and between groups may help practitioners address the concerns of actors, even if they are not directly peacebuilding concerns. Addressing these concerns may improve cooperation, and eventually peacebuilding (Aryaeinejad et al. 2015).

Persona Tool

The persona tool (see Figure 2.2) is a specific form of SHIA that is particularly useful for designing and implementing situations that may be fragile or conflict-affected because it walks you through a process for understanding a variety of characteristics of each stakeholder group that can contribute to conflict but are sometimes not immediately obvious when engaging with that group.[2] While a group's behavior or position is observable, the beliefs and assumptions, values or aspirations, and needs that underlie that behavior may be more obscure; yet, it is these beliefs, values, and needs that often drive conflict.[3] The persona tool also includes practical and logistical constraints that can affect how you engage with a stakeholder group.

---

2. This tool was inspired by design thinking principles; see, for example, https://www.innovationtraining.org/create-personas-design-thinking/.

3. This is often referred to the "Iceberg Model," whereby behavior or positions are above the water (i.e. visible), while beliefs, assumptions, values, aspirations, and needs are below the water (i.e. less obvious). This model has been adopted and adapted by a number of fields

The persona tool is used for designing an intervention, and it should be updated throughout an intervention. It provides a reference to **ensure that you are responsive to each stakeholder group or "persona" (or at least considering them)** when, for example, you design an environmental peacebuilding intervention, develop participatory and inclusive ways to monitor your intervention, or develop relevant evaluation questions. It is also **useful for testing your assumptions about these groups**. Additionally, if you **develop each persona in an inclusive and participatory way**, you may identify certain blind spots or unanticipated challenges, including information about a stakeholder group that you do not have but need to gather.

Although this tool focuses on stakeholder groups, it is important to note that no group is homogenous. Use this tool at a level that makes sense for your context, and do not consolidate groups in a way that is either too high-level or so specific as to be unhelpful.

To use the persona tool, complete the table below for each stakeholder group. These will be the "personas" you reference throughout the intervention cycle. Remember that people from these stakeholder groups are the experts, so you will likely want to engage them in a conversation when completing the tool. If you are struggling to fill in any part of the table, you may consider the following scenarios:

- How a stakeholder group (i.e., persona) might respond to or participate in a certain intervention design.

- How a stakeholder group could reasonably participate in gathering and analyzing monitoring information.

- How a stakeholder group could receive evaluation results.

- How a stakeholder group could contribute to a learning process.

Persona Name	*Name the stakeholder group. Make sure the name is appropriate and inclusive.*
Background and Context	*Describe the context or lives of the stakeholder group in general. Where do they live? What language(s) do they speak? What do they do? You will want a story that represents, broadly speaking, the people in this stakeholder group, with special attention to the context related to the conflict and the environment. That story will help you think through the below pieces of the persona.*

Positions and Beliefs	*These are the implicit and explicit positions, beliefs, stances, goals, or aims of the stakeholder group. What do they want to achieve? What do they seek? These should be explored in terms of the natural environment, the conflict, and any other relevant factors, keeping in mind that things that may seem irrelevant at first may prove to be important.* *These should be captured, to the extent possible, in the design of your intervention as well as your monitoring, evaluation, and learning plans. Remember, each stakeholder group will have different positions or goals when it relates to not just the intervention, but the information or evidence generated from it. For example, one group may believe land should be conserved for grazing while another is more concerned with forest preservation.*
Values and Aspirations	*These are the relevant and important underlying principles, standards of behavior, thoughts, or viewpoints that might affect this stakeholder group's positions and objectives and will therefore potentially influence the intervention in less direct ways, including in interactions with other stakeholder groups. These should be considered throughout the intervention cycle, from planning to implementation, monitoring, evaluation, and learning plans. For example, one group may value data that is collected via Western scientific methods, while another values Indigenous knowledge and stories.*
Needs	*These are the underlying needs that stakeholder groups hope to meet and often include basic needs such as shelter and food as well as feelings of security and belonging. Groups often build their values and aspirations on these needs. It may be more challenging to identify these needs, but addressing them can be key to environmental peacebuilding work.*
Challenges and Limitations	*These are the logistical, cultural, political, and economic obstacles that may get in the way of the stakeholder group engaging with or benefitting from the intervention; participating in monitoring, evaluation, and learning processes; or receiving or understanding key information. This might include a lack of access to certain spaces or technologies, language limitations, conflicts with other stakeholder groups, and even weather patterns.*
Key Considerations	*List the key considerations you should bear in mind as you design, implement, monitor, evaluate, and learn from your intervention. For example, this may include how frequently the stakeholder group may want to engage with intervention information, any important gatekeepers to consult, etc. This, like the other parts of the Persona Tool, can and should be updated as new information is gathered or the context changes. Reference these key considerations often.*

Figure 2.2: Persona Template
Source: ELI.

Conflict Analysis

A conflict analysis is a systematic study of the conflict dynamics that contribute to conflict, fragility, peace, and/or ecological degradation (Hume 2018). See Box 2.6 for examples of conflict analysis tools.

Objectives of a Conflict Analysis

A conflict analysis informs decisions at all stages of a project cycle. It allows evaluators to:

- Understand the background, history, and drivers of conflict including actors, issues, regional dimensions of conflict, and conflict-environment linkages, which could impact the outcomes of the intervention under assessment (Ajroud et al. 2017).

- Provide information on conflict actors, issues, regional dimensions of conflict, and conflict-environment linkages that should be considered when selecting team members, preparing data gathering, and preparing for stakeholder consultations and validation workshops.

- Inform decisions on the monitoring and evaluation process, particularly which stakeholders to involve and the process for involving them.

- Focus needs assessments on critical peacebuilding and environmental issues (Kievelitz et al. 2004).

Box 2.6: Selected Conflict Analysis Tools

- Ajroud et al. 2017. "*Environmental Peacebuilding: Training Manual*," module 3: https://drive.google.com/file/d/1LoIcV_JJPJN-jq2tWUJtYLhnnoI9MNesE/view

- Hammill et al. 2009. "*Conflict-Sensitive Conservation*," particularly section 3. IISD: https://www.iisd.org/system/files/publications/csc_manual.pdf

- UN Development Group. 2016. "*Conducting a Conflict and Development Analysis*": https://unsdg.un.org/sites/default/files/UNDP_CDA-Report_v1.3-final-opt-low.pdf

- USAID. 2012. "Conflict Assessment Framework: Application Guide": https://pdf.usaid.gov/pdf_docs/PNADY740.pdf

How to Conduct a Conflict Analysis

While there is no single way to conduct a conflict analysis, the following section describes tools and core principles that can be adapted as necessary.

1. **Consider the following questions:**

   - Who should participate in the conflict analysis? It is important to be as inclusive and participatory as possible while balancing that participation with cost considerations and conflict-sensitive methods of engagement.

   - When should you conduct a conflict analysis? Ideally, a conflict analysis should be conducted prior to designing an intervention and then regularly and/or in response to changes in the conflict as the intervention progresses.

   - How do you engage participants? You should design a conflict sensitive process that does not exacerbate tensions in the process of gathering information and doing the analysis.

   - How much information should you gather? You will need to balance the need for a timely analysis with the need to be holistic.

You should also right-size the analysis based on your available resources (time, financial, and human).

2. **Review readily available open sources of analysis and data:** Organizations like the International Crisis Group, the Uppsala Conflict Data Program (UCDP), and the Armed Conflict Location and Event Data (ACLED) project regularly update their conflict analysis data. Additionally, some aid agencies have developed conflict assessment tools that can be accessed and adapted.[4] Using these secondary sources of information can save time and money.

3. **Conduct a root cause analysis**: In any conflict-affected setting, there may be many conflicts, issues, or problems, each with its own narrative. A root cause analysis can help you to unpack the different contributing factors for each issue. A common tool is a conflict tree, which identifies the core problem/conflict you want to focus on, the root causes of that problem/conflict, and the various effects (Hammill et al. 2009). This root cause analysis can then be useful as you reflect on how your ongoing or planned work relates to the conflict:

---

4. See, for example, UNDG 2017; Saferworld 2015; USAID 2012; Hammill et al. 2009.

- Will your work address the (root) causes of the conflict? If so, how?

- Will your work address the effects of the conflict? If so, how?

- Will your work reinforce the (root) causes of the conflict? If so, how?

- Will your work reinforce the negative effects of the conflict? If so, how?

4. **Conduct a stakeholder analysis** (see discussion above)

5. **Conduct a peacebuilding architecture analysis:** Increasingly, institutions are conducting a separate peacebuilding architecture analysis that complements the conflict analysis. The goal of the peacebuilding architecture analysis is to better understand the ongoing peace process and how your intervention might feed into or otherwise support the building of peace. Key questions to ask in this analysis are:

- What kind(s) of peace is being built? Try to define the nature of peace as precisely and clearly as possible. Are you trying to stop the fighting? Resolve underlying grievances? Reweave the fabric of society?

- Is there a peace agreement or comprehensive peace plan that guides peacebuilding?

- What are the key institutions involved in peacebuilding? What are their roles and capacities? Where and how are they functioning? At what level? These institutions may be divided into those focusing on security, social, economic, political, and environmental dimensions.

- How effectively is the peace plan being implemented?

Analysis of the peacebuilding architecture often focuses on effectiveness (nature of outcomes and their durability or sustainability) and satisfaction by diverse stakeholders (with the process, relationships, and outcomes).

6. **Ensure that gender considerations are included**. Men, women, boys, girls, and sexual and gender minorities often experience conflict differently. Including gender considerations can help you to understand how the environment and conflict dynamics interact with prevailing gender norms and behaviors (Hassnain, Kelly, & Somma 2021). It can also expose unequal power dynamics and make visible the violence (overt, structural, psychological, etc.) used to maintain power, therefore highlighting opportunities for environmental peacebuilding. Questions can include:
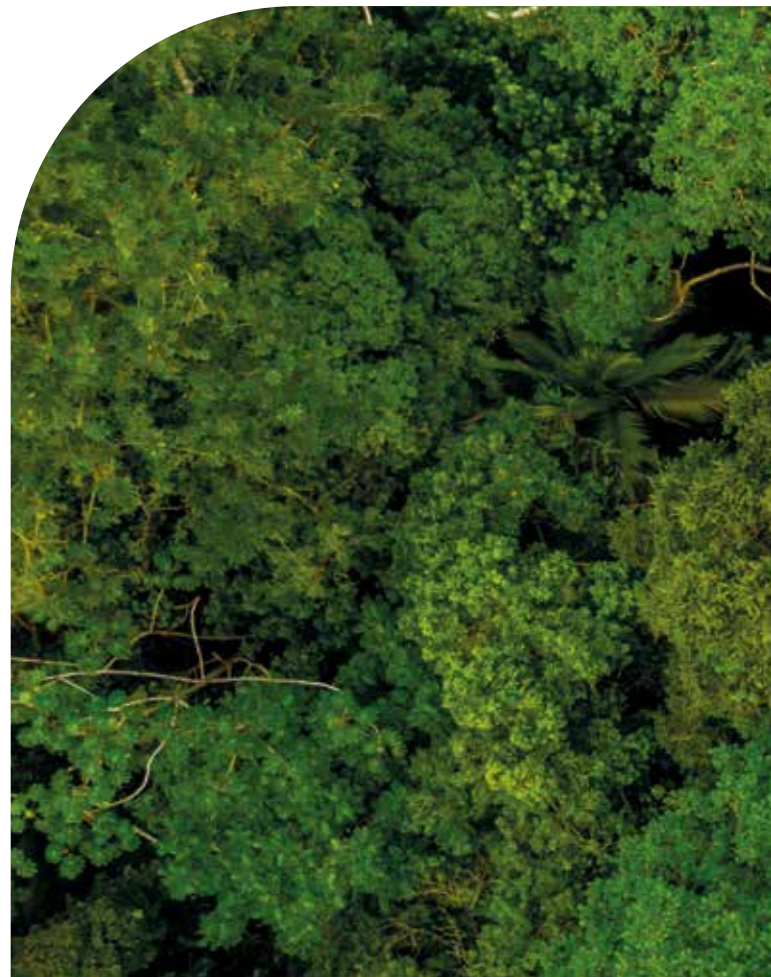
- How do women, men, and gender minorities experience the conflict differently? How does the conflict affect gender roles?

- How do women, men, and gender minorities interact with the environment? How does the conflict affect these interactions?

- What different roles do or can women, men, and gender minorities play in facilitating a peaceful resolution?

- How might the ways in which women, men, and gender minorities interact with the environment be leveraged as a tool for building peace?

- Are there any linkages between the environment and the broader conflict? How are women, men, and gender minorities impacted by these linkages?

For additional examples of conflict analysis tools, including those specific to conservation, please see Box 2.6.

Environmental and Social Impact Assessment

Grievances related to interventions usually relate to (1) the impacts of the intervention, (2) the inequitable sharing of benefits from the intervention, or (3) some combination of the two. Environmental and social impact assessments (ESIAs) are key tools for identifying and assessing social and environmental risks and benefits of an intervention. As such, they can help to identify issues to consider in intervention design, implementation, monitoring, and evaluation. The vast majority of countries have mandatory environmental impact assessments (EIAs) for interventions that are likely to have a significant impact on the environment (UNEP 2019). Increasingly, these assessments have expanded the scope of analysis to include the social impacts of a proposed interventions – hence ESIAs.

Box 2.7: Selected ESIA and SEA Resources

ESIA Resources

- African Development Bank. 2001. *Environmental and Social Impact Assessment Procedures (ESAP).* https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/SSS_%E2%80%93vol1_%E2%80%93_Issue4_-_EN_-_Environmental_and_Social_Assessment_Procedures__ESAP_.pdf

- Vanclay, F., A.M. Esteves, I. Aucamp, & D. Franks. 2015. *Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects.* Fargo ND: International Association for Impact Assessment. https://www.iaia.org/uploads/pdf/SIA_Guidance_Document_IAIA.pdf

- World Business Council for Sustainable Development. 2016. *Guidelines for Environmental and Social Impact Assessments (ESIA).* http://docs.wbcsd.org/2016/08/Guidelines_for_Environmental_Social_Impact_Assessment.pdf

SEA Resources

- OECD. 2006. *Applying Strategic Environmental Assessment: Good Practice Guidance for Development Co-operation.* https://www.oecd-ilibrary.org/development/applying-strategic-environmental-assessment_9789264026582-en

- OECD DAC. 2012. *Strategic Environmental Assessment in Development Practice: A Review of Recent Experience.* https://www.oecd.org/dac/environment-development/strategic-environmental-assessment-in-development-practice-9789264166745-en.htm

- UNEP. 2004. *Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach.* https://www.unep.org/resources/report/environmental-impact-assessment-and-strategic-environmental-assessment-towards

- World Bank. 2008. *Strategic Environmental Assessment for Policies: An Instrument for Good Governance.* http://hdl.handle.net/10986/6461

ESIA is an important planning tool that aims to inform governmental decision making (Should the project be approved? Should it be amended? How might we mitigate the environmental and social impacts? etc.). In addition, ESIAs provide an **important opportunity for the public to review the draft assessments and provide input**. The government must take these inputs into consideration (or explain why it disagrees) *before* it makes its decision on the merits of the underlying project. Failure to conduct an ESIA, inadequate ESIAs, failure to consult the public, and failure to meaningfully consider public input are all common reasons that courts have overturned governmental decisions (UNEP 2019). Moreover, the failure to involve the public or to consider public input can aggravate conflict dynamics (Bruch, Muffett, & Nichols 2016).

For larger-scale interventions such as policies, programs, and plans, **strategic environmental assessments (SEAs)** provide an analogous process for identifying diverse environmental (and often social) impacts and developing mitigation measures (Therivel et al. 2013).

While detailed guidance regarding the scope, criteria, and process for undertaking ESIAs and SEAs is beyond the scope of this Toolkit, Box 2.7 provides links to some relevant resources and guidance documents.

B. Key Considerations

When conducting a context analysis to inform the design of an environmental peacebuilding intervention and the accompanying M&E system, there are four key cross-cutting considerations to be incorporated: systems and complexity, gender, participation and inclusion, and conflict sensitivity. These are discussed in turn.

Systems and Complexity

In designing an environmental peacebuilding intervention, it is essential to adopt a systems approach that accounts for complexity.

Simple problems are those that can be solved by mastering simple techniques or applying known rules. There is typically one solution, and cause-and-effect is linear. The classic example of a simple problem is following a recipe. **Complicated** problems also have known rules, but they require specialized knowledge or training. Complicated problems are not simple, but they are ultimately knowable. An expert—or group of experts—will likely be able to reach a high degree of certainty about the outcome. The classic example of a complicated problem is sending a rocket to the moon. **Complex** problems are interdependent problems that cross multiple areas of expertise. The problem exists in a system that is often in flux, and even experts cannot predict how the application of a known rule will impact the system. These problems inherently have significant ambiguity and uncertainty; cause-and-effect is difficult to understand. Moreover, complex problems are often non-linear, requiring an adaptive approach. In a complex system, a technique or rule that worked out well in the past does not guarantee a similar positive result when applied in the future. The classic example of a complex problem is raising a child.[5]

Dynamic contexts present additional challenges. A context is **dynamic** when there are developments that take place beyond an intervention's sphere of control

---

5. Adapted from Glouberman & Zimmerman 2002; Hogarth 2018; Patton 2008; *see also* Simister 2009; Vester Haldrup 2022.

or influence and affect its performance and outcomes; moreover, these effects can happen rapidly, with little notice. They may relate to the situation that the intervention aims to address, changes in the development of areas associated to the intervention or changes in political, economic, social, cultural, environmental, administrative, religious, or media sectors.

Dynamic systems are often due to non-linear complexities (Hunt 2016). That said, not all dynamic contexts involve complexity. This differentiation is relevant throughout the intervention because each level of complexity requires a different approach in the monitoring and evaluation processes. An intervention context could have simple, complicated, complex, and chaotic aspects. Dynamism refers to the likely or actual changing context, while complexity refers to the relative uncertainty (understanding of the cause-effect relationships) and agreement (between stakeholders about how to define a problem and how to solve it) of some aspects of the intervention context (see Figure 2.3) (STAP 2017). Considering these two elements, a simple aspect is characterized as such because the cause-effect relationship is well understood (certainty) and stakeholders agree about the best way to achieve results (agreement). On the contrary, a chaotic aspect is when there is uncertainty about the cause-effect relationships and stakeholders do not agree about how to solve the problem.
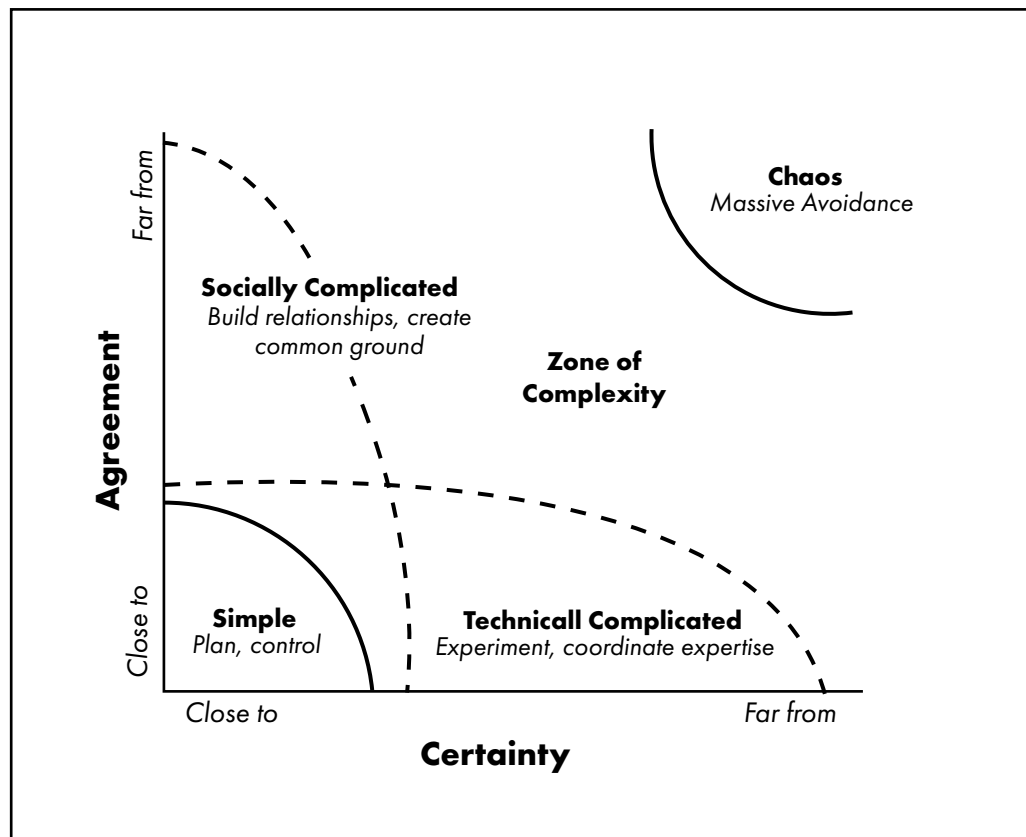
Figure 2.3: Agreement and Certainty Matrix.
Source: Quinn Patton, 2011, p. 94 (reproduced with permission)

In the design phase, the complicated and complex nature of environmental peacebuilding requires particular consideration for engaging a diverse range of views and of managing potential bias. Because multiple perspectives are present in complex systems, bias can be a challenge. When faced with multiple perspectives each with its own narrative, it can be difficult to ascertain "the truth." Coming to a conclusion about what was done, what the impacts were, what the significance was, and where the intervention is going without representing other perspectives can open an intervention to assertions of bias.

Environmental peacebuilding is both complicated and complex.

Environmental peacebuilding is a complicated problem because it links a wide variety of fields, actors, mandates, and dynamics. As such, it requires more than simple techniques. Environmental peacebuilding interventions impact and are impacted by livelihoods, economic growth, natural resources, conservation activities, conflict narratives and dynamics, basic services, and more. They also often cut across a wide range of resources that are used for multiple and diverse peacebuilding objectives. Designing successful interventions requires specialized expertise or knowledge; the expertise could be formally acquired, such as a university degree in a related field, or it may be in-depth knowledge of the region, conflict, or people involved.

Environmental peacebuilding is also a complex problem because environmental and human conflict systems are in constant flux separately, as well as overlapping each other and creating multidimensional challenges. The interactions between these systems and their components generate feedback loops that are difficult to understand.

Expertise—in the tactics deployed or the targeted area—does not necessarily increase the ability to predict how the systems will respond. Furthermore, past success in environmental peacebuilding does not guarantee that applying the same techniques and interventions will lead to future successes, even in the same geographical areas.

Because environmental peacebuilding is both complicated (due to the intersection of many different sectors and actors) and complex (due to the nonlinearity of feedback loops), it can be challenging to develop an effective M&E framework. Working with flexible and often decentralized M&E frameworks is necessary (Rogers 2008). Recognizing that substantive change takes a long time, the framework will likely need to consider a longer timeframe and the impact of multiple projects on the system as a whole. Further, given that both positive and negative feedback loops are likely at work in environmental peacebuilding systems, practitioners should not assume that short-term progress is indicative of positive long-term change. Strategies and tactics for how to approach environmental peacebuilding M&E through a complex systems lens are captured in Figure 2.4. The topics presented in this figure are also explored more in depth throughout the chapter and Toolkit.

Embrace the idea of interacting complex systems.
This includes considering and integrating across:

- Scales (top-down and bottom up)
- Timelines and time horizons
- Sectors
- Geographies
- Objectives

Conduct an analysis to identify key entry points.

- Identify high-value areas for coordinating interventions at the junction of environment and peacebuilding
- Ask "Are certain aspects or dynamics of a complex system more important to outcomes than others?"

Use narratives to connect environmental change with changes in peace and security.

- Develop theories of change based on context, literature, and learning from previous experience
- Refine theories of change based on learning

Expand the timeline for evaluation.

- Include programmatic and thematic evaluations
- Review previously completed interventions to capture learning

Mainstream gender.

- Gender-sensitive indicators
- Gender-disaggregated data

Employ adaptive management.

- Mandate to adjust course if necessary
- Employ holistic and well-resourced monitoring processes
- Implement early warning systems and interventions
- Incorporated pause points
- Foster learning, including social learning
- Capture unintended consequences, including through open-ended questions

Capture complexity.

- Focus on contribution rather than attribution
- Evaluate the process as well as the outcome
- Account for feedback loops and non-linearity

Incorporate multiple perspectives.

- Triangulate data collection methods and approaches to gather diverse information from multiple perspectives

Right-size.

- Tailor these strategies and tools to fit your particular context, organization, and intervention

Figure 2.4: Approaching Environmental Peacebuilding M&E through a Complex Systems Lens
Source: ELI.

At the outset, an intervention should clearly define its purpose. The M&E details can then be customized to measure interim goals, with the understanding that the goals may shift as the project develops further (Simister 2009). Particularly in complex systems, the M&E framework should focus on how project components are contributing to the aggregate impact, rather than trying to parse the results of each component in isolation (Vester Haldrup 2022). As quantitative indicators alone will not account for a full picture, particularly when evaluating complex systems, M&E frameworks should include quantitative and qualitative indicators.

One M&E framework that is well-suited to complicated and complex problems is **developmental evaluation**.[6] Developmental evaluation applies assessment processes to support the simultaneous, ongoing development of a particular intervention. These assessment processes are developed and tested within an ongoing intervention to identify—in real time—areas of improvement and adaptation. Innovation is supported, as the learning process is ongoing and flexible to allow for changes in both the direction and goals of the intervention. Developmental evaluation is designed to capture system dynamics and interdependencies, yielding a context-specific understanding that can further inform innovation.

In developmental evaluation, the evaluator is often part of the team instead of an external, third party. Developmental evaluation allows the evaluator and intervention proponents to remain committed to their fundamental values, rather than focusing on external

---

6. Developmental evaluation may also be called real-time evaluation, emergent evaluation, action evaluation, or adaptive evaluation; each of these names emphasize the concurrent nature of the evaluation and the program to be evaluated (Patton 2008; Rogers 2008).

authorities or funders. The intervention can respond strategically to the evaluation and enact change as participants learn from prior efforts. Evaluation is used as a tool for learning and program development, not to punish participants for "failing" to meet a static goal (Patton 2008; Simister 2009; Vester Haldrup 2022).

Undertaken in dynamic contexts, developmental evaluations often rely on context monitoring or complexity-aware monitoring. Both methodologies complement performance monitoring, which focuses on collecting qualitative and quantitative data to assess whether the implementation/pathway of an intervention is on track and if the expected results are being achieved. **Context monitoring** collects information about the external conditions that could impact the environmental peacebuilding intervention or its activities (USAID 2021). Adoption of this approach requires identifying the factors that are most valuable to monitor when there are not enough resources to monitor all the elements of the context (USAID 2022). **Complexity-aware monitoring** monitors projects with uncertain cause-and-effect relationships, where stakeholders have different perspectives that make consensus impractical, or the pace of change is unpredictable (USAID 2021). This methodology is also useful to ensure monitoring for unintended consequences as well as the implementation of adaptive management in a dynamic context, as it provides managers information about the dynamic and emerging aspects that may be used to reconsider intervention design if appropriate according to the situation.[7]

7. For more on complexity-aware monitoring, see section 2.3.C.
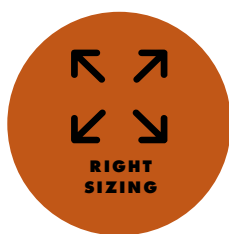
As a final consideration, **right sizing an M&E framework** helps to ensure that environmental peacebuilding interventions are effectively maximizing their available resources. A systems approach can be resource-intensive, considering a wide range of potentially relevant factors, developing indicators for each factor, and conducting comprehensive context analyses. An M&E framework that is too small will not provide adequate information to evaluate the program's success; an M&E framework that is too large siphons resources away from the peacebuilding efforts. The difficulty in assessing cause-and-effect in complex systems makes right-sizing M&E of environmental peacebuilding interventions that much more challenging. See Box 2.8 for more information on right-sizing systems mapping.

Building M&E into the intervention itself—making M&E systematic instead of a separate process—is especially beneficial when intervention proponents undertake multiple roles or when the intervention cannot afford a staff member dedicated solely to M&E tasks. Smaller projects and organizations may lack the resources to collect data and may instead find that narratives related to desired outcomes are easier to compile and analyze. Being creative and flexible in selecting indicators of success may prevent smaller projects and organizations from becoming overwhelmed by M&E responsibilities (Zinn n.d.; Simister 2009).
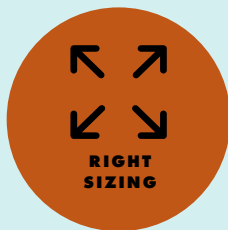
Box 2.8: Right-Sizing Systems Mapping

Systems that are both complicated and complex, such as those surrounding most environmental peacebuilding interventions, can be challenging to map and understand. A complex map of the conflict and peace dynamics in Afghanistan led General Stanley McChrystal, then the leader of US and NATO forces in Afghanistan, to quip, "When we understand that slide, we'll have won the war" (Bumiller 2010).

When right-sizing a systems map, there are five aspects on which practitioners should focus:

Practitioners should understand the general system and boundaries in which they are operating.

○ How is the primary system connected to or nested within different systems? In complex settings with multiple, nested systems, practitioners must clearly situate and target their primary system/ intervention.

Practitioners should consider the geography of the intervention.

○ Is the intervention local, national, regional, or global?

Practitioners should examine important stakeholders and actors within a system.

○ Who are the actors? How are they acting? What are their goals? How are they connected?

Practitioners should highlight the rules, laws, and norms of a setting.

○ How is the intervention affected by them? How is the intervention aiming to transform them?

Practitioners should identify levers of change, or areas within a system that would create ripple effects if changed.

Of course, there are many other factors which are relevant in right-sizing systems mapping depending on the intervention. For more details on systems mapping, see Omidyar Group (2014).

Contribution vs. Attribution

"Attribution" is the clear and confident ascription of a change to a specific intervention.[8] Historically, M&E has often prioritized attribution. This is largely because donors often want to know that the results achieved are due to the intervention they supported. The difficulty is that there are often hundreds of organizations working in the same space as well as a myriad of socioeconomic and political factors that can affect the intervention. For both reasons of complexity and complication, it is usually impossible to know how much of the progress toward peacebuilding and environmental outcomes is due to your intervention, how much is due to others, how much may be attributed to the synergies between your intervention and others, and how much has been affected by the wider context. While this can be difficult to assess in even one sector, environmental peacebuilding involves multiple actors in both the environmental sector and peacebuilding sector. This makes disentangling which interventions caused which environmental or peace outcomes that much more difficult, especially where they intersect.

Given the difficulties with attribution, M&E is increasingly shifting its focus to contribution. "Contribution" implies that an intervention has helped cause the observed effects; unlike "attribution," contribution does not imply a unique or direct causal link between activities and outcomes. One way, therefore, to assess contribution is a contribution analysis, which is based on the premise that it is often difficult if not impossible to attribute meaningful changes to a single factor or intervention.

An example of contribution analysis is the evaluation of UNEP's Environmental Cooperation for Peacebuilding (ECP) Program, which incorporated a mixed-methods approach with a case study me-

8. See https://one.oecd.org/document/DCD/DAC/EV(2022)2/en/pdf

thodology. Using a theory of change model, narrative and other qualitative descriptions were used to identify causal links and impacts. A contribution analysis was particularly useful in this intervention due to changing circumstances in addition to the non-linearity of outcomes compared to original plans. The mixed-methods evaluation drew upon the perspectives of 225 experts (Acharya 2015).

Lack of Treatment and Control Cases

When designing an evaluation plan, one approach is to use experimental methods that rely on treatment and control "cases" or groups. Treatment and control cases help to evaluate the impact of an intervention by using a counterfactual (where no intervention took place) to compare what the situation would have been if the intervention had not been implemented. By using a counterfactual to evaluate intervention performance, this method assesses if effects are attributable to the intervention based on the differences between the two groups following the intervention (Chigas, Church, & Corlazzoli 2014).

In the context of environmental peacebuilding interventions, however, **control cases can generate serious ethical questions and other problems** because they require practitioners to choose which groups will receive the "treatment," i.e. the intervention, and which groups will not. This decision can have ethical issues regarding, for example, who receives a potentially beneficial (and perhaps even lifesaving) intervention as well as the destination of funding and resources (for example, whether they should be used for monitoring and evaluation of the two groups or for a broader intervention in which all the groups would receive the treatment).

Additionally, randomized controlled trials (RCTs) and other experimental methods using treatment and control groups do not necessarily provide causal explanations of the differences observed, just that there were (or were not) differences. Furthermore, it is difficult to tell whether the results would apply in a different context given the complex contexts in which environmental peacebuilding takes place (Bickman & Reich 2009). In environmental peacebuilding, there are specific methodological challenges because in-

terventions are implemented in dynamic and conflict contexts that involve risks for the security and safety of the staff, beneficiaries or participants, and other stakeholders that can hinder the collection of data in one or both groups, and therefore, might create bias in the results or undermine the validity of the findings. Additionally, external factors related to other aspects of the conflict (particularly the dynamic and insecure dimensions) can impact the context of both treatment and control groups, which might lead to under- or overestimation of the intervention's impacts.

Under certain circumstances, the implementation of treatment and control cases is possible when mixed with other methods to fill gaps and compensate the weaknesses of each process. The data and results obtained by one method can corroborate, help to understand, or complement the results reached by another method, such as participatory approaches. For instance, when RCTs are implemented in combination with another method, it could provide further insights into findings about the impacts of the project (Chigas, Church, & Corlazzoli 2014). A related approach is to sequence the treatment and control cases, so the "treated" participants benefit in the first round of an intervention, while the "control" group benefits in later rounds. With such an approach, effective communication to manage expectations is important.

Gender

It is important to consider gender dynamics when designing an environmental peacebuilding intervention as well as the associated M&E framework.

GENDER

Research has shown that different genders experience and are impacted by violent conflict in different ways (Hassnain, Kelly, & Somma 2021). Different genders also interact with and use natural resources differently according to their socioeconomic status and socially determined gender roles (Stork, Travis, & Halle 2015). In many contexts, women are the primary natural resource harvesters and are the primary drivers of a country's food production and trade. During times of conflict, women may be forced to take on new economic roles as men join the conflict. For example, women in the Darfur region took on more income-generating responsibilities, such as farming and raising livestock, due to a labor shortage as men left home to fight.

Despite growing recognition that gender-sensitive programming improves the sustainability of peacebuilding efforts (Gizelis 2009; UNIFEM 2010), in practice, **gender concerns are too often incorporated into interventions and M&E frameworks in a perfunctory manner**. For instance, evaluators of the UNEP Sub-Programme on Disasters & Conflicts noted that in many cases, gender was incorporated "into project plans mainly because it was a requirement, without truly examining how the projects could contribute to gender equity" (Carbon & Piiroinen 2012, p. 51).

Including women in peace processes helps peace last longer. This is not just at the national and international level: in the short-term, including women in local peace processes helps establish a more durable peace (Stone 2014). Additionally, UN peacekeeping operations are more effective in societies with greater female public participation and gender equality, which create opportunities for greater economic development (Gizelis 2009). However, about 93 percent of participants in peace negotiations are men, as are 98 percent of peace agreement signatories (UNIFEM 2010).

Incorporating gender concerns into M&E protocols can help practitioners identify if and how an intervention affected people differently because of their gender (Glennerster, Walsh, & Diaz-Martin 2018). It can also help practitioners understand which gender-based approaches work and under what circumstances. Including women in the M&E of environmental peacebuilding is especially important given that women are intimately involved in natural resource management, are disproportionately affected by conflict, and can play crucial roles in peace negotiations (Myrttinen 2016).

Where appropriate and feasible, gender considerations should go beyond binary male/female categories and encompass other groups such as transgender, non-heterosexual, and non-binary people (Fletcher 2015). Deciding when and how to discuss broader views of gender can be both culturally and legally sensitive in certain situations. In many countries, nonbinary gender identities are effectively and/or legally outlawed. In such circumstances, one option is to ask local partners how they conceptualize gender and how broadly it should be framed in a particular context.

There are many ways to incorporate gender into the context analysis. A **gender conflict analysis** can help practitioners understand how the environment and conflict dynamics interact with prevailing gender norms and behaviors (Hassnain, Kelly, & Somma 2021). It can also expose unequal power dynamics and make visible the violence used to maintain power, therefore highlighting opportunities for environmental

peacebuilding. This ultimately helps practitioners to design more responsive, effective, and sustainable projects and programs. If no gender analysis has been done, practitioners should use existing gender assessments to inform themselves of the gender dynamics of the area in which the intervention will be implemented. If no such assessments are available, practitioners should ensure that they engage with a variety of stakeholders on the topic to better understand relevant dynamics.

Collecting gender-disaggregated data is a second key approach in incorporating gender dynamics into the M&E of environmental peacebuilding. Because conceptions of gender extend beyond the male-female binary, allowing participants to self-identify their gender can be an important way to extend inclusion (Spiel, Hamison, & Lottridge 2019). Gender dynamics can be captured through surveys, focus groups, or interviews that ask intervention participants to reflect on issues relating to gender

equity and equality. For instance, the Stockholm International Water Institute (SIWI) has developed a survey to assess issues of gender equality and decision-making around transboundary water cooperation. As another example, gender surveys were issued to villages in Botswana and Namibia as part of UNESCO-IHP's GGRETA (Phase II) project to determine whether women or men are mainly responsible for domestic water quality within households (Thuy, Miletto, & Pangare 2019). Data from the surveys demonstrated how women are responsible for water quality and supply within the household and highlighted how gender-disaggregated data can be used to shed light on how gender minorities interact with the environment. Note that surveys or particular survey questions can be included as part of an existing monitoring activity to elicit a higher response rate and avoid overburdening participants.

Making sure women's voices are heard in the M&E processes is crucial. Speaking with both men and women, having female evaluators speak with women, and respecting cultural norms and boundaries can help make the evaluation process more gender-inclusive. Practitioners should be aware, however, that difficulties with hiring female staff are not uncommon, especially when working in areas where women are not traditionally formally employed.

The worksheet on Integrating Gender, at the end of this chapter, provides a range of entry points and questions to consider.

Participation and Inclusion

Participation is the active involvement of stakeholders, in this case as part of the design, monitoring, evaluation, and learning processes. Participation exists along a continuum, from informing and consulting to collaborating and empowering, and can involve different stakeholder groups, including intervention staff, partners, country-based officials, and participants or beneficiaries (INTRAC 2020).

Inclusion means ensuring equal access to opportunities "regardless of differences in personal characteristics or identities" (USAID 2020, p. 1). Inclusion means both including various stakeholder groups—particularly traditionally marginalized groups such as women, minorities, Indigenous people, youth, and people with disabilities—in design, monitoring, evaluation, and learning as well as ensuring that these processes capture the different effects of an intervention on various stakeholder groups (e.g., through disaggregated indicators) and including these groups in the analysis, sharing, and dissemination of information such as evaluation results. Genuine inclusion necessitates the empowerment and authentic participation of various stakeholder groups.

INCLUSION / PARTICIPATION

Participatory mechanisms should include as many stakeholders as possible from the early stages of intervention planning. Bringing different perspectives and ideas to planning and implementation provides a broader picture of the intervention context and relevant factors, supports the development of better interventions, and may help address the different risks of the intervention, prioritize drivers of conflict and fragility, and bring specificity to the interventions' protocols and guidelines. In addition, participatory mechanisms should be used to identify the risks that the intervention could impose on different groups and the measures that will be adopted to minimize and manage those risks.

0101
1001
0101
DATA

Additionally, when a variety of stakeholders are involved in intervention design and implementation, more information is available to understand the difficulties that could affect data collection. For example, inclusion and participation in the design of an intervention and its monitoring plan can help ensure access to community members and sites, which can in turn reduce the risk of bias in information while supporting the transparency and impartiality of the intervention. Local stakeholders such as civil society can also provide important information on the context that may be particularly important when there is an absence of baseline data. These people also can glean information from locations that intervention staff might not be able to access for security reasons (GEF IEO 2020).

Participation and inclusion must be rooted in transparent relationships based on trust. This is essential to ensuring stakeholders contribute accurate and complete information. Building those relationships requires involving stakeholders from the beginning of the intervention as well as considering the possible negative impacts on them according to the conflict sensitivity analysis, and informing conclusions about the potential risks that they may face during the implementation of the intervention.

Stakeholders such as community organizations and local people can also play a role in dispute resolution mechanisms and mitigating conflict-related risks in intervention implementation. Communities may have well-established processes to reach consensus and agreements between the different conflict parties and can therefore contribute to the resolution of conflicts that arise during intervention implementation.

When deciding how and when to engage different stakeholder groups in the design and implementation of an intervention, it is important to consider how the different groups interact with both you and other groups (e.g., supportive, neutral, antagonist). This will help guide the mechanisms for participation and inclusion. It may be, for example, that certain groups are culturally expected to defer to others (e.g., due to gender or age); to effectively include them, therefore, it may be necessary to engage these groups separately.

Insecure Contexts

Environmental peacebuilding interventions are often in insecure, high-risk contexts with weak institutional capacity (OECD DAC 2012; Bush & Duggan 2013). Insecurity has implications for both an intervention and for its monitoring and evaluation, such as the safety of staff and beneficiaries or participants, obstacles for getting enough good data, the risks of bias, the possibility that an intervention might inadvertently increase tensions and violence, and the challenge of balancing transparency and security.

Insecure contexts pose risks for the safety of both staff and participants in environmental peacebuilding interventions. It may not be safe for staff to undertake activities, monitor, or evaluate an intervention, particularly when armed groups are present or violence is otherwise likely. Moreover, intervention participants might face retaliation by others in their community, armed groups, or the government, especially if there is opposition to the goals (or perceived goals) of the intervention (including peace). Risks include physical attacks, health challenges, being kidnapped or raped, landmines and unexploded ordnance (e.g., cluster bombs), psychological challenges, and trauma (Bush & Duggan 2013). All of this can lead to the relocation of the intervention, suspension of activities in certain locations, or the cancellation of the intervention (GEF IEO 2020).

It can be particularly challenging to generate or otherwise obtain sufficient monitoring data (both in quality and quantity). An area can become inaccessible because of the physical risks, the high costs of travel (including security personnel), or censorship by the government. People may be afraid to be interviewed due to safety considerations (Bush &

Duggan 2013). Moreover, the data that is collected might be unreliable because people are reluctant to provide honest responses. In these contexts, those collecting information should pay close attention to the possibility that disinformation is used by the combatants in the conflict (OECD DAC 2007). An intervention and related processes may worsen the enduring and latent causes of the initial conflict or create new sources of conflict, and tensions may result in violence (Bornstein 2010). In addition, insecurity may constrain the publication of findings (OECD DAC 2012).

Challenges associated with insecure contexts can impact the integrity and transparency of the monitoring and evaluation process. Insecure contexts could lead to relying on a methodology that does not include all the key stakeholders, compromising the methodological integrity and the validity of findings, and marginalizing groups or mispresenting the reality and impact of the intervention (Bush & Duggan 2013). The host government or the agency promoting the intervention could insist in vetting drafts for security purposes. The evaluator should consider the complex, multi-layered dimensions of the context and understand the potential impacts on integrity and transparency.

The challenges that insecure contexts create for monitoring and evaluation of environmental peacebuilding can be managed to a large extent by establishing protocols with mitigation measures, early warning mechanisms, training staff about decision-making and conflict-sensitivity, involving a range of stakeholders and local people from the beginning of the intervention to ensure access of data, enhanced dispute resolution mechanisms, and strategically using technology or other alternative methods to access data in unsafe places and improve the communica-

tion between the staff and stakeholders. These are discussed in turn.

In the design stage of an intervention, operational protocols and guidelines can help to address insecure situations. These protocols and guidelines provide a consistent set of approaches and should be based on evidence. They can address a range of issues (Asian Development Bank 2007). For example, protocols can articulate which staff are going to receive which training, at which stage, and where. Protocols can create and govern dispute resolution mechanisms that could be activated when the staff or stakeholders identify possible conflicts that could increase tensions or trigger violence situations with direct effects on the monitoring and evaluation project. The use of local and traditional conflict resolution practices can be a reliable mechanism for resolving tensions between groups, especially when participatory mechanisms are also included. Protocols can create a mandate for and provide detailed guidance on adaptative management, including specific ways that an intervention could be adapted if conditions worsen and put intervention staff at risk. When the risks imposed by insecure context are excessive, adaptive management can mean restructuring the intervention (by relocating activities, delaying some activities, or adding security measures, for example).

Protocols could also set forth security measures for international and national staff, beneficiaries, participants, and partners. Some measures could address safe modes of transport, for example, by precluding travel at night, establishing a curfew, or governing overnight stays in certain towns. National staff and local stakeholders are often more vulnerable to reprisals after an intervention closes; protocols can address these vulnerabilities in the planning and implementation of an intervention.

Early warning systems can help to manage the risks associated with insecure contexts (Corlazzoli & White 2013)**.** These are discussed on section 2.3.C, below. Related, creating and maintain, to the extent possible, an **open channel of communications with all the stakeholders** is another way to manage security risks. Inclusion and participation are discussed throughout this Toolkit.

Capacity building is central to navigating insecure contexts. Staff should have capacity in conflict analysis and conflict sensitivity. Training on specific insecure conditions and how to respond to them could reduce the necessity of international experts in some activities such as community visits,

e.g., how to conduct surveys about landmines and livelihoods to diminish the risk of possible harm for the staff and beneficiaries of the project (Paterson, Pound, & Ziaee 2023). In addition to staff, leaders and decision-makers should have training on managing tensions and working in potentially dangerous or otherwise sensitive situations in a calm and non-threatening manner (Corlazzoli & White 2013).

Insecure contexts often present unique risks to and opportunities for women. Accordingly, **gender-sensitive approaches are essential to managing gender-related risks and capitalizing on opportunities for women.** These gender-sensitive approaches may include, for example, hiring gender experts, gender-sensitive training, and specific strategies for gender-sensitive engagement.

Conflict Sensitivity

Conflict sensitivity is an approach whereby there is "a sound understanding of the two-way interaction between activities and context and ac-

CONFLICT SENSITIVITY

ting to minimize negative impacts and maximize positive impacts of [an] intervention on conflict, within an organization's given priorities/objectives" (Conflict Sensitivity Community Hub n.d.). Conflict sensitivity recognizes that interventions do not inherently do good and may, in fact, exacerbate conflict (Paffenholz 2005).

Conflict sensitivity can be applied to all contexts or types of interventions and does not necessarily require changing an intervention's mandate or objectives; rather, conflict-sensitive interventions are responsive to the context while seeking to achieve their objectives, adapting to evolving conflicts, and maximizing opportunities for peace and stability whenever possible (Global Affairs Canada n.d.). A related concept is "Do No Harm," which is a minimum standard to avoid doing harm or making a situation worse. However, conflict sensitivity is generally accepted to extend beyond this framework to include the maximization of positive impacts, including for conflict prevention and peacebuilding (Hammill et al. 2009; Saferworld et al. 2004).

A conflict-sensitive approach is key to understanding the dynamics of a conflict, how an inter-vention might be affected by the conflict context, how the intervention might affect the conflict context, and what measures should be taken to manage conflict-related risks.** This means that an intervention must consider the factors that may drive and shape conflict (OECD DAC 2007). Relevant factors include the intervention's activities as well as its processes for design, monitoring, evaluation, and learning.

To promote conflict sensitivity in environmental peacebuilding, **intervention staff should be trained in conflict analysis and conflict sensitivity.** Training should provide staff with sufficient understanding of ways to assess conflict dynamics that allow them to identify early warning indicators and to adapt their work in ways that mitigate conflict-related risks. Training on working in conflict-affected conditions could reduce the necessity of international experts in some activities such as community visits, e.g., how to conduct surveys about landmines and livelihoods to diminish the risk of possible harm for the staff and beneficiaries of the project (Paterson, Pound, & Ziaee 2013).

2.3. Design

This section focuses on how intervention staff take the various context analyses to develop a theory (or theories) of change for an intervention, to develop indicators tied to your theory of change, and then to develop a monitory, evaluation and learning framework for the intervention.

A. Theories of Change

A theory of change is a tool that conveys what you are doing, what results or effects you seek, how and why you will achieve those results, who will be affected, and the assumptions or risks involved. Theories of change capture causal linkages or pathways, often from activities to outputs to outcomes (short-term, medium-term, and/or long-term) and, finally, to impact. Theories of change also help in defining indicators, allocating (human, financial, and institutional) resources, and rethinking and revising interventions at strategically or operationally opportune moments.

There are many ways of developing a theory of change. Theory of change formats range from narrative to visual, simple to complex, and the components will be different depending on the organization, funder, audience, and purpose.[9] Theories of change can also be used at different levels, including for projects, programs, and organizations. A good theory of change will contribute to both internal and external clarity on the "what," "how," and "under what conditions" of an intervention.

---

9. See, for example, http://awidme.pbworks.com/w/page/36051640/The%20Rosetta%20Stone%20of%20Logical%20Frameworks

The process of developing a theory is as important as the product. An inclusive, participatory, and conflict-sensitive theory of change development process allows stakeholders to build common understandings of the intervention purpose and underlying hypotheses about how it will work. In addition, such a process can unveil assumptions about the factors necessary for success, the resources that are needed, and for what and to whom the intervention will be held accountable (see Box 2.9). Developing theories of change is therefore an important reflective practice for crafting interventions, building stakeholder buy-in, and setting the stage for successful interventions. This contributes to more effective, efficient, and sustainable intervention design and implementation.

Particularly in the context of environment peacebuilding, **theories of change are living documents that should be flexible and regularly reviewed, reflected upon, and updated as necessary.** They should not be static documents that are either unused or inhibit responsiveness or innovation. Rather, as the intervention progresses, theories of change should be reviewed to determine whether they are still both relevant and appropriate and revised accordingly (see Figure 2.5). This is especially necessary because the context in which environmental peacebuilding interventions take place are complex and highly fluid. The situation can change at any time, which means the approach may also need to change. In the field of environmental peacebuilding, theories of change are all the more important because:

- Environmental peacebuilding interventions link together environment- and peace- or conflict-related activities and expected outcomes. Much environmental peacebuilding work takes place without explicit theories or hypotheses about how

Box 2.9: Something to Consider—Who Participates?

INCLUSION / PARTICIPATION

Participatory and inclusive processes for developing a theory of change are important in environmental peacebuilding. Who participates in developing your theory of change will affect the shape that the theory of change takes as certain stakeholders emphasize different needs, activities, outcomes, and assumptions or risks. The dynamics of who is involved should therefore be carefully considered as you plan the development of your theory of change.

environmental work can affect peace and vice versa. **Making theories of change explicit and then testing them is therefore essential to ensuring effectiveness, maximizing positive effects, and minimizing negative ones.**

- Similarly, environmental peacebuilding must often link together activities taking place at different geographic or economic levels or across different timelines. For example, community-based interventions may not be sufficient if national or regional policies or institutions are not in place to support them (FAO & Interpeace 2020). At the same time, the shape of environmental challenges and conflict dynamics can be highly localized. **It is therefore important that environmental peacebuilding theories of change explicitly articulate the connections between these various levels and time scales.**

- It is important that environmental peacebuilding interventions are conflict sensitive. **The process of developing a theory of change can help to identify potential points at which the intervention may inadvertently negatively affect the conflict context, allowing environmental peacebuilding practitioners to adapt and avoid doing harm.** This process can also help to identify points at which an intervention can amplify peacebuilding or other positive effects.

- **Outlining assumptions and risks in a theory of change entails explicitly outlining the conditions that are necessary for change.** While every good theory of change should have assumptions or risks related to the broader intervention context, documenting these for environmental peacebuilding interventions is even more important since the contexts in which they take place can be fluid, dynamic, and volatile. Once documented, it becomes easier for intervention stakeholders to track and assess changes to the context.

Process for Developing a Dynamic Theory of Change (TOC)

Traditional Process for Developing a TOC

1. Start with the results desired by the activity

2. Working backward, determine what is needed to get to that result
   a. Consult literature on evidence regarding your TOC
   b. Consult stakeholder, including comunity members, regarding underying assumptions of untervention
   c. Note where evidence is absent

3. Identify contextual factors that might affect your intervention and achievement of result
   a. Consult literature regarding which contextual factors are important and how
   b. Consult literature regarding which contextual factors are important and how to account fot them
   c. Not where evidence is absent

4. Build out yout TOC

5. Implement Project

6. Monitor

7. Evaluate

8. Review TOC to see if still relevant and appropiate

9. Revise TOC

Figure 2.5: Differences in the Development of a Traditional vs. Dynamic Theories of Change
Source: ELI.

Figure 2.5 and Box 2.10 outline the high-level steps for creating a theory of change. Some questions to consider when designing a theory of change include:

- **What kinds of changes or transformations is the intervention looking to effect?** This might include, for example, shifts in power dynamics, the building of communities or institutions, changes to how groups view each other or interact, changes in physical spaces, or economic growth or improved livelihoods.

- **How can you make explicit the connections between the environment on the one hand and peace on the other?** Environmental peace-building theories of change may involve more lateral or complex connections than traditional, linear theories of change. Make those connections explicit so that they can be prioritized, measured, and assessed.

- **Document assumptions, risks, and other key contextual factors.** These are the conditions for or potential challenges to achieving your outcomes. Focus on those that are likely to be the most impactful for your intervention and should therefore be regularly monitored and reflected upon. Note that these may change during your intervention's implementation.

- **What are the spheres of control, influence, and interest for your intervention?** These represent various degrees of power your intervention has to effect change. While an intervention can *directly* affect what is within its sphere of control (generally activities and outputs), its effects become less direct and more *indirect* as you move along the change pathway to short-, medium-, and long-term outcomes.

- **Who is the audience for your theory of change, and what are these stakeholders interested in knowing or understanding?** Whether a community, a funder, the government, or a group of partners, you should consider the needs of your audience when developing your theory of change to think through how it should be presented (visually, language, etc.), the level of detail it provides, and the key aspects of your theory that are emphasized.

- **Who should be involved in crafting the theory of change and how?** Remember: who participates will directly affect the output. Additionally, how these stakeholders participate can either contribute to the effectiveness and sustainability of your intervention by increasing its relevance or their buy-in *or* it can exacerbate the conflict, such as in the case that stakeholder groups intensely and directly disagree about an approach.
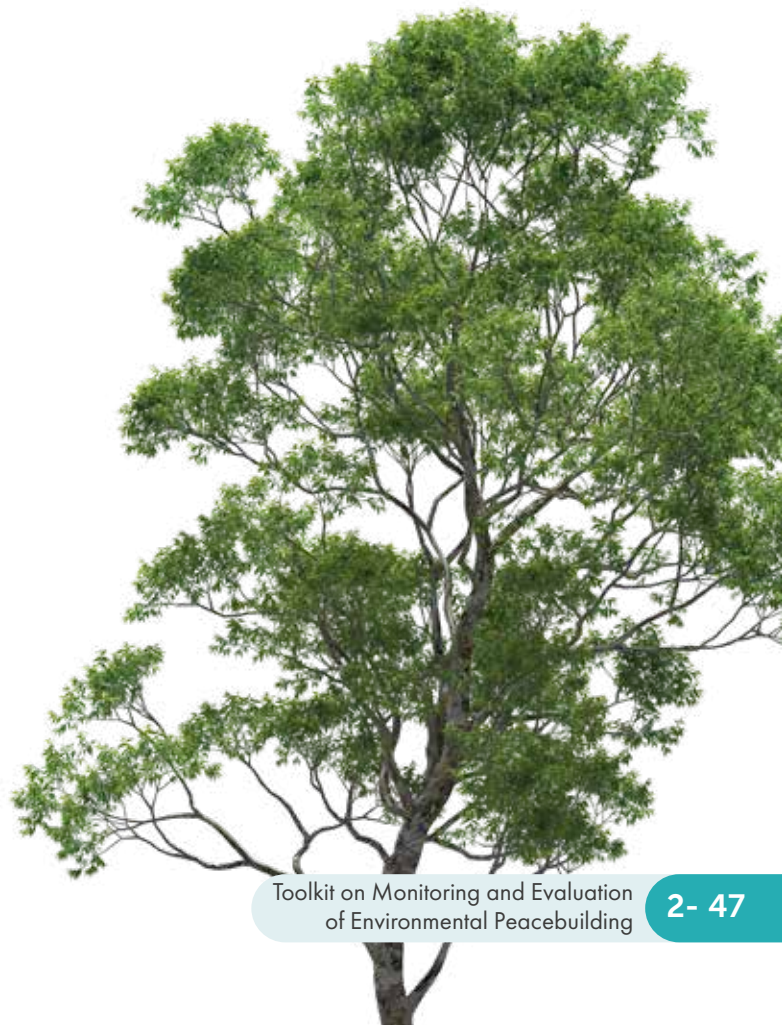
Box 2.10: How to Develop a Theory of Change

There are many different approaches for crafting a theory of change. The following is a high-level outline of common steps for creating a theory of change:

1. **Start with the results or high-level change you seek.** Define the long-term change or changes to which you hope your intervention can contribute. Questions to ask include:

   i. What would it look like in 2-10 years if we got everything right?

   ii. What is the ideal situation in this space?

2. **Work backwards from there** and identify what is needed to achieve those results. The steps that you identify will become your outcomes and should be informed by your context analysis. Questions to ask include:

   i. What changes in knowledge, attitudes, beliefs, behaviors, or the physical environment would you expect to see if those changes happened?

   ii. Who are the stakeholders involved? Who would benefit from or be included, both directly and indirectly?

3. Now, **think through what your intervention can do** to achieve or contribute to those outcomes. These are your activities and their outputs, or the direct products of the activities. Questions to ask include:

   i. What would activities look like, and who would be involved?

   ii. What activities would be most effective, feasible, and reasonable for your program and organization?

   iii. What outputs would directly result from those activities, such as people trained or agreements established?

4. As you develop causal pathways, **ensure there are no gaps** or leaps in logic. For example, would a training on conflict mediation or the establishment of a conservation agreement directly lead to peace, or is it likely a mechanism such as a change in behavior would need to happen first? You should also double check the available evidence to make sure the steps you propose make sense.

5. **What contextual factors might affect the implementation of your activities or the achievement of results?** You should document these on your theory of change as assumptions or risks.

6. **Build your narrative.** A narrative should describe the intervention context and need for your intervention, the timeline for your intervention, key stakeholders, and the mechanisms (and related evidence) for contributing to the results you desire.

7. In addition, it is important to update the theory of change. Using information gathered through monitoring, evaluation, and learning processes, **intervention staff and stakeholders should regularly review the theory of change** to understand if it still makes sense given:

   i. any contextual changes that affect the intervention's ability to operate, including changes in assumptions and risks, and

   ii. evidence that demonstrates the current approach is not working, not working well, or is resulting in negative unintended consequences.

Figure 2.6 illustrates a dynamic theory of change as both the context and the intervention evolve. It uses a hypothetical intervention that seeks to reduce illegal logging and land clearing by reintegrating ex-combatants to be park rangers. As the intervention proceeds, there are consultations and growing experience, and the theory of change evolves accordingly even as the objective remains the same. This figure highlights a few important aspects. First, as an intervention proceeds, both staff and stakeholders learn more about the context and how the intervention relates to the context. This may reveal assumptions and risks that had not been previously identified. Second, as staff and stakeholders increasingly account for the important dynamics, assumptions, and risks, the theory of change often becomes more elaborate, with additional activities, outcomes, and even impacts. In fact, additional theories of change may be added or integrated.

INTERATION 1

INITIAL THEORY OF CHANGE

Activities	Outcomes	Short-term outcomes	Medium-term outcomes	Long-term outcomes	Impacts
Train ex-combatants to work as park managers	Ex-combatants are trained in park managent	Ex-combatants are employed as park managers	Strengthen community livelihoods (more people have jobs)	Decreased participation in militant groups	Decreased incidents of conflict
					Improved ecological conditions in the park

INTERATION 2

ADJUSTED THEORY OF CHANGE IN RECOGNITION THAT ADDITIONAL ACTIVITIES ARE NEEDED TO ACHIEVE IMPACTS

Afer an initial review of the logic, stakeholders realize that improved social cohesion is also needed to decrease incidents of conflict. New intervention activities are planned to contribute to that outcome.

Activities	Outcomes	Short-term outcomes	Medium-term outcomes	Long-term outcomes	Impacts
Train ex-combatants to work as park managers	Ex-combatants are trained in park managent	Ex-combatants are trained in park managers	Strengthen community livelihoods (more people have jobs)	Decreased participation in militant groups	Decreased incidents of conflict
Support development of an inclusive community-based park management council	Community-based park management council is established	Council undertakes park management activities	Community members build better relationships from collaborating on park management	Improved social cohesion	Improved ecological conditions in the park

INTERATION 2

ADJUSTED THEORY OF CHANGE IN RECOGNITION THAT ADDITIONAL ACTIVITIES ARE NEEDED TO ACHIEVE IMPACTS

Initial monitoring data reveals that there insufficient jobs in park management to reach all of the ex-combants. There are, however, untapped opportunities in tourism. A new set of activities is added to the intervention.

Activities	Outcomes	Short-term outcomes	Medium-term outcomes	Long-term outcomes	Impacts
Train ex-combatants to work as park managers	Ex-combatants are trained in park managent	Ex-combatants are employed as park managers	Strengthen community livelihoods (more people have jobs)	Decreased participation in militant groups	Decreased incidents of conflict
Train ex-combatants to work in tourism	Ex-combatants are trained in tourism	Ex-combatants are employed in tourism			
Support development of an inclusive community-based park management council	Community-based park management council is established	Council undertakes park management activities	Community members build better relationships from collaborating on park management	Improved social cohesion	Improved ecological conditions in the park

Figure 2.6: An Illustration of How a Theory of Change Responds to an Evolving Context and Intervention
Source: ELI.

Theories of Change in Environmental Peacebuilding

As mentioned earlier, for the purpose of this Toolkit, environmental peacebuilding is defined as a meta-framework that encompasses a wide range of approaches that integrate issues at the intersection of environment, conflict, and peace to "support conflict prevention, mitigation, resolution, and recovery" (Ide et al. 2021). This set of approaches covers the full conflict cycle, comprising interventions before, during, and after a conflict; it also applies to a range of conflicts from wars to violent conflicts to social conflicts and latent conflicts. Moreover, interventions utilize and otherwise engage with a range of natural resources and environmental features, from non-renewable resources (such as oil, gas, and minerals) to renewable[10] natural resources (such as timber, fisheries, water, land, and agricultural products) to ecosystem dynamics and services (such as climate change and flood control) (Bruch, Jensen, & Emma 2022). This section provides a brief survey of ten clusters of theories of change that have been observed so far in environmental peacebuilding, with interventions relying on one or more of the theories.

There are a number of overlaps in theories of change between clusters. The overlap is due to the fact that different groups tend to focus on a particular cluster and orient their activities and theories of change within that cluster (say, resilience or post-conflict peacebuilding); within that cluster, the organizations often address related issues (say, conflict prevention or conflict sensitivity). The overlaps are discussed further in the following subsection.

The first cluster of theories of change relates to **conflict prevention**. Many interventions focus on **early warning mechanisms** in fragile and conflict-affected contexts with the objective that they can monitor situations and ascertain when a dispute might be escalating (Ide et al. 2021; Jensen & Kron 2018). Often complementing early warning interventions are **response mechanisms** to act on early warning information and prevent disputes from escalating to violence (Dumas 2016; OECD 2009). Finally, recognizing that poor natural resource governance is often a major contributing cause of conflict, **good governance of natural resources** often seeks to prevent conflict, for example through benefit sharing, transparency, inclusive participation or management, and accountability (Haufler 2009; Mähler, Shabafrouz, & Strüver 2011).

A second cluster of theories of change focuses on the **use of the environment and natural resources to support broader post-conflict peacebuilding**

---

10. It should be noted that simply because it may be possible to manage a natural resource renewably does not mean that it is in practice managed renewably.

efforts. These theories of change often start with the four themes highlighted in the reports of the UN Secretary General (2009; 2010; 2012) on peacebuilding in the immediate aftermath of conflict—establishing security, restoring the economy and livelihoods, delivering basic services, and rebuilding governance and inclusive political processes—and then identify the ways that different natural resources and environmental dynamics and services underpin those peacebuilding efforts as inputs, contexts, constraints, or otherwise.[11] Theories of change related to **establishing security** most often relate to reintegration of ex-combatants, security sector reform, mine action, and regaining control of conflict resources that help to finance conflict.[12] Theories of change related to **restoring the economy and livelihoods** often focus on improving resource rights, rebuilding sustainable livelihoods, expanding extractive sectors (particularly for macroeconomic recovery), strengthening supply chains, and development of value-added approaches (e.g., manufacturing furniture, rather than exporting raw logs, thereby expanding the value and number of livelihoods supported per unit of resource).[13] Theories of change related to the **delivery of basic services** focus on water, sanitation, and energy, sometimes restoring services interrupted by conflict and in other instances providing these services for the first time.[14] Finally, theories of change related to **rebuilding governance and inclusive political processes** after conflict variously seek to address grievances related to natural resources and introduce more equitable, transparent, participatory, inclusive, and accountable approaches.[15]

Some theories of change are at the intersection of these themes. For instance, the first two themes—establishing security and restoring the economy and livelihoods—are linked through environmental peacebuilding activities that promote natural resource management as a source of livelihoods for ex-combatants in the context of disarmament, demobilization, and reintegration (DDR) (Boyer & Stork 2015; Pritchard 2015; UNEP & UNDP 2013).

---

11. See, for example, the 150 case studies found in the six-volume series on Post-Conflict Peacebuilding and Natural Resource Management. Lujala & Rustad 2012; Jensen & Lonergan 2012; Unruh & Williams 2013; Weinthal, Troell, & Nakayama 2014; Young & Goldman 2015; Bruch, Muffett, & Nichols 2016.

12. See, e.g., UNEP and UNDP 2013; Kingma 1997; Colletta, Kostner, & Wiederhofer 1996; Young and Goldman 2015; Unruh and Shalaby 2012; Shimoyachi-Yuzawa 2011.

13. See, e.g., Ide et al. 2021; Garrett 2016; Young & Goldman 2015; Jaramillo Castro & Stork 2015; Pritchard 2015; UNEP & UNDP 2013; Lujala & Rustad 2012.

14. Chen et al. 2023; Cook et al. 2019; Weinthal, Troell, & Nakayama 2015.

15. Ide et al. 2021; Bruch et al. 2019; Nichols & Al Moumin 2016; Bruch, Muffett, & Nichols 2016; Cheng & Zaum 2016.

A third category of theories of change relates to **peace dividends**. In this context, rapid environmental peacebuilding activities can illustrate the benefits of peace, helping to sustain public support for a peace process (McCandless 2012).[16] They often occupy a middle ground between immediate humanitarian assistance and longer-term peacebuilding processes (UN 2013, 2017). Examples include quick impact projects (sometimes referred to as QIPs) to drill water wells, restore degraded water infrastructure, provide temporary employment for ex-combatants, remediate environmental damage or degradation, and provide agricultural inputs to improve livelihoods and food security, all in the aftermath of a conflict (McCandless 2012; Garbino 2015).

A fourth category that represents a significant portion of environmental peacebuilding interventions **address conflict causes and risks to peace**. **Addressing grievances** is often a core element of environmental peacebuilding, and theories of change vary according to the conflict context. For example, historically inequitable distribution of revenues from natural resources have often generated grievances that drove secessionist movements (from South(ern) Sudan to Kurdistan to Scotland) (Collier & Hoeffler 2012), with environmental peacebuilding efforts seeking to redress these grievances through efforts to more fairly distribute and share wealth.[17] Concession reviews and contract renegotiations are other approaches to addressing historic grievances around oil, gas, mineral, and timber concessions (Rochow 2016; Le Billon 2012b). Other environmental peacebuilding efforts to address grievances include **land reform** (Unruh & Williams 2013; Green 2013), **transforming power dynamics** (Ide et al. 2021;

---

16. This framing of peace dividends expands upon the historic focus on savings associated with the shift of spending from military to social matters advancing peace to include timely and tangible deliverables that reduce social tensions by providing incentives for peace (McCandless 2012).

17. Ross, Lujala, & Rustad 2012; Machonachie 2012; Sandbu 2012; Wennmann 2012; UNEP 2009.

Johnson 2022), implementation of the Extractive Industries Transparency Initiative (EITI) (Rich & Warner 2012; Epremian, Lujala, & Bruch 2016), resolving historic disputes over land and water (Barwari 2013), **accountability** for wartime environmental damage (Payne 2016; De Silva 2016; Vialle et al. 2016), and **transitional justice** (Harwell 2016). Addressing other risks to peace typically focus on regaining control over the extraction, transit, and trade in **conflict resources**[18] and the environmental dimensions of

DDR (discussed above). One of the key ways that environmental peacebuilding interventions address conflict causes and risks to peace is through the **diffusion of transnational norms**, such as transparency, inclusion, participation, accountability, and rights-based approaches (Ide et al. 2021).

A fifth category of environmental peacebuilding emphasizes **cooperation and confidence building** around shared environmental interests, which have been analyzed through the theories of functionalism, the contact hypothesis, and ideational transformation. The theory of **functionalism** has a long tradition, stemming in part from lessons derived from the creation of the European Union. It is rooted in the belief that technical, non-political, functional cooperation between conflict parties can build technical or epistemic communities across political, community, cultural, and/or other boundaries (Bergmann & Arne 2013; Bruch et al. 2012; Long and Ashworth 1999). Over time, such cooperative practice is theorized to lead to various degrees of institutional integration and new forms of mutual interdependencies, including institutionalized conflict resolution mechanisms (Gehring 1996). Eventually, the very notion that conflicts would be resolved by resorting to force would become unimaginable, or at the very least, impractical (Rosamond 2000; Wolf 1973). While this is a more generalized theory of change, it manifests in the field of environmental peacebuilding, for example, where transboundary forests, water, or other resources and their management in conflict-affected areas are the focus of interventions.[19]

---

18. Bruch et al. 2019; Lujala and Rustad 2012; LeBillon 2012a; UNEP 2009. The Kimberley Process is a particularly well-known approach to securing conflict resources throughout the chain of custody (Grant 2012; Mitchell 2012).

19. Dresse et al. 2019; Mehyar et al. 2014; Ginty 2012; Bruch, Wolfarth, & Michalcik 2012; Haas 2008; Dolaytar & Gray 2000.

In contrast to functionalism, the **contact hypothesis** and other **ideational transformation** interventions are rooted in the belief that transformative experiences (be they visual, cultural, relational, etc.) can contribute to transforming the ideas that ossify conflict trajectories (Carstensen & Schmidt 2016; Pettigrew & Tropp 2006; Legro 2000). The contact hypothesis focuses on transforming inter-group relationships, often by advancing common goals through cooperation. From an environmental peacebuilding perspective, interventions that focus on cultural and political narratives of place, eco-feminism, bioregionalism, and the construction of unbounded ecological ideas, are believed to create new possibilities of socio-political interaction outside conflictual trajectories.[20]

Social cohesion—the sixth category of environmental peacebuilding theories of change—has similar elements to cooperation and confidence building, as it tries to bridge groups and build trust across them by creating opportunities for more positive engagement and removing negative perceptions and biases. Moreover, it focuses on bonding within communities and increased use of available conflict resolution mechanisms. Social cohesion also seeks to link and strengthen citizen-state relations by improving perceptions of government service providers, local leaders, and national governments (UNDP 2009). Social cohesion is often seen as a common outcome of peacebuilding, and it has been the main theory of change of some interventions, including one led by the Word Bank in the Gulf of Guinea on conflict prevention through enhanced regional collaboration (World Bank 2023).

A seventh cluster of theories of change focuses on **gender equity** in environmental peacebuilding work (Ide et al. 2021). Some of these theories emphasize **protecting women from gender-based violence** linked to the collection of natural resources and when advocating for their environmental rights (IUCN 2020; Karuru & Yeung 2016; UNEP et al. 2013). Others seek to **secure property rights** for women, for example to land and minerals.[21] And others **promote women's involvement** in peacebuilding and natural resource management as a way to improve outcomes and the likelihood that they are sustained (Burt & Keiru 2014; UNEP et al. 2013; Narayan 1995). In many cases, gender is mainstreamed into environmental peacebuilding interventions; in others, though, gender-centric interventions have been adjusted to address, for example, climate security (Gaston & Brown 2023).

The eighth cluster focuses on **building resilience** through environmental peacebuilding (Schilling et al. 2017). There are three broad approaches. A first approach focuses on resilient **livelihoods** (Vivekenanda, Schilling, & Smith 2014). A second set of theories of change focuses on **disaster diplomacy**, where DRR and post-conflict reconstruction address conflict dynamics and promote community cohesion (Peters, Holloway, & Peters 2019; Kelman 2012). A third approach focuses on **building back better**, sometimes referred to as building forward better (Dalby 2022). In addition, other theories of change that build resilience also highlight early warning and good governance. Resilience building efforts tend to address absorptive capacity (to cope with shocks), adaptive capacity (to change to address future shocks), and/or transformative capacity (to change to be less vulnerable to future shocks) (Tänzler et al. 2018).

---

20. Huda 2021; Conca 2018; Weinthal & Johnson 2018; Ide 2017; Bruch et al. 2012; Conca & Dabelko 2002.

21. Slavchevska et al. 2020; Karuru & Yeung 2016; UNEP et al. 2013; Hayes & Perks 2012.

Climate security, a ninth cluster of theories of change, is a large and rapidly expanding area of environmental peacebuilding. Climate change is seen as a threat multiplier and a conflict accelerant (Goodman & Baudu 2023; Tänzler et al. 2018; Swain 2015). A variety of theories of change seek to address these risks. These include, for example, **early warning and response** (LPI & UNDP 2023; Gaston & Brown 2023), improved **dispute resolution mechanisms and capacity** (Gaston & Brown 2023), **environmental remediation and enhancement** (LPI & UNDP 2023); better **natural resource governance** (Stein, Bruch, & Dieni 2023; LPI & UNDP 2023), protecting **climate migrants** (Gaston & Brown 2023), and strengthened **resilience**, particularly relating to livelihoods (LPI & UNDP 2023; Gaston & Brown 2023). Efforts to address climate change can inadvertently create new conflict—a dynamic often termed "backdraft" (Dabelko et al. 2013). **Conflict-sensitive climate finance**, including the use of conflict analysis/contextual analysis/risk assessment, in designing and implementing climate adaptation and mitigation interventions constitutes an important approach to preventing conflict arising from climate change responses (Meijer et al. 2023; UN CSM 2020). One approach to reduce drivers of conflict often associated with REDD+ is to **co-design sustainable land-use systems** with affected communities to integrate land-based climate mitigation and peacebuilding objectives (Morales Muñoz et al. 2023). A growing number of interventions are pursuing a **just transition** to counter-act the effects of a transition to a carbon-neutral economy (McIlroy, Brennan, & Barry 2022). Given the widely varying views of "climate security," Gaston and Brown (2023) have called for focusing efforts on learning from and refining theories of change in this area.

The tenth and final cluster of theories of change addresses the nexus of **conflict sensitivity**. At its most basic level, conflict sensitivity seeks to do no harm and reduce the impacts of the fragile or conflict-affected context on an intervention. In short, conflict sensitivity at its most basic focuses on risk management (GEF IEO 2020). Other formulations seek to both minimize the risks and capitalize on opportunities to build peace (Hammill et al. 2009). While most of the other theories of change focus on how the environment and natural resources can be used to advance peace, conflict-sensitive theories of change also look at the impacts of conflict and fragility on the environment and seek to prevent and mitigate those impacts.

Reflections on Environmental Peacebuilding Theories of Change

As a meta-framework, environmental peacebuilding comprises—at least by this count—ten categories of theories of change with at least 40 subcategories. These categories reflect different ways that different institutions or actors engage with environmental peacebuilding. They have different mandates to work on peace, conflict, security, the environment, natural resources, and climate change, and often work only in specific contexts (for example, early warning, humanitarian assistance during armed conflict, or post-conflict recovery).

In principle, theories of change are clear and specific; in environmental peacebuilding practice, the clarity of a theory of change can vary widely. Sometimes environmental peacebuilding has a specific theory of change that is clear (such as bringing together communities to cooperate and build trust around their mutual need for water). In many cases, though, a

theory of change reflects the environmental dimensions of a peacebuilding objective that is but one of a suite of peacebuilding objectives. For example, an initiative to build sustainable livelihoods after conflict is the environmental dimension of one of the four priorities articulated by the UN Secretary-General regarding peacebuilding in the immediate aftermath of conflict. The context of the latter initiative (to build sustainable livelihoods) will have four large clusters of theories of change (on security, basic services, economy and livelihoods, and governance and inclusion); the sustainable livelihoods initiative will be one theory of change and related activities supporting the economy and livelihoods cluster.

This leads to an important point: Peace and peacebuilding are complicated, with many dimensions. It may be possible to advance in one of those dimensions (e.g., restoring the economy and livelihoods) independently from how the other dimensions perform. As a result, while food security interventions may be an important component of an environmental peacebuilding intervention (and peacebuilding more generally), it is not sufficient in and of itself to ensure peace, and indicators of peace may not necessarily reflect a causal increase in peace (because other actions could be responsible for the increases in peace) even if that indicator is improved from its baseline. This is but one way that **contribution rather than attribution** becomes important with environmental peacebuilding.

Similarly, environmental peacebuilding is complicated, with many environmental and peace dimensions. It is possible to advance environmental objectives without advancing peace objectives. In the same way, it is possible for both environmental and peace objectives to show progress, but it may be difficult to show that environmental advances are causally

responsible for peace advances. Accordingly, it is important to monitor carefully and use evaluation methods that help us understand the causal pathways and connections.

Second, there is a measure of **overlap** in the various theories of change. Many theories of change relate to natural resources and livelihoods, including those for early warning (particularly as it relates to food shortages), advancing other peacebuilding goals (including livelihoods), peace dividends, resilience, and climate change. It is possible to regroup the specific theories of change to reflect these different sectors, although doing so risks losing sight of the particular mandates, context, and objectives. Annex 2-1 sets forth a reorganized grouping of the theories of change that seeks to combine similar modalities. Figure 2.7 compares the initial mapping of the ten clusters with the regrouped theories of change.

Third, different natural resources and environmental features have different physical characteristics. They may be renewable or non-renewable. They may be diffuse or localized. Their presence may be and stable or they may be ephemeral (such as water or wildlife). They may be common or scarce. They may be readily accessible (lootable) or they may require investments of time, money, and labor to access or utilize. They may be essential to human life or not. **These different physical characteristics mean that a particular resource may be more amenable for certain theories of change** (e.g., cooperation around water because it is essential to life and livelihoods) (Bruch, Jensen, & Emma 2022).

Initial Clustering of Theories of Change (based on practice)		Regrouped Theories of Change (to reduced potential overlap)	
Conflict prevention	Early warning	Basic Safety & Security	Peace dividends and incentives
	Response		Early warning systems
	Good governance		Conflict resources
E/NR supporting broader post-conflict peacebuilding	Security		Remediating environmental damage
	Economy and livelihoods		Reintegration (DDR)
	Basic services		Disaster Risk Reduction
	Governance and inclusion		Protecting migrants
Peace dividends / Quick impact projects	Basic services		Reducing gender-based violence
	Livelihoods	Provision of Basic Services	Basic services delivery
	DDR		Climate change adaptation
Address conflict causes and risks to peace	Grievances	Sustainable Economies and Livelihoods	Alternative livelihoods
	Land tenure		Strengthening livelihoods and food security
	Transforming power dynamics		Restoring and diversifying the economy
	Transitional justice	Good Governance & Political Processes	Public participation
	Conflict resources		Enhancing good governance
	Accountability		Resource ownership, access, and management
	DDR		Rebuilding environmental governance at all levels
	Diffusion of transnational norms		Customary/traditional norms and institutions
Cooperation and confidence building	Functionalism		CBNRM
	Contact hypothesis/Ideational transformation		Transitional justice
Social cohesion	Social cohesion		Management of interacting systems
Gender equity	Protection		Diffusion of transnational norms
	Property rights		
	Management		
Resilience	Livelihoods		
	Disaster diplomacy		
	Build back better		
	Early warning		
	Good governance		
Climate Security	Early warning and response		
	Dispute resolution management		
	Environmental remediation		
	Natural resource governance		
	Resilience		
	Conflict sensitivity		
	Protecting migrants		
	Co-design		
	Just transition		
Conflict Sensitivity	Managing risks		
	Capitalizing on opportunities		

Figure 2.7: Initial Clustering of Theories of Change (per activity) and Reclustered List
Source: ELI.

B. Indicators

Indicators are variables that can provide evidence that a change has occurred. A good indicator is aligned with your theory of change or the context in which your intervention takes place and provides you with essential information (i.e., what you *need* to know, rather than what might be *nice* to know) for managing an intervention and understanding its effects. There are a few things to remember when developing indicators:

- **Indicators can capture process, product (result or outcome), or context (assumptions and risks). Process indicators** measure your intervention's activities and outputs, while **outcome indicators** measure results which your intervention achieves or to which it contributes. **Contextual indicators** measure the key assumptions or risks that are tied to your intervention context. All these indicators are needed to successfully monitor an intervention.

- **Indicators can track changes at different points during an intervention, with different applications. Leading indicators** track certain changes that are expected to precede other changes (such as drought as a potential precursor to violence). These indicators can be useful for foreshadowing both immediate and long-term change, providing practitioners with both evidence of the likely effectiveness of the intervention as well as early warning regarding the need to respond to potentially negative change trajectories. Meanwhile, **lagging indicators** track changes that actually happened (such as improved environmental governance resulting from restored rule of law). Lagging indicators are particularly relevant when conducting evaluations. Figure 2.8 includes additional examples of both these indicator types.
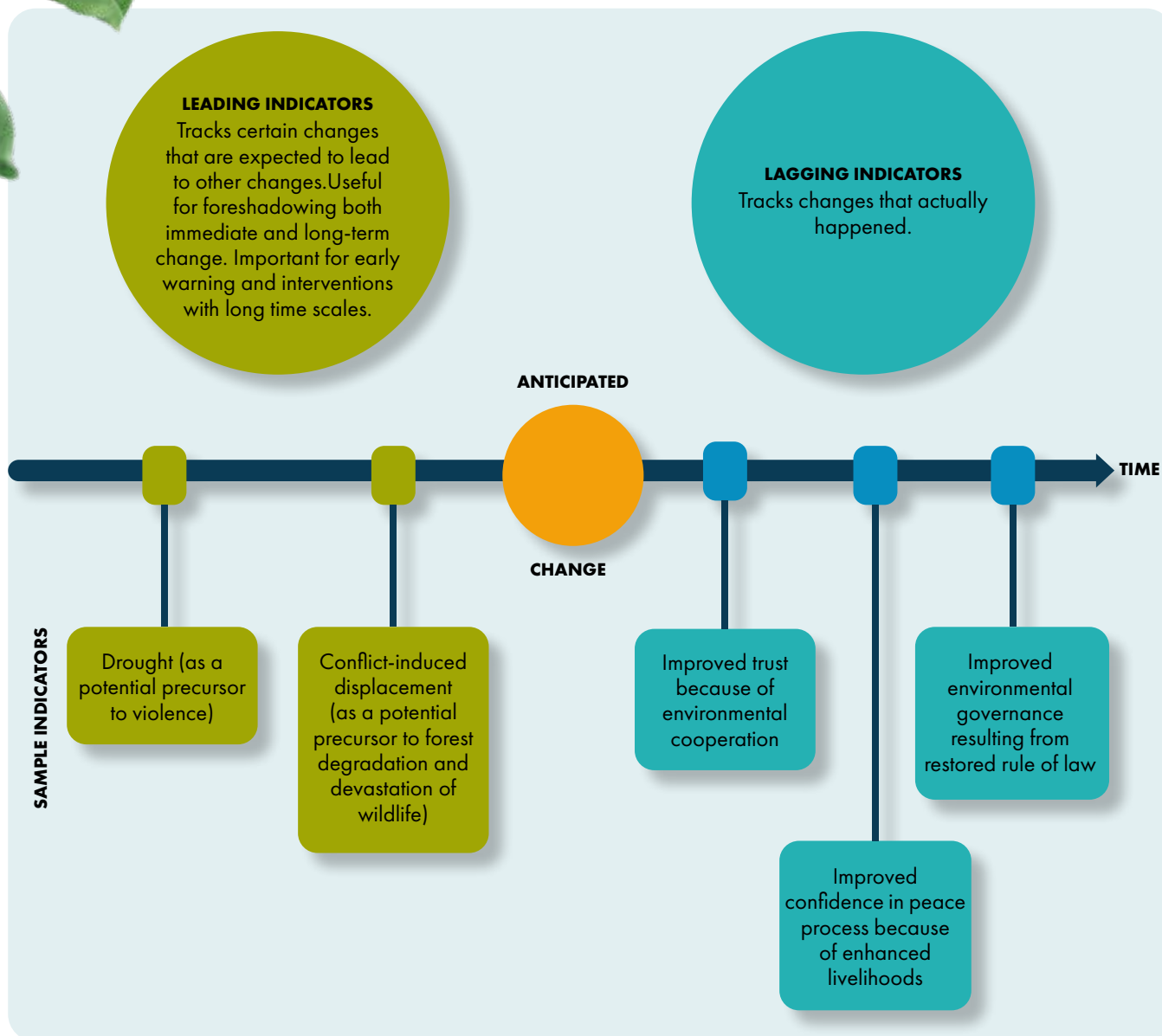
Figure 2.8: Leading vs. Lagging Indicators
Source: ELI.

- **You can (and should) have both quantitative and qualitative indicators. Quantitative indicators** measure things that are amenable to a numerical value (such as crop yields and household income), while **qualitative indicators** measure things like opinions, feelings, or judgments that are often conveyed with words and are not particularly amenable to a numerical value. Quantitative indicators are generally easier to compare than qualitative ones, but qualitative indicators provide depth and context. Qualitative indicators can also be converted into quantitative indicators by creating categories or codes, such as by assigning numerical values to qualitative responses (e.g., "good" = 2 and "OK" = 1). It is a good idea to combine qualitative and quantitative indicators, especially at key "conversion points" or parts of your theory of change for which you really need

information on the causal mechanism for change and whether it works in the way you expected.

- **Many of the most meaningful aspects of an intervention are not easy to measure**; meanwhile, it is challenging to manage factors without measuring them. Figure 2.9 juxtaposes examples of indicators that are easy to measure with examples of meaningful change that can be difficult to measure for a hypothetical post-conflict project to build peace around a national park.

THEORY:
"You can't manage what you can't measure"

REALITY:
"Many of the most meaningful things are not easy to measure"

For a hypothetical post-conflict project to build peace around a national park...

Examples of indicators that are easy to measure:

- Number of park rangers trained
- Number of animals in the park
- Number of visitors to the park in a year
- Amount of money spent by visitors in local communities

Examples of meaningful change that can be difficult to measure:

- Long-term sustainability of the environmental benefits achieved during the intervention
- Increased trust of community in park management
- Increased trust of community in goverment
- Increased trust of community in other ethnic groups
- Increased peace

Figure 2.9: Measurable vs. Meaningful Indicators
Source: ELI.

- **Indicators should be unidimensional and specific.** To the extent possible, practitioners should use specific unidimensional indicators (measuring only one thing) with clear thresholds; multidimensional indicators are too difficult to measure objectively. If you are using indicators across a portfolio or program, remember that they should also then be comparable.

- **Indicators should be right-sized to the intervention context and resources.** Develop your indicators based on the resources you have—including time, money, and skills—as well as the context in which you work. For example:
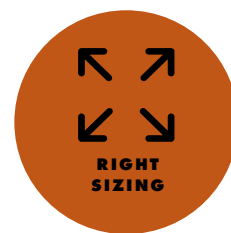
  - Certain intervention sites may be too dangerous for in-depth or in-person data collection; instead of indicators that require detailed surveys or focus groups for information, how can you leverage technology such as drones or SMS to get sufficient (albeit imperfect) information?

  - Some questions may be too personal, culturally inappropriate, or dangerous to ask. Make sure there are ways of gathering information on your indicators that make sense for the context and do not put anyone at risk. You may need to use proxy indicators (i.e., indicators that measure something indirectly) in some cases.

  - Some indicators may require information that takes too long to collect, especially given challenges in the conflict context. Make sure you can collect indicator data in a timeframe that supports your monitoring, evaluation, and learning needs.

- **Indicators should be credible, reliable, and ethical.** Some indicators may not be accepted by certain stakeholders for various reasons, or information for them may be difficult to collect regularly and reliably. Additionally, the methods for collecting some indicator data may be ethically challenging, such as in the case where someone must report a crime if they learn of one. Practitioners should utilize participatory approaches to gain input from stakeholders on what information

RIGHT SIZING

they perceive as important to measure as well as the ways in which that information can be gathered. Relevant stakeholders should agree on the indicators before implementation.

- **Indicators should focus on what you need to know versus what is nice to know**. The more indicators you define and commit to tracking, the more resources you will need for monitoring. Too many indicators may also mean that monitoring information is not analyzed quickly enough to be of use, especially for early warning. Additionally, intervention participants can become wary of data collection processes or feel like the information they provide is not being used if there are too many indicators. Always ask why an indicator is necessary before including it.

In environmental peacebuilding work, it is essential that you include indicators that link the environment/climate/natural resource management factors and the peace/conflict factors. For example, did an increase in the number of people with access to potable water contribute to growing trust in a peace process and government institutions? This can be done by cap-

turing the timelines for change and including both objective and subjective indicators about not just *what* changed, but *how* and *why* it changed. When resources are limited or monitoring an intervention is challenging, interventions often fall back on quantitative output indicators, such as the number of people trained, number of wells drilled, or the number of hectares of land put under protection. But this does not tell you *how* that change happened or the effect of that change on people's perceptions, attitudes, and beliefs, all of which could have consequences for the effectiveness and sustainability of your work.

As of 2023, there is no comprehensive collection of indicators for environmental peacebuilding. Some databases include indicators relevant to environmental peacebuilding (see Box 2.11 on the Eirene Peacebuilding Database managed by the Alliance for Peacebuilding). To support the development of this toolkit, ELI and EnPAx convened a hackathon to generate potential indicators for specific environmental peacebuilding theories of change; these are compiled in Annex 2-II.

Box 2.11: The Eirene Indicator Database – Trends for Environmental Peacebuilding

As of mid-2022, the Alliance for Peacebuilding's (AfP's) Eirene Peacebuilding Database included 3,381 indicators from 2,008 publicly available peacebuilding resources, including project reports, performance evaluations, program assessments, surveys, and more. While the database organizes sources into program areas – dispute resolution, governance, perceptions of safety and security, resilience, social cohesion, trust, and violence reduction – indicators with strong environment-con-

flict-peace connection peacebuilding are not highlighted as such.

A review of the database undertaken by ELI between February and July 2022 identified 72 potential environmental peacebuilding indicators (from 12 projects), more than 50 environment-related indicators, and more than 75 near-miss indicators. The specific indicators are listed in a stand-alone document at https://m-and-e.environmentalpeacebuilding.org/toolkit

Potential environmental peacebuilding indicators

Indicators with the strongest environment-conflict-peace relationships are present in various ways in the database. The indicators clearly related to conflict-relevant principles, such as insecurity, dispute resolution, community dialogue and trust, and government responses to conflict causes. Indicators in the database most relevant to environmental peacebuilding focus on issues of land, including land disputes, land rights, and land reform, looting of natural resources, and agriculture, including cattle raiding, water and grazing rights, and destroyed crops or community pastures. For example, indicators in one project focused on whether insecurity has the capacity to prevent victims of drought from getting water, going to the field, or moving animals. Generally, indicators on livelihoods and basic services had a less clear environment-conflict-peace relationship, sometimes as a smaller part of the indicator or described in a measurement or response option, for instance.

Environment-related indicators

The database has numerous indicators focusing on the environment, most predominantly addressing natural disasters and shocks such as flooding, water quality and access to water, rural areas and urbanization, food security and agriculture, extractive industries and mining, and biodiversity and sustainability. These environment indicators largely focused on environmental governance and economics, and did not explicitly address conflict or peace. In addition, there were many indicators focused on economic resources and services that implicated natural resources.

Near-miss indicators

Near-miss indicators in the database have potential connections for environmental peacebuilding, broadly focusing on economic development, cooperation, livelihoods, and basic services. While the near-miss indicators focus on relevant subjects for environmental peacebuilding, they are inconclusive in their exact environment-conflict-peace relationship and require more elaboration to be useful as an environmental peacebuilding indicator.

In addition to environmental, natural resource, or climate-related indicators (such as those included in the Eirene database), **environmental peacebuilding interventions will also need at least some indicators on conflict and peace**. Common indicators of conflict and peace include the number of violent incidents or the number of casualties. However, these are not useful for understanding more nuanced manifestations of conflict, peace, security, and well-being, let alone their relationship to the environment and natural resources. Table 2.1 outlines some additional ways you may be able to track and understand the conflict context, including factors in people's lives that are directly or indirectly affected by conflict.

Category	Key Considerations	Example Indicators
Conflict	Whether your intervention is intentionally and directly trying to reduce disagreements about resource management or indirectly decrease instances of violence, monitoring conflict is key to any environmental peacebuilding or conflict-sensitive intervention. Remember, though, that conflict is not synonymous with violence. Conflicts can show up in many forms.	○ Number of incidences of violence, robberies, assaults, murders, etc. ○ Percentage of people who feel there has been an increase in violence ○ Perceptions of violence and its causes
Safety and Security	The degree to which there is safety and security in a given area—and, perhaps more importantly, *perceptions* about safety and security—may serve as a leading indicator for overt instances of conflict. What safety and security look like will vary in any given area.	○ Number of people/women/youth accessing markets/schools/etc. by a particular route ○ Percentage of people who report an increase (or decrease) in feelings of security while at home/in a certain location ○ Perceptions of the level of security and its causes
Well-being	Well-being is multi-dimensional and includes other aspects of conflict and peace represented in this table in addition to health, housing, social connections, and civil engagement.[22] You can measure a community's overall well-being or differences between groups. You can also check key dimensions of well-being to understand what areas need additional support or investment.	○ Number of people with access to stable housing ○ Number of households (people) with access to clean water ○ Number of households (people) with access to clean sanitation ○ Percentage of people who trust their neighbor (of a certain group) to care for their child or watch their home ○ Feelings of connection to community members, including those of other groups ○ Perceptions that the changes in well-being are due to peace and the peace process

22. See, for example, https://www.oecd.org/wise/measuring-well-being-and-progress.htm.

Category	Key Considerations	Example Indicators
Livelihoods	Livelihoods can be both leading and lagging indicators of conflict. When drought or other environmental change has a substantial impact on livelihoods, riots, violence, and armed conflict often follow. Similarly, conflict affects livelihoods and food security in multiple ways; and restoring sustainable livelihoods and food security are a priority in post-conflict peacebuilding.	○ Average household income in a particular area ○ Percentage of households (or people) who feel they have improved (or worsened) livelihoods ○ Percentage of people who attribute improved livelihoods to peace and the peace process.

Table 2.1: Approaches for Directly and Indirectly Tracking the Conflict Context
Source: ELI.
Note: For most indicators, it is important to collect data disaggregated by gender, age, ethnicity, and other characteristics that are relevant to your particular context.

One of the best ways to determine what to measure is to ask stakeholders. Conflict, security, and well-being look different in different sociocultural, political, and economic contexts. A great example of this is **Everyday Peace Indicators (EPI)**.[23] EPI relies on a community or other group of people to develop their own indicators about or related to peace. Complex outcomes like security, well-being, accountability, gender, and respect can be made tangible by working with a group to define what these things mean to them and then crafting indicators based on that. Table 2.2 compares indicator themes in Afghanistan and Sri Lanka, adapted from Everyday Peace Indicator codebooks. Box 2.11 provides an example—not associated with EPI—of engaging Colombian stakeholders in the design of indicators and an intervention.

23. See, https://www.everydaypeaceindicators.org

Indicator Category	Afghanistan	Sri Lanka
Safety and Security	The concept of *daily security* is divided into "mobility" (the ability to safely move about) and "business as usual" (businesses being open or closed). For example: ○ Number of people who go shopping at a specific place ○ Percentage of businesses open at night	The concept of *safety* includes physical security and dangers, real and perceived. For example: ○ Percentage of people who report being able to sleep peacefully at night ○ Number of people who are afraid to purchase food at a shop owned by another group
Religion	Includes any mention of religion, religious leaders, or religious practices. For example: ○ Number of households who practice a certain religious activity ○ Percentage of people who support a specific religious leader	Related to religious practices or institutions. For example: ○ Number of people who have converted to another religion ○ Percentage of people who participate in a specific religious practice or attend a specific place of worship
Mobility and Migration	*Migration* is about movement. For example: ○ Number of families or individuals moving to a specific area	*Mobility* is related to movement as well in terms of someone's willingness or ability. For example: ○ Number of people who report the ability to move freely from one location to another. ○ Evidence of certain groups visiting a particular village

Indicator Category	Afghanistan	Sri Lanka
Relationships and Communication	*Interpersonal communications* includes person-to-person interactions. For example: ○ Number of people hearing about certain ideas directly from others (not through media) *Routine social activities* explores social gatherings. For example: ○ Evidence of different groups attending social or cultural events	*Intergroup relations* includes interactions between different communities or groups. For example: ○ Number of intergroup social or cultural activities, e.g., weddings, funerals, or parties ○ Evidence of different groups working together toward a shared goal or purpose

Table 2.2: Comparison of Peace Indicators for Afghanistan and Sri Lanka
Source: Adapted from Everyday Peace Indicators, 2019.

Box 2.12: Designing an Environmental Peacebuilding Intervention in Colombia

Between 2019 and 2021, researchers working with Biodiversity-CIAT in Colombia undertook an intervention design and evaluation process on sustainable land-use systems (SLUSs) for cacao agroforestry (Morales Muñoz et al. 2023). To design the intervention, researchers undertook a context analysis using various methods such as a World Café, workshops, and semi-structured interviews to understand stakeholders' perceptions of the drivers of conflict, the connectors (opportunities for peace), and dividers (sources of potential tension in an intervention). These stakeholders identified drivers of conflict that included environmental malpractice, corruption, conflicts over water resource management, deforestation, and land grabbing, among others. Potential connectors were grouped into three categories: participation and co-design; spaces for dialogue, exchange, and cooperation; and co-benefits from climate mitigation and social cohesion. Finally, when considering potential dividers in the intervention to be designed, stakeholders pointed to exclusion, individualism, and false or unmet expectations as risks.

Based on this context analysis, the intervention team developed a theory of change for how SLUSs can contribute to climate change mitigation and peacebuilding in cacao agroforestry. Mechanisms or factors in this theory of change included participation, sustainable livelihoods, food security, conflict transformation and dialogue, and increasing trust. Corresponding indicators for each factor were developed and tested at both the individual farm level and at the level of the value chain. These included jobs, forest area change, and income (sustainable livelihoods); food production (food security); number of dialogue processes and conservation agreements signed (conflict transformation and dialogue); and percentages of participation. After pilot testing the intervention and indicators, the researchers determined that SLUS interventions designed for climate change mitigation can contribute to peacebuilding through socio-economic inclusion, conflict transformation and dialogue, and the building of natural resource management institutions.

Context, Risk, and Assumption Indicators

Remember to develop indicators for the context, and particularly for your assumptions and risks. For example, does your intervention logic only hold true if there is sufficient rainfall for those in the agricultural sector to continue to participate? Or if there is not increased recruitment of militia members? Could tensions between groups flare up and make your intervention unlikely to succeed or even impossible to implement? These are things that you would want to track through context, risk, and assumption indicators. For example, you may want to track:

- Changes in weather patterns, such as the amount of rainfall in a given month.

- Changes in migration, such as the number of people leaving or moving into a specific region.

- Changes in militia recruitment patterns, such as the number of posters, meetings, or other recruitment activities.

- Changes in politics, such as membership in a particular political party or the number of political ads on the radio or TV.

Remember, these are not indicators of what you are trying to effect or influence, but instead are entirely outside of your control but have the potential to impact your intervention.

Conflict Sensitivity Indicators

CONFLICT SENSITIVITY

In addition to indicators that explicitly and intentionally measure conflict and peace, **it is also beneficial to include indicators of conflict sensitivity that are about process instead of product or outcome.** Monitoring conflict sensitivity is different from monitoring peacebuilding; conflict sensitivity relates to avoiding doing harm and potentially contributing to peace as a matter of process, whereas monitoring peacebuilding is concerned with peace-related outcomes (Goldwyn & Chigas 2013). Below are a few illustrative examples of conflict sensitivity indicators:

- *Number of conflict or context analyses undertaken* – By including an indicator on the number of context analyses undertaken during the intervention's lifecycle, you are held accountable for regularly assessing the context in which you operate, which in turn provides the information necessary to be conflict-sensitive.

- *Number and types of changes made based on the context analysis* (Goldwyn & Chigas 2013) – How has your intervention adjusted based on the results of the context analysis?

- *Perceptions about / number of people who feel that the intervention contributes to the conflict/is not in their best interest/is exclusionary/etc.* – While the exact indicator will need to be refined based on your context, asking those impacted by your intervention questions about how they feel it is responding or even contributing to the conflict or their level of preference for or frustration with the intervention's activities can be a good indicator of your degree of conflict sensitivity.

Open-ended questions about an intervention's level of conflict sensitivity during regular activities and monitoring processes can also provide invaluable information on whether your intervention is being implemented in a conflict-sensitive manner.

C. Developing a Monitoring, Evaluation, and Learning Plan

Once you have developed your theory of change and associated indicators, the next step is to operationalize them by developing a plan for monitoring, evaluation, and learning or an M&E plan. **M&E plans capture the processes and methods to gather information on, assess, and learn from, and adapt the implementation of your intervention.** An M&E plan is thus an essential part of effective intervention management. It is also important for many of the same reasons that the process and product of documenting your theory of change is essential: an M&E plan creates a common understanding of what will be measured and

assessed and how, lays out a strategy for learning and adaptive management, ensures that you have sufficient resources, and supports accountability to a range of stakeholders.

A comprehensive M&E plan often includes:

- A theory of change (see section 2.2.A, above)

- Quantitative and qualitative indicators (see section 2.2.B, above)

- A plan to collect information on those indicators (i.e., a monitoring plan)

- A plan for assessment(s) and evaluation (i.e., an evaluation plan)

- A plan to learn from the monitoring and evaluation, including overarching learning questions (i.e., a learning plan)

- A plan for early warning and response

- A plan for regular reflection and adaptation (i.e., planning for adaptive management)

- A plan to protect staff and participants from physical, mental, and emotional risks.

These plans should clearly outline when and how stakeholders should be involved throughout the intervention. Particular consideration—both substantive and procedural—should be paid to integrating gender considerations (see Box 2.13). Moreover, it is important to consider how to balance the competing priorities of transparency on the one hand and conflict sensitivity on the other (see Box 2.14).

There are many resources available that describe the general components of a M&E plan.[24] Instead of providing basic information on these plans, this section of the Toolkit outlines key considerations for the environmental peacebuilding context.

Box 2.13: Something to Consider – Integrating Gender Considerations

GENDER

By meaningfully incorporating gender considerations into context analysis, design, and corresponding M&E plans, environmental peacebuilding practitioners can better identify the different effects of their work related to gender. Gender considerations can also lend insight to what gender-based approaches work well and under what conditions or circumstances.

Collecting gender-disaggregated data is integral to capturing gender dynamics in your M&E approach and building gender inclusivity into your environmental peacebuilding work.

---

25. See, for example, EvalCommunity 2023; tools4dev 2022. BetterEvaluation (betterevaluation.org) also has many helpful resources.

Box 2.14: Balancing Transparency with Conflict Sensitivity

As you develop your monitoring, evaluation, and learning plans, consider how some stakeholders—particularly spoilers—may politicize or otherwise use information about your intervention for their own gain. Transparency is often desirable: it can increase public awareness and accountability, improving the merit of an intervention and strengthen data (GEF IEO 2020; Rathinam et al. 2019). However, in some cases it may make sense to keep information confidential to avoid negative unintended effects. **Monitoring and evaluation methodologies must address tensions between transparency and the sensitivity of information.** Failure to resolve these tensions can skew M&E results and cause harm to stakeholders and intervention participants (Anhalt-Depies et al. 2019). It is crucial that practitioners anticipate tradeoffs between data collection, transparency and openness, privacy, security, and trust and that they develop best practices to address them. Some organizations have used the concept of "responsible data" to acknowledge the tensions among privacy protection, data security, transparency, and openness (Center for Democracy and Technology 2018). Depending on the context, sensitive information can refer to directly identifiable information, such as names and address, demographic data, such as religion or ethnicity, or personal information such as political views (USAID 2019). It could also refer to information that might inflame simmering tensions. It can also include information on positive developments of an intervention, which could lead peace spoilers to target the project or program.

(1) Understand the intervention's information environment. Understanding how to mitigate risks around information and transparency starts at the scoping and design of the M&E processes, and the design of the intervention more broadly. Understanding the scope of the intervention will determine the types of information required for the intervention's M&E and indicate potential cultural or legal implications around information sharing. It can also shape staff understanding of how stakeholders interact with each other, the intervention, and information distributed through the M&E process.

(2) Assess existing legal and regulatory cultural requirements. Sharing of data and other information must comply with existing legal and policy guidelines. Develop an understanding of the relevant laws, policies, and operational procedures regulating information and data sharing. It is important to note that the relevant laws may include those in the country of the intervention, those governing the actions of the funder, and those governing the implementing agencies. When in doubt about which laws may apply, please consult your organization's general counsel.

(3) Consider the diversity of stakeholders who will participate in the intervention and how best to include the intervention participants and M&E respondents in the M&E process. Addressing tensions between transparency and conflict sensitivity can build trust. Consider including intervention participants and evaluation respondents in the data collection and evaluation process.

(4) Determine transparency and conflict sensitivity concerns using power and stakeholder analysis. Tensions around information sharing and knowledge circulation implicate dynamics around the authority and agency of stakeholders and can highlight cultural norms. A highly participatory M&E approach requires active involvement of stakeholders, respondents, and intervention participants throughout the evaluation cycle. Such participatory mechanisms will raise tensions between transparency and the sensitivity of information. Understanding the concerns of stakeholders, respondents, and intervention participants can provide a better understanding of transparency and security concerns, particularly in the context of natural resources. After conducting a power and stakeholder analysis, assess the transparency concerns.

(5) Conduct a benefit-risk assessment. After understanding stakeholder, respondent, and community member concerns, assess the potential benefits and risk of information use and sharing and consider unintended consequences. The assessment will help to determine opportunities for mitigating or lowering the risk of transparency and to regulate the disclosure of information and data. The following assessment has been adapted from USAID's Toolkit on "Considerations for Using Data Responsibly."

(6) Implement a contingency plan and other mechanisms to address the disclosure of sensitive information. There must be procedures in place to address unanticipated and unintended risk, harm, or consequence results from data and information practices. Several steps should be taken to track and protect sensitive information and mitigate risk, including the application of "Lean Data'' practices. If that fails, there must be a contingency plan to mitigate risks and redress harm. This plan should include a mechanism by which people affected by the disclosure of sensitive information can submit a complaint.

An extended version of this box with additional considerations and resources is available at https://m-and-e.environmentalpeacebuilding.org/toolkit.

Monitoring Plan

Your monitoring plan should be developed alongside your indicators and at the start of your intervention. It is a reference tool that should be consulted throughout the intervention cycle to understand what information you will collect, when, how, and how it will be used and shared. Like with the theory of change, the monitoring plan should be reviewed and revised as needed.

Within environmental peacebuilding, complexity-aware monitoring is key. Complexity-aware monitoring has three key principles: (1) attend to performance monitoring's three blind spots; (2) synchronize monitoring with the pace of change, and (3) consider interrelationships, perspectives, and boundaries (USAID 2021).

Performance monitoring has three broad blind spots. First, focusing on intended outcomes ignores the unintended outcomes of an intervention (whether positive or negative). Complexity-aware monitoring examines both intended and unintended outcomes. Second, there are generally multiple causal pathways leading from an intervention's activities to outcomes.

Accordingly, it is important to identify the possibility of alternative causes and other factors contributing to both intended and unintended outcomes rather than relying solely on a predefined theory of change. Finally, change is often nonlinear, and there is often not a clear relationship between activities and results. Complexity-aware monitoring aims to explore a vast array of possible outcomes, casual factors, and pathways of contribution, which complements performance and context monitoring.

The second principle of complexity-aware monitoring is synchronizing monitoring with the pace of change. This means that monitoring does not follow a pre-defined timeline but instead is based on the pace of change of the intervention and the context. In complex and chaotic situations, intervention teams might face more challenges, and complexity-aware monitoring uses leading indicators that provide data before and during important changes in the implementation and context that help to gather the information in real-time that is needed to act. These can be linked to the conflict analysis work by prioritizing domains of that analysis for increased monitoring and being attentive to any changes. In particular, teams should be attentive to any exceptions or discontinuities in the monitoring data (e.g., look for outliers, exceptions from a general pattern or changes in the usual speed or direction) (USAID 2014).

The third principle of complexity-aware monitoring acknowledges the different perspectives that different actors—including partner staff, beneficiaries, participants, and local populations, among others—have about the intervention and its interrelationships. When

the monitoring and evaluation process incorporates these considerations, it includes diverse interpretations and perceptions of a situation, provokes more creative thinking, and creates a collaborative problem-solving environment (USAID 2014).

Key considerations for developing your monitoring plan include:

- In addition to indicators, you should also **develop a plan for capturing unintended effects and updating your context analysis**. It is essential to know whether your intervention may have inadvertently exacerbated the conflict or fostered cooperation or trust through mechanisms other than those planned. If you only focus on your theory of change indicators, you may miss these unintended effects. While qualitative indicators can be one way to initially identify unintended effects, you will also need a more open-ended approach to gathering feedback from intervention stakeholders. This could be through interviews or surveys or even informal and regular conversations with intervention partners or community members.

Unintended effects go both ways, so you should ensure that you **define a way to document how conflict or fragility have affected your intervention**. You may find yourself unable to conduct certain activities due to insecurity or see limited participation as a result of mistrust or weak governance structures that hinder the implementation of agreements. Documenting these effects on your intervention process will help you demonstrate why an intervention is not achieving its objectives. It can also help future interventions to better identify, understand, and articulate risks.

- After capturing these unintended effects, **ensure that you have a way of systematically documenting them and your response to them**, such as through an outcome journal or outcome register. It should be clear to intervention staff how, when, and where to do this. Systematic and explicit documentation is often useful later (e.g., when reporting back to funders, community members, and partners), for both learning and accountability purposes.
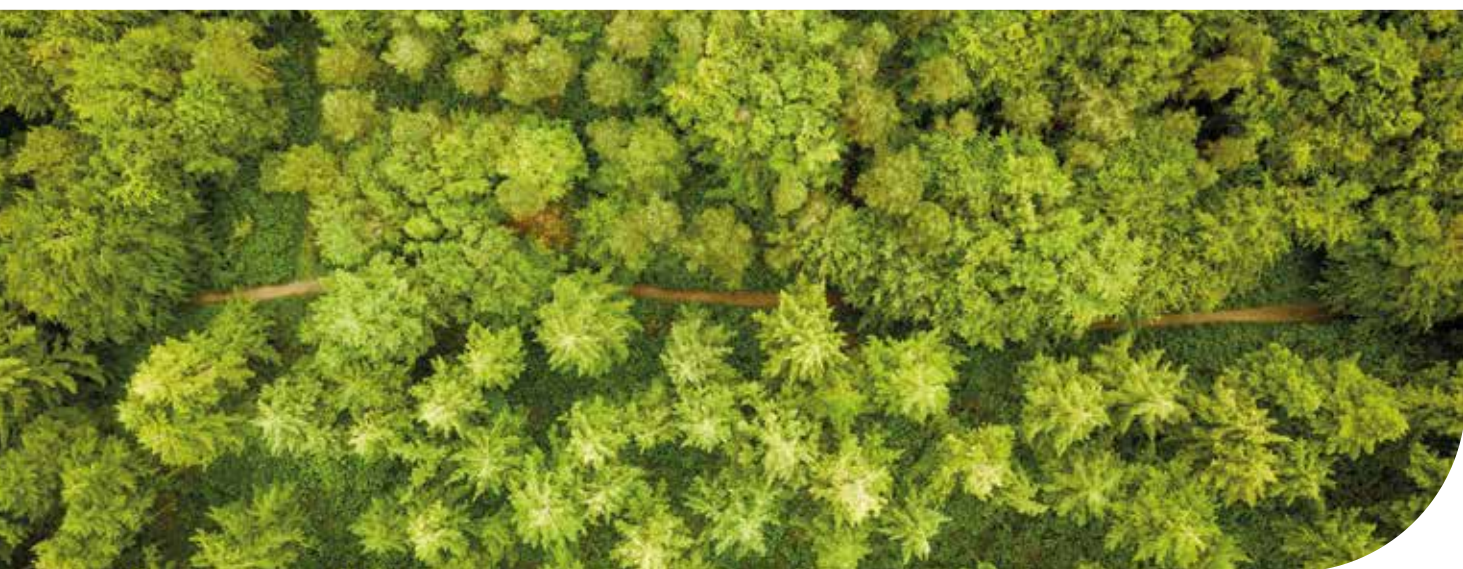
- Be sure to **consider whether you need a baseline, and if so, when and how that baseline will be set**. When dealing with conflicts and the environment, baselines often shift (Klein & Thurstan 2016; Leather & Quicke 2009). While it is common to set a baseline at the very start of an intervention, doing so may not make sense in all environmental peacebuilding contexts. Instead, you may want to set a baseline based on information at some point time in the past (e.g., an environmental baseline prior to destruction caused by conflict). Whatever you choose, make sure the baseline is clear from the start; collecting baseline after an intervention has already had the potential to affect change is detrimental to monitoring, evaluation, and learning processes.

- Remember to **consider your stakeholders as you develop methods for monitoring**. Get feedback on what methods are most appropriate and feasible. Review your personas to see what constraints might affect monitoring processes.

Evaluation Plan

Like with a monitoring plan, your plan for evaluation or other types of assessments should be developed at the start of your intervention (i.e., in the Design phase). While you may not be ready to put together a full evaluation plan, it is still important to identify high-level evaluation needs or objectives. At the start of your intervention, your evaluation plan should include key questions (linked to your learning plan; see below), the estimated timeline or timing of evaluations and other assessments, the resources needed, and the driving forces or values behind your methods and process (including for sharing and using evaluation findings). Once you are ready to undertake the evaluation, you will create a much more concrete and detailed plan or even a Terms of Reference for an external consultant to lead the evaluation.

A few key points for creating an evaluation plan for an environmental peacebuilding intervention include:

- **Consider the possibility of a developmental evaluation or some other type of ongoing assessment process such as after-action reviews**. Depending on the length of your intervention, a traditional mid-term review and final evaluation may not be appropriately timed to provide the information that is needed to keep your intervention on track and avoid doing harm.

- Additionally, what **nontraditional evaluation methods** might be most appropriate for assessing environmental peacebuilding interventions that take place in dynamic, fluid, and complex contexts? Traditional evaluations can take a lot of time, be less participatory, and be expensive. What other approaches might you take to get the information you need quickly and in an inclusive way?

- Evaluations traditionally focus on assessing compliance with intervention objectives rather than broad-based impacts within the societal, regional, or supranational contexts (Carius 2007). **How might your evaluation plan account for larger, interconnected impacts that go beyond your specific intervention?** This also means an emphasis on contribution rather than attribution as part of your evaluation process.

- **Reflect on how your evaluation process—including who leads the evaluation and what methods they use—can reinforce your environmental peacebuilding objectives**. Will the evaluator be trusted, or will their findings be perceived as unreliable? Can you incorporate facilitated, participatory, and inclusive methods that help build confidence in your work and connections between stakeholders? How much of the evaluation results can you share, or may there be spoilers who use findings to undermine your work?

- Linked to this, **consider your stakeholders in developing your evaluation plan.** You can review your personas and think about the various evaluative questions, needs, and processes that might make sense for them. You can, and in many cases *should*, also consult stakeholders directly.

Learning Plan

M&E frameworks function best when accompanied by learning questions and a learning plan that can help focus the plans for both monitoring and evaluation. In environmental peacebuilding, a learning plan is particularly important because of the need for these interventions to be responsive and adaptive to the fluid, dynamic, and sometimes volatile contexts in which they take place.

Acknowledging that many M&E systems are historically designed to focus on accountability, especially to funders, including one or more learning questions can help ensure that learning still happens. Learning questions are high-level questions about an intervention and how it achieves its intended outcomes. They may center on the key part(s) of your theory of change that you are testing through your intervention and, when answered, allow you to be more effective, impactful, and sustainable. They may also center on what key stakeholders are most interested in about your intervention. Often, a learning question stems from asking, "What do I need to know to improve my intervention?"

A few key questions for creating a learning plan for an environmental peacebuilding intervention include:

- **What are your learning questions?** Do they relate to the theory of change? To certain risks and assumptions? To the information needs of certain stakeholders?

- **Who is involved in the learning, and how?** Are they providing inputs to learning (e.g., through surveys, interviews, and small groups)? Are they distilling the learning? Are they reviewing and vetting the learning?

- **How do you anticipate managing the tension between accountability and learning, especially when the learning might reflect negative outcomes?** Evaluation for accountability creates incentives to emphasize successes and downplay problems (let alone failures). Evaluation for learning emphasizes learning from positive and negative experiences alike. How you frame your learning questions can be important in providing space to make and learn from mistakes.

- **How will you manage confidential and/or sensitive information when learning to avoid doing harm?**

- **How will you disseminate your learning?** And to whom?

Planning for Early Warning and Response

Early warning consists of "data collection, risk analysis, and providing information with recommendations to targeted stakeholders" (Rohwerder 2015, p. 1). Often, early warning includes a combination of tracking key leading indicators (that may be expected to presage an escalation to violence) and an open channel of communication with stakeholders who may alert intervention staff to emerging risks. Effective conflict early warning and early response approaches are participatory and inclusive, adaptive, integrated, and supported by good monitoring (Rohwerder 2015).[25]

Clear conflict and insecurity indicators and processes are needed to review and modify strategies to prevent conflict issues. During the intervention's design, staff should define indicators that will be the basis for early warning. They can be developed based on the priority issues identified in the conflict analysis completed at the beginning of the design process (see above) and based on the most likely scenarios that can emerge in the conflict context. Another approach is to identify the key drivers of change and create a matrix of scenarios with indicators of change that are reviewed regularly to enable staff to decide if the plans should be modified (Goldwyn & Chigas 2013). For each possible issue, the response could be "no reaction" or "action" depending on the effect that it could have on the intervention; if it represents a negligible risk, the answer is "no reaction," but if the outcomes of the issue could be significant, "action" is likely needed and should be managed based on the early warning processes put in place (Goldwyn & Chigas 2013).

---

25. For more discussion on early warning systems, see section 3.2.B of this Toolkit.

A few key questions to ask yourself when planning for early warning and response include:

- **Should you establish a new early warning mechanism, or is there an existing mechanism that you could engage?** In many instances, it is more cost-effective, legitimate, and sustainable to engage and work through an existing mechanism.

- **Who is collecting and processing the information to ascertain if disputes might soon escalate to violence?** Experience indicates that local engagement is essential to understanding the warning signs.

- **What are the leading indicators on which you will base your early warning detection and action?** These leading indicators may relate to, for example:

    - Changes in societal processes, particularly those related to power relations and inequalities.

    - Large movements of people, such as refugees, internally displaced persons, or military groups.

    - Significant changes or predicted changes in the environment or weather (including extreme weather events).

    - Information on the management or distribution of key resources, such as land reform.

- **Are there mechanisms for members of the community to air their grievances?** Do they trust these mechanisms? Are these mechanisms truly accessible? Does the community use them?

- **What are the response options?** In practice, one of the key challenges is translating early warning into action that actually prevents escalation to violence. To address this, consider brainstorming possible responses in advance, as well as the possible effects and implications of those responses.

Planning for Adaptive Management

Based on the various characteristics of environmental peacebuilding already discussed in this chapter, **adaptive management is central to environmental peacebuilding.**[26] Environmental peacebuilding seeks to navigate and influence multiple complex systems: the natural system, the social and cultural system, and the political system. Each of these are non-linear systems, where seemingly minor issues can quickly become important—a characteristic that is popularly known as the "butterfly effect" (Lorenz 2000).

---

26. In the context of environmental peacebuilding, adaptive management draws upon both the environmental concept of adaptive management (see, for example, Hartwell et al. 2017; Williams 2011a; Lee 2001; Walters 1986; Holling 1978) and adaptive peacebuilding (see, for example, De Conig 2018; Morris & Baumgardner-Zuzik 2018; Brusset, De Conig, & Hughes 2016; Valters, Cummings, & Nixon 2016).

In such embedded, non-linear systems, it is impossible to have full confidence in the reliability or accuracy of long-term predictions (including those in a theory of change). To do so, it would be necessary to precisely understand each of the systems, its rules, and its conditions, as well as how they relate to one another. In practice, this is impossible because we do not and cannot have sufficiently precise and comprehensive information on the state of the environment, social and cultural dynamics, or the effectiveness of policies and institutions. Moreover, as an intervention proceeds, the situation changes (often dramatically) as does our understanding of the dynamics and conditions. In response, **adaptive management recognizes that in complex and dynamic situations context analysis and design are necessarily provisional.**

Monitoring, evaluation, and learning play central roles in adaptive management. Adaptive developers of interventions try to get a good understanding of the context and then design their intervention accordingly. During implementation, staff monitor both the progress on the intervention and any changes in the context. At designated pause points, staff review whether the intervention is making the anticipated progress, whether the context has changed in material ways, and how understanding of the intervention and its context has evolved. Based on this interim review, staff may adjust implementation of the intervention. The review can also lead to changes in design and/or updates to the context analysis (see Figure 2.1 on learning feedback loops).

Sometimes, a distinction is made between "passive" adaptive management and "active" adaptive management. Passive adaptive management focuses on a preferred solution and trying to keep that intervention on track. In contrast, active adaptive management may not have a preferred solution, so

it tests different approaches to see which may work best and be scaled up (McCarthy & Possingham 2007; Williams 2011b).

A few key points for planning for adaptive management include:

- **Do you have pause points scheduled where you can review the monitoring information and decide whether any adjustments are necessary?**

- **Who is involved** in reviewing the monitoring information and adapting the intervention?

- **What is the process for adapting the intervention?**

- **Are there any barriers to adapting the intervention?** Do you have a mandate to adjust the intervention if necessary? Does the funder insist on approving any changes (or any significant changes)?

- **Is it possible to include a budget line to cover**
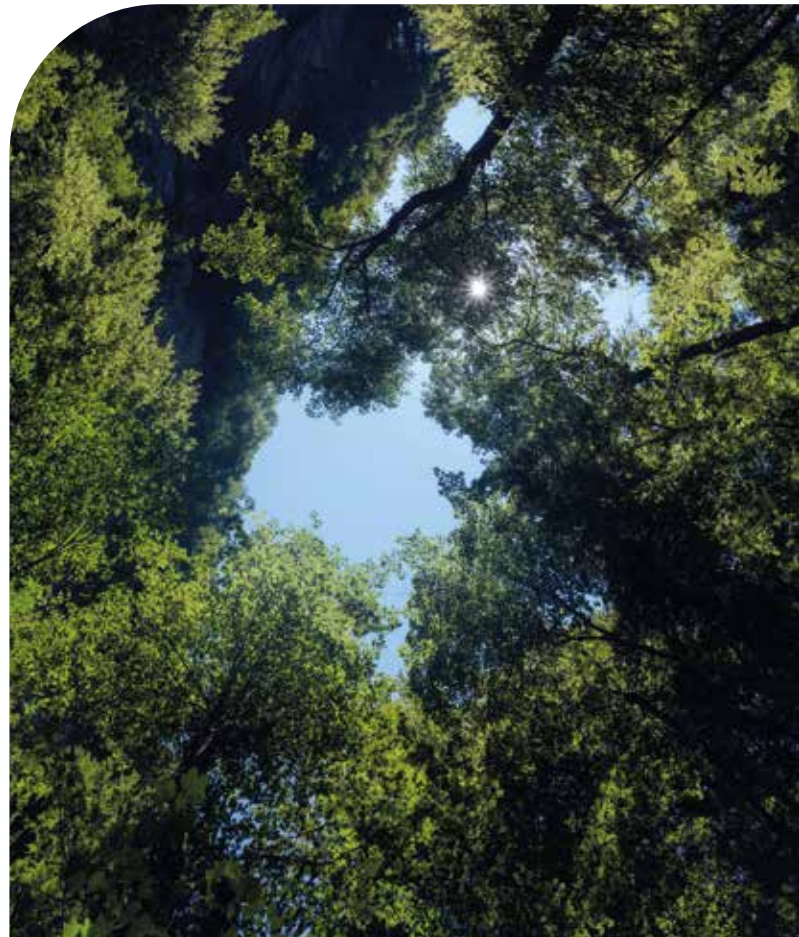
contingencies? This could be both to adjust the intervention to address negative impacts and to capitalize on opportunities that may arise that would enhance the effectiveness and success of the intervention.

Planning to Protect Yourself and Your Staff

Working in fragile and conflict-affected situations presents physical, mental, and emotional threats. Organizations often have procedures, guidelines, and training to prepare people for the physical threats they may face. Measures to protect yourself physically tend to focus on:

- **Situational awareness:** developing escape plans and contingency plans for a variety of situations; be alert to roadblocks, kidnapping, landmines, and unexploded ordnance; local counterparts (and particularly fixers) can be helpful in navigating some of this;

- **Protective equipment:** including appropriate transport and personal safety equipment;

- **Communications:** developing a communications plan; having redundancy in phones and other communications technology; encrypting communications;

- **Training:** identifying, avoiding, and surviving attacks; local culture and language; first aid; map reading;

- **Insurance:** it will not protect you, but special insurance can help you leave on short notice and/or cover harm you suffered

There are many training programs and resources on protecting yourself and your staff in fragile and conflict-affected situations.[27]

Working in crisis situations, especially on a protracted basis, can also affect mental and emotional health. While long-term trauma affects a small fraction of practitioners, such issues can have serious implications for those practitioners and their work. Therefore, practitioners should self-assess personal vulnerabilities, such as predispositions to mental illness, and identify support systems, such as family members or employee wellbeing benefits, to understand their limits and pinpoint available resources. Throughout their life, but especially during interventions, practitioners should aim to exercise regularly and maintain healthy sleep and eating schedules (Bosch et al. 2020). The first signs of mental health problems may manifest through physical reactions, such as extreme fatigue, headaches, irritability, or gastrointestinal problems. Furthermore, practitioners that stay in dangerous situations for long periods of time may become desensitized to violence (Theidon 2014); other times, practitioners who engage with certain community members such as gang members or victims of abuse can experience severe fear and/or stress. Witnessing alarming violence and disaster can also cause feelings of powerlessness or guilt. When such signs emerge, it is important for practitioners to

---

28. For example, see https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/national_self-care_manual-en.pdf.

check their mental health and understand their limits. For example, while discussing mental health with their peers, one researcher in Peru found that feelings of powerlessness are best remedied by promising "only that which you can do. [Identifying] actions that might help, and [doing] them, rather than making empty promises or carrying guilt." Furthermore, they found it helpful to create boundaries between themselves and their work through "safe spaces" – one's home, a favorite park, etc. – in which they could physically and mentally remove themselves from their work (Krause 2021). When faced with severe mental health problems, it is important to take the necessary time to recover, seek professional help when necessary, and not minimize the impact of traumatic events. Such practices increase the likelihood of a quicker recovery (Bosch et al. 2020).

Organizations should be proactive in ensuring the wellbeing of both their staff and participants in their initiatives. There are numerous options: protocols and procedures, training, dedicated staff and resources, and participatory mechanisms (Bosch 2020; Strohmeier & Scholte 2015; OECD DAC 2012). Whatever path an organization takes, the key point is to consider the physical, mental, and emotional risks and develop mechanisms before an initiative starts.

Worksheet: Theories of Change

Objectives

- Clarify assumptions that underpin the realization of outcomes and results chain.

- Help teams, organizations, partners, and communities build a common understanding of the purpose of the intervention, and to work together in realizing them.

- Design a living document that serves as an instrument to guide other M&E elements.

- Create a mirror to review, rethink, and revise interventions at strategically or operationally opportune moments.

Initial Considerations

☐ Have you undertaken a context analysis—including a needs assessment, stakeholder identification and analysis, conflict analysis, and environmental and social impact assessment—to inform your theory of change?

☐ Define the ultimate objective of your intervention.

☐ Identify intermediate objectives (outcomes) you can contribute to or influence that would affect the ultimate change you would like to see.

☐ What kind of activities are you planning, and how should they be ordered or arranged?

☐ What is the timeframe of your intervention? This may be defined by a funding window or donor.

☐ At what level(s) does your intervention seek to affect change? For example, you may seek change at the level(s) of the community, municipality, state or country, region, or the international sphere. This will affect how you frame and communicate your theory of change.

☐ Are you developing your theory of change for a single project or for a group of projects/program? Do you need to create multiple theories of change, one (or more) for each project?

- [ ] What is the best way to communicate your theory of change, considering the various stakeholders and their needs? Do you need multiple models?

- [ ] Where are there gaps or leaps in logic? Where are there assumptions (and accompanying risks if the assumptions do not hold)?

- [ ] How can you make explicit the connections between the environmental aspects of your intervention and the peace or conflict-related aspects? What are the pathways connecting environment and peace?

- [ ] Do you need more information to complete your theory of change?

Participation

- [ ] Who are your key stakeholders, and how can they be involved in developing the theory of change? Identify stakeholders to consult and a process for doing so, taking into account:
  - Cultural considerations
  - Gender considerations
  - Possible spoilers

- [ ] Have you asked stakeholders to review and validate your theory of change?

- [ ] Remember to be conflict-sensitive and inclusive!

- [ ] Make a plan for clarifying and managing expectations during consultations. Some stakeholders might feel that their participation in the process of developing a theory of change guarantees certain benefits or activities. Be clear on stakeholders' role in the process: Is it to promote buy-in? Simply solicit information?

Develop Risks & Assumptions

- [ ] How robust is the evidence for your theory of change? What do the peer-reviewed literature and gray literature say regarding risks?

- [ ] Have you identified key risks or assumptions that could influence or affect your theory of change?

- [ ] Are the potential effects of these risks significant?

- [ ] Is the probability and/or severity of these risks sufficient enough to warrant monitoring that focuses on the risks?

- [ ] What conditions and resources need to be in place to achieve your desired outcomes?

Other Considerations

- [ ] Have you shared your theory of change with key stakeholders?

- [ ] Have you communicated that you plan to adapt and refine your theory of change based on monitoring, evaluation, and learning processes?

Worksheet: Indicators

Objectives

- Support monitoring for early warning and adjustment if problems arise

- Support accountability

  - To funders

  - To partners and stakeholders

- Support learning

  - Interrogate and test the theory/ies of change used by the project (i.e., was this intervention an appropriate way to pursue the desired objectives?)

- Determine if the way the intervention was designed and implemented was appropriate, or if it needs to be amended (if there is a desire to undertake similar projects elsewhere)
- Identify unintended consequences

○ **RETHINKING M&E:** Often evaluation has been undertaken for accountability reasons (required by the donor); for environmental peacebuilding, though, learning is at least as important.

Based on your theory of change, you will need to design (1) process indicators, (2) outcome indicators, and (3) contextual and assumption/risk indicators. For each, think through the following questions:

☐ *Process Indicators* – In addition to measuring or counting *what* happened at the input, activity, and output levels, do you have ways of understanding the *how* and *why* of your theory of change at the stages of activity and output? For example, you may include an indicator about the perceptions of the usefulness of a training or why people attended the training or not.

☐ *Outcome Indicators* – Do you have qualitative indicators for key conversion points that will ascertain how and why an outcome did or did not occur?

☐ *Context, Assumptions, & Risks* – Do you have indicators to track the key assumptions or risks in your theory of change? As it may be difficult to know which assumptions or risks are the most significant, you might consider

a broad indicator along the following lines: Were there any unintended consequences? If so, describe the consequences and what happened.

When selecting your indicators, consider the following for each indicator you develop:

○ Are your indicators feasible, including the availability and cost of information, and whether you will need to generate the data (and how much it will cost)? **Be cautious about developing too many indicators.**

○ Do you have **both qualitative and quantitative indicators?** You especially need indicators at "key conversion points" or places along your theory of change where there is insufficient evidence that it might work or an innovative approach you are testing.

○ Do you have ways of **understanding the connections between environmental and peace factors**? You may need a dedicated indicator and associated interview or survey question, e.g., what factors contributed to improving trust and "To what degree did X lead to Y?"

○ **Be careful about being too SMART!** There is often a desire for SMART (specific, measurable, achievable, relevant, time-bound) indicators, but these often do not capture more qualitative impacts or unintended consequences.

○ **Does the indicator need a baseline?** If so, *when* should you take the baseline, or should you have more than one baseline?

Worksheet: Integrating Gender

Objectives

I.   Understand interactions of environment, conflict and gender by identifying the needs and priorities of men, women, and other gender minority groups

II. Collect gender-disaggregated data to monitor gender dynamics of conflict and environmental peacebuilding initiatives

III. Integrate women and gender minority groups in evaluation to achieve a more gender-balanced workforce and promote inclusivity in environmental peacebuilding efforts

Gender in Your Context Analysis

Ensuring gender considerations in your context analysis can highlight potential challenges and opportunities for environmental peacebuilding work. As you conduct your context analysis, think through the following:

☐ **Identify the different gender groups involved and what gender means in your context.** Consider how best to incorporate gender minorities that may not fit within the man/woman binary.

☐ **How do these different groups perceive or interact with the conflict and the environment?** Does the conflict unequally or differently impact certain gender groups? Do these groups interact differently with the environment? Do changes to the environment affect them differently?

☐ **Consider the different risks and challenges faced by gender groups,** focusing particularly on those of women, girls, and gender minorities. How do these challenges shape differential needs and priorities of gender groups? How do men, women, and gender minorities experience the conflict differently? How does the conflict affect gender roles?

☐ **Do different gender roles create opportunities for peace?** What different roles do men, women, and gender minorities play in facilitating a peaceful resolution? How might the ways in which women and gender minorities interact with the environment be leveraged as a tool for building peace?

☐ **Consider the different perceptions of gender in your context.** What stakeholder groups are likely to hold those perceptions? How might these different perceptions affect your intervention's implementation?

☐ **What are the gender dynamics of your intervention team and partnerships?** If there is a gender imbalance, what strategies can you employ to promote more gender diversity or representation?

Gender in Design

Incorporating gender considerations into the design of your environmental peacebuilding intervention will help you to be more responsive and relevant, conflict sensitive, inclusive, effective, and sustainable. As you design your intervention, think through the following:

☐ **Have you considered different inputs and activities that might be needed to reach or engage various gender groups?**

☐ **Will you target participation or engagement with certain gender groups and in certain ways?**

☐ **Consider how the inclusion of women and gender minorities helped build peace, create opportunities, and/or improve environmental outcomes.** Inclusion may help create more effective peacekeeping operations and build a

more durable peace. How can your intervention design leverage the ways in which women, girls, and gender minorities interact with the environment as a tool for peacebuilding?

☐ **Have you considered how some gender groups might be marginalized or excluded?**

☐ **What situations or contexts might compromise the safety of women, girls, and gender minorities involved in your intervention?** Do you have protocols or processes in place to address these situations?

Gender in the Monitoring, Evaluation, and Learning Plans

☐ **How might you disaggregate or otherwise include gender in your various indicators?** How can this reveal correlations or other linkages between environment, peace, and gender?

☐ **Given your intervention context, what monitoring tools might best capture the relevant and important gender dynamics?** This includes the ability to capture disaggregated information.

☐ **How can you identify differences in monitoring, evaluation, and learning in how different gender groups were affected by your intervention?** How might these insights help you better understand different gender groups' needs, goals, and relationships in the context?

☐ **What methods or tools are better suited to meet the needs of different gender groups?** Consider strategies for ensuring these groups are comfortable, building trust, etc.

☐ **Do your monitoring, evaluation, and learning processes capture the full picture of gender in your context?** Have you considered how you can reach marginalized and excluded groups?

☐ **Have you provided people with the opportunity to self-identify their gender?** This can increase inclusion and empower stakeholders. It could also put them at risk, if their responses were made public in some countries.

☐ **How might gender groups interact different with your monitoring information, evaluation results, and learning?** What different needs do they have, and how might they analyze and use information differently?

☐ **How can you ensure that different gender groups, particularly women, have access to and are involved in monitoring, evaluation, and learning processes?** Consider learning strategies that will speak to the capacities of women to act and create a safe space for women to ask questions and provide input.

☐ **How could the dissemination of monitoring, evaluation, and learning information inadvertently create risks for certain gender groups**? How can you balance transparency and information sensitivity?

☐ **How can you capture, share, and ensure the use of gender-specific findings?**

Substantively, gender-related questions may take a number of different approaches:

☐ **How were different gender groups affected differently by the project? How may women be differentially impacted by this project?** Women are often heavily engaged in the use and management of natural resources. They also may take on non-traditional economic or familial roles in times of conflict. There may also be differential impacts on men; M&E should seek to explore these gender-specific impacts (e.g., impacts on young men such as entry into illicit occupations and increased violence).

☐ **Did the project create opportunities for women and girls?** Projects can target female-dominated economic sectors and support access to credit, education, and salaried employment.

☐ **Did the inclusion of women help build peace and/or improve environmental outcomes?**

Annex 2-I: Illustrative Theories of Change for Environmental Peacebuilding

The theories of change shared here are intended to provide a high-level sample of commonly recurring themes and are grouped according to peacebuilding priorities. This is not a comprehensive list of theories of change but instead is intended to be **illustrative**. As such, some theories of change are more general, while others are more specific. Note that the same cross-cutting principles—namely conflict sensitivity, gender sensitivity, participation, and inclusion—apply across theories of change in much the same way as they apply across the various aspects of design, monitoring, evaluation, and learning for environmental peacebuilding.

ENVIRONMENTAL PEACEBUILDING PRIORITIES		
Category (With sample activities)	**Sample Theory of Change**	**Considerations & Phases of Conflict Related Categories**
Basic Safety & Security		
Provision of peace dividends and incentives Quick impact projects Providing basic services, access to water, etc.	*If* quick gains supporting livelihoods and the delivery of basic services are achieved in the peace process through sustainable natural resource management *then* social cohesion, stability, trust in the peace process, and state legitimacy are increased *because* stakeholders have additional incentives to sustain negotiations, cooperation, and other peacebuilding processes (McCandless 2012, p. 16; UNSG 2009).	Conflict Phase • During and post-conflict Assumptions/Risks • The provision of livelihoods and basic services must be inclusive and consider varied effects on different stakeholder groups.
Establishment of early warning systems	*If* early warning systems can identify environmental, fragility, and conflict risks before they escalate, *then* stakeholders can take steps to increase their resilience and avoid violent conflict *because* the early warning system provides timely information to support coordination and collective action at different scales to mitigate or otherwise address risks.	Conflict Phase • Pre-conflict Assumptions/Risks • Consider the benefits and challenges or risks of community participation in early warning. Spoilers or those benefiting from conflict may use the information in adverse ways. • To be effective at preventing conflict, early warning systems need to feed into response mechanisms.

Basic Safety & Security		
Control of conflict resources Securing sites of extraction, transit, and trade	*If* legitimate and effective control is established over natural resources that some actors have used to finance or otherwise sustain conflict in the past, *then* security will increase *because* these actors will lack the means to continue to pursue violence.	Conflict Phase ● All phases Assumptions/Risks ● It is necessary to support alternative livelihoods to not destabilize local economies that may depend on conflict resources. ● Conflict resources are various, spanning renewable and non-renewable resources and land. Lootability favors resources that have a high-value-per-weight, ease of extraction with minimal investment, and diffuse geographic availability (Le Billon 2012), but the breadth and variability of conflict resources indicate that these criteria are to be interpreted flexibly (Bruch et al. 2019). ● Consider how different groups are connected to and affected by conflict resources. These groups include women, youth, Indigenous communities, and other marginalized groups. Inclusive natural resource management is key to sustainable benefits.
Remediating environmental damage and degradation Remediation of the toxic byproducts of warfare Addressing landmines and unexploded ordinances (Unruh & Williams 2013)	*If* steps are taken to address environmental damage and degradation from conflict, *then* communities have increased access to land and other resources areas that may support agricultural and other livelihoods *because* land is now accessible and no longer leaches toxic material into soil and groundwater or poses imminent health threats.	Conflict Phase ● Post-conflict Assumptions/Risks ● Consider ownership rights and land tenure governance in advance to avoid land-grabbing and new land-related conflicts (Shimoyachi-Yuzawa 2011). ● Access to land and resources can be a peace dividend and thus a key point of entry for dialogue.

Basic Safety & Security		
Supporting migration with dignity for climate and conflict migrants	*If* migration is managed proactively and appropriately, IDPs and returnees are protected, and sending and receiving areas are adequately prepared and supported, then the influx of new populations will not be destabilizing or ignite conflict over scarce natural resources *because* adequate measures are in place both to reduce large numbers of migrants that might otherwise overwhelm and destabilize host communities and to limit potential backlash by host communities.	Conflict Phase ● All phases Assumptions/Risks ● Host communities require adequate support, without which they can become hostile to IDPs and returnees.
Disaster Risk Reduction	*If* an effective disaster risk reduction strategy is developed through collaborative and integrated multi-risk analysis tools, tailored capacity building, and partnerships across humanitarian, development, and formal and informal institutions, *then* security and resilience in the face of climate and conflict shocks and disasters will increase *because* communities, institutions, and the state will be better able to anticipate, mitigate, and adapt to environmental, social, and economic pressures.	Conflict Phase ● All phases Assumptions/Risks ● Shared interests in reducing disaster risks can bring communities together and build peace.
Reducing gender-based violence Providing secure opportunities for women and girls to collect water or fuel wood	*If* security is provided for groups of women and girls when they undertake activities associated with their roles as resource users, *then* gender-based violence will decrease *because* there are fewer opportunities for them to be attacked or otherwise harmed.	Conflict Phase ● All phases Assumptions/Risks ● It is essential to consult women and girls about how best to reduce gender-based violence as they undertake daily activities. For example, different well-meaning efforts to reduce gender-based violence by providing water points in the center of settlements have been criticized by (1) women as reducing opportunities for them to socialize, and (2) young people as reducing opportunities to court. ● While it is critical to reduce gender-based violence, it is also essential to build women's leadership.

Provision of Basic Services

Basic services delivery Providing water and sanitation Providing energy Engaging the private sector to invest in basic services	*If* the government provides communities with sustainable and equitable access to basic services, *then* this will foster stability and trust in government institutions *because* conflict-affected communities have their basic needs for livelihoods, health, and well-being met.	Conflict Phase ● All phases Assumptions/Risks ● Basic services include water, sanitation, shelter, and energy. ● This approach can complement post-conflict rehabilitation with longer-term sustainable development (McCandless 2012). ● The external provision of basic services risks weakening central governance structures and underscoring local perceptions of ineffective government. Capacity strengthening of local and national institutions to deliver basic services builds trust in them.
Climate-resilient ecosystem services	*If* the ability of communities and countries to adapt to climate change is strengthened in ways that conserve local ecosystems, *then* communities and countries will be more resilient to changes in climate, environment, and natural resources as well as the knock-on social effects *because* climate change adaptation and the essential services it provides support local and national actors in anticipating and adapting to shocks.	Conflict Phase ● All phases Assumptions/Risk ● Anticipate and manage the adverse impacts associated with increasing or decreasing value or quantity of natural resources. ● Ensure activities do not fuel competition over new resource availability or displacement due to elite capture. ● Activities should complement efforts to improve governance.

Sustainable Economies and Livelihoods

Supporting alternative livelihoods Providing livelihood alternatives to producing illicit narcotics Expanding opportunities to provide value added	*If* different or improved and sustainable livelihood activities are used to meet the economic needs of groups in conflict, *then* conflict will decrease, because their needs are being met, the incentives for engaging in conflict are lessened or removed, and engaging in conflict is more costly.	Conflict Phase ● During and post-conflict. Assumptions/Risk ● This approach assumes new or improved livelihood activities are at least or more lucrative (financial, social, cultural). ● Value-added activities (e.g., turning raw logs into furniture) may require additional equipment and training, as well as development of international markets. ● It is important to make sure steps to control the conflict economy will not be destabilizing. ● Relevant communities include IDPs, ex-combatants, migrants, and returnees. ● Often a community-level approach is used.

Strengthening livelihoods and food security Ensuring rights to land and other resources Providing seed, fertilizer, and other inputs Building capacity	*If* communities have access to sufficient and sustainable livelihoods and food security, *then* the threat of inter-communal violence will be reduced *because* unemployment, food insecurity, and a weak economy are key determinants of violence and peacebuilding failure and often a foundation for recruitment of combatants.	Conflict Phase ● All phases Assumptions/Risk ● There should be sufficient access to land, water, and other necessary resources. ● Sufficient knowledge. For example, sometimes ex-combatants that were recruited as child soldiers lack the necessary knowledge to succeed in agriculture.
Restoring and diversifying the economy Reviewing resource concessions and their governance Rebuilding the Agriculture, Fisheries, and Forestry sectors (including non-timber forest products) Building infrastructure to develop industry and access to markets Sustainable and socially responsible value-chains Renewable energy	*If* environment and natural resource management investments are made to diversify the economy, mobilize financing, and engage formal and informal economies in a manner that is sustainable and equitable, *then* this will foster increased stability and resilience *because* post-conflict economies often depend on the extraction of natural resources to rebuild and generate government revenue and livelihoods (World Bank 2022, p. 53).	Conflict Phase ● All phases, especially post-conflict. Assumptions/Risk ● Conflict may have led to unfavorable resource contracts and concessions due to the urgent need for cash, weak negotiating power in a high-risk environment, and reduced public oversight. ● Consider the importance of non-renewables for the national economy and renewables for local communities, while ensuring investments are sustainable and equitable.
Just transition	*If* a country's economy is diversified to be less dependent on fossil fuels, *then* the likelihood of conflict will be reduced *because* governments will be able to continue generating revenues, governing, and providing services in a carbon-neutral world. *If* the governance of minerals necessary for the transition in a carbon-neutral world are managed in a transparent, participatory, and equitable way with the sharing of benefits with local communities, then the likelihood of conflict will be reduced *because* many of the primary causes of the green resource curse will be proactively addressed (Stein, Bruch, & Dieni 2023).	Conflict Phase ● All phases Assumptions/Risk ● The transition to a carbon-neutral economy can have a profound effect on national economies that depend on oil, gas, and other fossil fuels. ● It is essential to ensure that diversification is sustainable, equitable, and inclusive.

Social Cohesion, Cooperation, and Trust Building

Bridging (contact hypothesis)	*If* groups in conflict participate in joint activi*ties, then* there may be a reduction in intergroup conflict and more positive intergroup attitudes and relationships *because* that hostility between groups is perpetuated by unfamiliarity and separation and engagement with those groups can increase understanding of the other and challenge negative stereotypes (USAID 2013, p. 20). If confidence-building measures, peacekeeping and verification missions, monitoring mechanisms, and problem-solving dialogues are used, then conflict groups or actors will not resort to force because these measures allay fears that the "other" group or actor is not committed to peace and will exploit it in the future (USAID 2013, p. 22).	Conflict Phase ● All phases, especially post-conflict Assumptions/Risk ● It is possible to manage the risks of violence between conflict groups while cohesion is being built. ● It is important that the different groups are treated equitably and engaged in the design, implementation, and evaluation of the intervention in ways that are conflict sensitive. ● Peacebuilding impacts may be limited if the underlying causes of conflict are not resolved.
Functionalism	*If* conflict groups cooperate on the technical and non-political aspects of environmental or climate change interventions, *then* conflicts between those groups will decrease or be peacefully managed because they will have developed communities and institutions across political, cultural, and other boundaries that make the use of force in resolving conflicts impractical or even unimaginable.	Conflict Phase ● All phases, especially after conflict Assumptions/Risk ● Peacebuilding impacts may be limited if the underlying causes of conflict are not resolved. ● Costs of defection can be different between conflicting parties, i.e. the stakes for avoiding conflict may be asymmetrical.

Transforming power relations Laws governing procedural and substantive resource rights Natural resource committees or user groups Environmental, women, and youth advocacy organizations	*If* communities' social capital, capacities for collective action, platforms for effective and transparent participation, and stake or ownership in natural resource management are increased, *then* more inclusive institutions and processes can reduce the possibilities for conflict *because* communities have more power and are increasingly able to influence and participate in institutions and processes governing those resources. *If* new and inclusive institutional arrangements are used in managing natural resources and their access, use, benefits, and stewardship, *then* there will be fewer conflicts over those resources and between user groups *because* power relationships have changed as power and authority are redistributed, there is expanded participation in natural resource management, and groups have enhanced capabilities to engage in deliberation and decision making (USAID 2022, p. 25).	Conflict Phase ● All phases Assumptions/Risk ● These approaches assume that if groups are perceived as functioning with effectiveness, transparency, and accountability, then social trust and larger networks will develop and result in changes to the state-society relationship (USAID 2022, p. 29). ● Pre-existing social capital can help develop institutional arrangements, improve shared access to information, services, and resources, and build trust, but they must be inclusive and not replicate existing unequal societal structures (USAID 2022). ● A lack of capacity or inadequate processes is a significant obstacle in negotiation, peacebuilding, and consensus-building (USAID 2013, p. 23).
Increasing public participation in natural resource decision-making Community-based natural resource management Notice-and-comment rulemaking	*If* natural resource management institutions are inclusive, *then* people will feel able to address grievances nonviolently, thereby promoting peace *because* people in society can express their will and exert control over those making decisions in governing institutions and because under such a structure, people will be less likely to either revolt against the government or address their grievances violently, thereby creating a more peaceful nation (USAID 2013, p. 24).	Conflict Phase ● All phases Assumptions/Risk ● Possible platforms for cooperation and trust: participatory, inclusive processes for decision-making; opportunities to voice concerns; representation in mechanisms, roles, and voting; new mechanisms for monitoring and surveillance; and new mechanisms to interact with the government (USAID 2022, p. 69).

Good Governance & Inclusive Political Processes		
Enhancing Good Governance Improving benefit sharing Extractive Industries Transparency Initiative	*If* good governance processes for the environment and natural resources are put into place, *then* conflicts will be better prevented and resolved *because* responsive, responsible, transparent, accountable, and inclusive governance fosters trust in government institutions that are better equipped to handle disputes and grievances reliably and peacefully.	Conflict Phase ● All phases Assumptions/Risk ● The UN definition of good governance includes responsiveness, transparency, accountability, participation, and responsibility (UNEP 2019).
Improving resource ownership, access, and management Recognizing customary resource tenure and working with communities to manage land Improving and updating land cadastres Mediating disputes between ex-combatants and IDPs post-conflict	*If* there is equitable redistribution of and access to land, forests, minerals, and other natural resources and their revenues, *then* the risk of new and renewed conflict is minimized *because* resource-based grievances would be addressed and the opportunity costs of future conflict would be increased.	Conflict Phase ● All phases Assumptions/Risk ● Governance vacuums resulting from conflict can lead to the neglect of key resource management functions, the expansion of illegal and criminal exploitations, and the loss of tenure security. ● This approach assumes equitable governance that recognizes local knowledge and institutions—e.g., Indigenous rights—and facilitates their articulation within formal institutional structures. ● This approach represents a peace dividend.
(Re)building environmental governance at all levels (statutory and customary)	*If* environmental governance is rebuilt to be more equitable, inclusive, and effective, *then* both peace and environmental rule of law can be supported *because* revising laws and rebuilding governance can help address the environmental causes of conflict (e.g., inequitable benefit sharing or access to resources), as well as to strengthen governance for a sustainable peace.	Conflict Phase ● All phases Assumptions/Risk ● Often the most difficult aspect is the implementation and enforcement of new provisions.

Good Governance & Inclusive Political Processes		
Customary and traditional natural resource governance	*If* institutions are based on customary governance structures that are familiar to and reflect the values of the people they govern, *then* the likelihood that people will use violence to change or reject institutions is reduced *because* people will be more likely to feel allegiance, ownership, and legitimacy for those institutions (USAID 2013, p. 24). *If* environmental governance is aligned with the traditions and practices of Indigenous and resource-dependent local communities, *then* it is more likely for a successful framework to be developed that peacefully resolves disputes and protects Indigenous rights while responding to national governance systems and international environmental goals, *because* local communities can be best suited to manage and steward natural resources (USAID 2022, p. 33).	Conflict Phase ● Conflict prevention and post-conflict Assumptions/Risk ● This approach assumes institutions will retain the benefits of customary institutions when integrated with formal institutional arrangements. ● It is important to consider how long-standing or traditional institutions and norms address women and other groups who are historically marginalized.
Implementing community-based natural resource and climate governance	*If* communities are brought together around climate scenario planning and natural resource management decisions, *then* there is stronger support of and better compliance with regulations and norms in the face of challenges *because* collaborative planning increases local ownership and buy-in of management strategies and practices (USAID 2022, p. 5).	Conflict Phase ● All phases Assumptions/Risk ● Communities often need capacity development support to craft, implement, and enforce policies. ● Communities must be brought together under the right conditions; collaboration alone is not sufficient. Conflict sensitivity is very important.

Good Governance & Inclusive Political Processes		
Transitional justice	*If* transitional justice institutions address environmental grievances, *then* the likelihood of violence re-emerging in the future will be reduced *because* ad-hoc institutions provide a bridging function, which is both backward and forward looking, to help society deal with historic and unresolved grievances so that they will not impede progress toward peace (USAID 2013, p. 25).	Conflict Phase ● Post-conflict Assumptions/Risk ● Historically, transitional justice mechanisms have been reluctant to address environmental dimensions (Harwell 2016).
Joint management of interacting systems	*If* interacting systems at the subnational, national, or regional level are jointly managed, *then* countries will be better prepared to withstand a variety of social and economic pressures while avoiding the destabilization of their governing institutions and social structures *because* collaborative mechanisms support a cohesive approach to effectively target risks and needs.	Conflict Phase ● Pre- and post-conflict Assumptions/Risk ● Flexibility and adaptability are key.
Diffusion of transnational norms	*If* global norms for social and environmental safeguards and inclusive policies are supported and advanced, *then* the risks of bad governance will be addressed (reducing conflict) and opportunities to promote peace will be strengthened *because* greater community empowerment, better-defined resource rights, and local input on rules and regulations often result in better conflict and environment outcomes by addressing underlying causes of conflict and grievances.	Conflict Phase ● All phases Assumptions/Risk ● This approach requires attunement with local political contexts.

Appendix 2-I References

Boyer, Glaucia, & Adrienne Stork. 2015. "The Interface between Natural Resources and Disarmament, Demobilization, and Reintegration: Enhancing Human Security in Post-Conflict Situations." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding*, ed. Helen Young & Lisa Goldman. London: Routledge.

Bruch, Carl, David Jensen, Mikiyasu Nakayama, & Jon Unruh. 2019. "The Changing Nature of Conflict, Peacebuilding, and Environmental Cooperation." *Environmental Law Reporter* 49(2): 10134-10154.

Harwell, Emily E. 2016. "Building Momentum and Constituencies for Peace: The Role of Natural Resources in Transitional Justice and Peacebuilding." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Le Billon, Philippe. 2012. "Bankrupting Peace Spoilers: Can Peacekeepers Curtail Belligerents' Access to Resource Revenues?" In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Paivi Lujala & Siri Aas Rustad. London: Routledge.

McCandless, Erin. 2012. *Peace Dividends and Beyond: Contributions of Administrative and Social Services to Peacebuilding.* United Nations Peacebuilding Support Office.

Pritchard, Matthew. 2015. "From Soldiers to Park Rangers: Post-Conflict Natural Resource Management in Gorongosa National Park." In Livelihoods, Natural Resources, and Post-Conflict Peacebuilding, ed. Helen Young & Lisa Goldman. London: Routledge.

Shimoyachi-Yuzawa, Nao. 2011. "Linking Demining to Post-Conflict Peacebuilding: A Case Study of Cambodia." In *Harnessing Natural Resources for Peacebuilding: Lessons from U.S. and Japanese Assistance*, ed. Carl Bruch, Mikiyasu Nakayama, & Ilona Coyle. Washington, DC: Environmental Law Institute

Stein, Tracy, Carl Bruch, & Jordan Dieni. 2023. "Characterizing and Preventing the Green Resource Curse." *Environmental Law Reporter* 53(3): 10212-10238.

UNEP (United Nations Environment Programme). 2019. *Environmental Rule of Law: First Global Report.* Nairobi.

Unruh, Jon, & Rhodri Williams (eds.). 2013. *Land and Post-Conflict Peacebuilding.* London: Routledge.

USAID (United States Agency for International Development). 2013. *Theories and Indicators of Change Briefing Paper: Concepts and Primers for Conflict Management and Mitigation.* Washington, DC. https://pdf.usaid.gov/pdf_docs/pnaed181.pdf

USAID (United States Agency for International Development). 2022. *Linkages Between Participatory Natural Resource Management and Democratic Outcomes: A Review of the Evidence.* Technical Brief. Washington, DC. https://pdf.usaid.gov/pdf_docs/PA00ZCBG.pdf

World Bank. 2022. *Defueling Conflict: Environment and Natural Resource Management as a Pathway to Peace.* Washington, DC. https://www.worldbank.org/en/topic/environment/publication/defueling-conflict-environment-and-natural-resource-management-as-a-pathway-to-peace

Annex 2-II: Illustrative Sets of Indicators for Environmental Peacebuilding

This annex provides illustrative indicators for nine theories of change for environmental peacebuilding, selected from Annex 2-I. For any particular project, the indicators will need to be adapted to the particular context, and additional indicators may be needed. For each set, the Theory of Change is provided in the dark green bar at the top. These indicators were developed at a hackathon on August 8, 2023 and by the authors of this toolkit, and edited accordingly.

If natural resources are effectively governed for the economic needs of a community, *then* inter-communal violence will decrease *because* communities have access to sufficient and sustainable livelihoods.			
Considerations	**Indicators**	**Notes**	**Sources/Examples**
• Natural resources can help immediately restore economic activity post-conflict. • Natural resources can diversify and strengthen economies. • Livelihood support can be useful in reintegrating ex-combatants or community members in conflict. • Sustainable livelihoods offer alternative income sources to conflict-related activities.	If/Activities & Short-Term Outcomes • Implementation of natural resource governance mechanisms • % of people who believe that [the natural resource in question] is being effectively governed Then/Long-Term Outcomes • # of instances of inter-communal violence • Evidence of other approaches being used to resolve conflicts Because/Medium-Term Outcomes • % of people employed • % of households with sufficient income to meet their basic needs • Perceptions of sufficiency and sustainability of livelihoods Unexpected Outcomes • Were there any unexpected outcomes (positive or negative)? Please describe.	Relevant disaggregation may include: • Gender • Age • Rural/urban or geographic • Sector • Ethnic or religious group • Political identities • Livelihoods group Indicators data can be collected via: • Community or household surveys • Community informants/reports • Interviews or focus groups The context will determine what is effective governance and what are sufficient and sustainable livelihoods. Communities are often best placed to define this themselves.	Livelihoods Centre n.d.

If different or improved and sustainable livelihood activities are used to meet the needs of groups in conflict, *then* conflict between them will decrease, *because* the incentives for engaging in conflict are lessened or removed, and engaging in conflict is more costly.			
Considerations	**Indicators**	**Notes**	**Sources/Examples**
• While new or improved livelihood activities must meet economic needs, cultural or social needs should also be considered, as some livelihood activities may be less socially acceptable or desirable. • Different stakeholder groups will have different needs; it is important to be inclusive.	*If/Activities & Short-Term Outcomes* • # or % of people participating in sustainable livelihood activities • Perceptions of suitability or desirability of livelihood activities *Then/Long-Term Outcomes* • # of instances of violence or conflict • Evidence of increased capacity to prevent or resolve conflicts *Because/Medium-Term Outcomes* • % of people employed • % of households with sufficient income to meet their basic needs • Perceptions of sufficiency and sustainability of livelihoods, including expectations that the future economic situation will be better than the present • Perceptions of the cost of engaging in conflict *Unexpected Outcomes* • Were there any unexpected outcomes (positive or negative)? Please describe.	Relevant disaggregation may include: • Gender • Age • Rural/urban or geographic • Sector • Ethnic or religious group • Political identities • Livelihoods group Indicators data can be collected via: • Community or household surveys • Community informants/reports • Interviews or focus groups The context will determine what counts as a sufficient or sustainable livelihood. Communities are often best placed to define this themselves	FAO 2022 Livelihoods Centre n.d.

If groups in conflict participate in collaborative activities related to shared interests in the environment, **then** there may be reductions in intergroup conflict and more positive intergroup attitudes and relationships **because** that hostility between groups is perpetuated by unfamiliarity and separation and engagement with those groups can increase understanding of the other and challenge negative stereotypes (USAID 2013, p. 20).

Considerations	Indicators	Notes	Sources
- Bringing groups in conflict together alone is not sufficient; joint activities must take place in a conflict-sensitive way or risk exacerbating the conflict dynamics. - The activities should reflect the needs or important areas to all participating groups. Management and implementation of the activities should also reflect those groups. - It is important to consider whether the interests of groups really align. - It is also important to consider scale, as it may be easier to find common ground and built people at a local level.	*If/Activities & Short-Term Outcomes* # and type of joint activities organized by third-parties # of people participating directly (and indirectly) in the joint activities - Perceptions of the relevance of activities to needs or their degree of importance - Perceptions of activities as truly collaborative and/or tackling real interests - Perceptions of process equity and fairness *Then/Long-Term Outcomes* # of instances of violence or conflict - Reduced willingness to engage in conflict - Increased relationships or trust between groups % of people reporting increased friendships with those of the other group - Changes in perception of the other groups - Changes in values and priorities - Opportunities for joint peaceful environmental collaboration were seized - Strengthened collaborative networks Because/Medium-Term Outcomes % of people reporting increased understanding of the other group - Changes in perceptions of the other group, particularly regarding stereotypes - Evidence of social learning, including improved understanding of social and ecological issues as well as other groups' and one's own perceptions (self- awareness) of those issues. - More peaceful social relations and governance, especially around shared environmental issues - Evidence of groups finding (shared) value in the process/activities - Evidence of challenging institutional and cultural practices **Where does social learning end and peacebuilding begin? Learning is a process and an outcome; you can have indicators for both.* *Unexpected Outcomes* - Were there any unexpected outcomes (positive or negative)? Please describe.	Relevant disaggregation may include: - Gender - Age - Rural/urban or geography - Ethnic or religious group - Political identities - Livelihoods group - Income level Indicators data can be collected via: - Individual interviews or surveys - Observation - Behavioral stories - Observations (especially if focused on elites or others who may not participate in surveys or focus groups) - Rumor tracking Maintaining anonymity or confidentiality in data collection is important; some of those participating in the activities may be reluctant to share improvements in their perceptions of the other group in public settings. It is important to combine perception-focused surveys or interviews with other methods to avoid bias.	

If the ability of communities and countries to adapt to climate change is strengthened in ways that conserve local ecosystems and strengthens their capacity to address climate-related conflicts in an equitable way, *then* communities and countries will be more resilient to changes in climate, environment, and natural resources as well as conflict risks and other knock-on social effects *because* climate change adaptation and the essential services it provides support local and national actors in anticipating and adapting to shocks.

Considerations	Indicators	Notes	Sources
- Climate adaptation strategies can include the use of climate-smart agricultural practices, resource risk management strategies, inclusive financing mechanisms, disaster risk reduction, etc. - It is essential that approaches account for sustainable ecosystems that conserve natural resources; nature-based solutions (NbS) may be helpful. - Equitable distribution of benefits is essential to avoid exacerbating conflicts across the various stakeholders (avoid repeating structural violence). - Consider long-term climate effects and expand or enlarge the spatial scale. - From an environmental peacebuilding perspective, a climate-resilient ecosystem service The Theory of Change should try to include both environmental and conflict resolution pathways. - Ensure the root causes of vulnerability are addressed by the intervention.	*If/Activities & Short-Term Outcomes* # of people participating in climate adaptation activities/intervention # of people able to access inclusive financing mechanisms (e.g., social bonds) % of community aware of climate adaptation and resilience strategies. - Collaborative governance arrangements for the ecosystem - Perceptions of inclusion in the activities - Identification of alternative livelihoods as part of ecosystem preservation *Then/Long-Term Outcomes* - Availability of quality infrastructure (transportation, energy, etc.) - Availability of natural resources (e.g., water) - Quality of institutions for responding to climate change . - Capacities to manage conflict - Levels of conflict - Alternative livelihoods relying on ecosystem services. - Improved adaptation measures. *Because/Medium-Term Outcomes* % of community utilizing climate adaptation and resilience strategies - Availability of essential services and their performance under shocks or stresses - Increased capacities in both ecosystem governance and conflict resolution *Unexpected Outcomes* *Were there any unexpected outcomes (positive or negative)? Please describe.*	Relevant disaggregation may include: - Gender - Age - Rural/urban or geographic - Livelihoods group - Income level - Ethnic group - Political group Indicators data can be collected via: - Interviews - Surveys - Observation *Disaggregation should help implementers understand the diversity present and avoid elite capture Resilience can be defined differently based on the scale and context. Indicators of resilience have traditionally focused on the existence of economic, social, and infrastructure conditions.	CARE 2015

If early warning systems are established to identify environmental, fragility, and conflict risks before they escalate, *then* stakeholders can take steps to increase their resilience and avoid conflict *because* the early warning system provides timely information to support coordination and collective action at different scales to mitigate or otherwise address risks.

Considerations	Indicators	Notes	Sources
- It is important to know who will use the data (goverment, community councils, etc.), and whether they have the capacity to use/process the data securely. - Theory of Changes often mentions early warning system, but creating new parallel structures may not be necessary (or the best system). You n eed to consider whether you are capitalizing on an existing institutional mechanism or creating an entirely new one.	*If/Activities & Short-Term Outcomes* - Operational level of the early warning system - Accessibility of early warning system (e.g., language) - Existence of a legal mandate to: - Warn - Respond - Monitor responses *Then/Long-Term Outcomes* - Did the early warning system prevent conflict? - Steps taken to avoid conflict/# of responses # of conflicts potentially prevented *Because/Medium-Term Outcomes* # of risks identified - Relevance of the information provided - Timeliness of the information provided #/% of community receiving information - Sustainability of early warning system *Unexpected Outcomes* - Were there any unexpected outcomes (positive or negative)? Please describe.	Relevant disaggregation may include: - Stakeholder v. Decisionmaker - Ethnicity - Nationality - Gender - Types of actions undertaken Indicator data can be collected via: - Surveys - Interviews (esp. for counterfactuals) - Observation	

If women are provided safety and security in natural resource access and management, **then** gender-based violence will decrease **because** increased protections reduce vulnerability to structural inequalities and opportunities for them to be attacked or otherwise harmed.

Considerations	Indicators	Notes	Sources
• GBV extends beyond women and girls, and the exclusion of men can result in increased violence towards women. • Consider the impacts of interventions on traditional gender roles and norms, and recognize impacts that come with this deviation from the status quo. • Environmental defenders are a special case.	*If/Activities & Short-Term Outcomes* • #/% of women that have ownership rights of natural resources • #/% of women participating in natural resource management leadership positions *Then/Long-Term Outcomes* • # of instances of gender-based violence. • # of instances of forced early marriage. • Perceptions about gender-based violence prevalence and causes. *Because/Medium-Term Outcomes* • Perceptions regarding whether women have safe and secure access to natural resources. • Perceptions regarding whether women have access to decision-making processes or other relevant governance mechanisms; perceptions of inequality. *Unexpected Outcomes* • Were there any unexpected outcomes (positive or negative)? Please describe.	Relevant disaggregation may include: • Gender • Age • Rural/urban or geographic • Livelihoods group • Income level • Ethnic group • Political group Data can be collected via: • Surveys • Interviews • Review of documents regarding participation in natural resource governance processes Note that it is particularly important to examine changes in attitudes regarding women's participation among all gender groups.	A study in NE Nigeria on violence and humanitarian context found that because most of the programs on gender supported women, they left out both boys and men.. Accordingly, men did not have access to psychosocial support, which then increased the violence toward women. Moreover, young men who were excluded from accessing livelihood support were more prone to recruitment into violence.

If there is [equitable][optimal] redistribution of and access to land, forests, minerals, and other natural resources as well as their revenues and indirect benefits, *then* the risk of new and renewed conflict is minimized *because* resource-based grievances would be addressed and the opportunity costs of future conflict would be increased.

Considerations	Indicators	Notes	Sources
• The maturity of legal and administrative systems will affect the enforcement of ownership rights. • When power is unevenly distributed, the allocation of resources and revenues might perversely incentivize conflict. • This theory of change only works when the conflict is not active. • Whether redistribution itself effectively addresses grievances depends on the ability and collective buy-in to maintain the new arrangement.	*If/Activities & Short-Term Outcomes* • # of resource rights redistributed • Size of the resource rights redistributed (e.g., hectares) • # of people participating in redistribution *Then/Long-Term Outcomes* • # of instances of new or renewed conflict • Perceptions of peace and reasons for peace *Because/Medium-Term Outcomes* • Perceptions regarding whether the redistribution was fair and effective • Perceptions of the utility of conflict • #/% of people who feel that their resource-based grievances have been addressed	*Relevant disaggregation may include:* • Gender • Economic group • Community group • Ethnicity • Power *Data can be collected via:* • Interviews • Surveys	

If quick gains supporting livelihoods and the delivery of basic services are achieved in the peace process through sustainable natural resource management, *then* social cohesion, stability, trust in the peace process, and state legitimacy are increased *because* stakeholders are incentivized to sustain negotiations, cooperation, and other peacebuilding processes (McCandless 2012, p. 16).	

Considerations	Indicators	Notes	Sources
● Consider which types of quick-impact interventions are most effective. ● Ensure that the design of and participation in intervention involve a sufficient diversity of stakeholders to avoid elite capture. Diversity should be multidimensional.	*If/Activities & Short-Term Outcomes* ● # of beneficiaries/participants ● % of community receiving basic services ● Timeliness of the provision of assistance to livelihoods or basic services ● Type of intervention ● How was the QIP decided/designed? Who decided/designed (note particularly re disaggregation factors)? ● Perceptions of the utility or relevance of livelihoods and basic services provided *Then/Long-Term Outcomes* ● Positive perception of the peace process and/or state and state institutions ● # of instances of conflict ● Improvement of relationships between different groups ● % of participants willing to work with someone from the other group *Because/Medium-Term Outcomes* ● Increased confidence in peace process due to the quick-impact projects ● % of people willing to continue participating in the peace process ● % of people who support the peace process *Unexpected Outcomes* ● Were there any unexpected outcomes (positive or negative)? Please describe.	*Relevant disaggregation may include:* ● Race ● Ethnicity ● Gender ● Income ● Age ● Rural/urban ● Direct and indirect participation *Data can be collected via:* ● Surveys ● Interviews ● Observation	

If the governance of minerals necessary for the transition in a carbon-neutral world are managed in a transparent, participatory, and equitable way with the sharing of benefits with local communities, *then* the likelihood of conflict will be reduced *because* many of the primary causes of the green resource curse will be proactively addressed (Stein, Bruch, & Dieni 2023).

Considerations	Indicators	Notes	Sources
• Ensure that related interventions are inclusive for sustainability. • Minerals are often extracted from fragile and conflict-affected situations. In such circumstances, it is key to consider who is getting the money and that tensions are not being fueled or funded.	*If/Activities & Short-Term Outcomes* • # of people consulted/% of communities consulted on mineral governance mechanisms or agreements • # of mineral governance agreements or processes put into place that are transparent, participatory, and equitable • Perceptions of transparency, participation, and equity in mineral governance *Then/Long-Term Outcomes* • *Perceptions on the likelihood of conflict* • *# of instances of conflict* *Because/Medium-Term Outcomes* • *Perceptions of fair/economic gain compensation at the local level* • *#/% of people/communities receiving certain types of benefits from mineral extractive or processing* *Unexpected Outcomes* • *Were there any unexpected outcomes (positive or negative)? Please describe.*	*Relevant disaggregation may include:* • Financial flows • Gender • Ethnicity • Socioeconomic classes • Geography • Direct or Indirect participants *Data can be collected via:* • Surveys • Interviews • Observation • Rubrics	

Annex 2-2 References

CARE. 2015. "Framework of Milestones and Indicators for Community-based Adaptation." https://careclimatechange.org/wp-content/uploads/2015/04/CBA_Framework.pdf

FAO (Food and Agriculture Organization of the United Nations) 2022. *Operationalizing Pathways to Sustaining Peace in the Context of Agenda 2030.* https://reliefweb.int/report/world/operationalizing-pathways-sustaining-peace-context-agenda-2030-how-guide?gclid=Cj0K-CQjwvL-oBhCxARIsAHkOiu1Lk_FchKkc9JLjGKXXjnfj8YYPtCe0SfBEIeA-PbGwu9bxh-8IO_wUaAtJzEALw_wcB

Livelihoods Centre. n.d. *Livelihood Key Programme Indicators List.* https://www.livelihoodscentre.org/documents/114097690/114438854/LRC.+Livelihoods+Key+Program+Indicators_EN.pdf/33a65bd9-637a-ced5-f41b-1b0b8876c010?t=1569397361996

McCandless, Erin. 2012. Peace Dividends and Beyond: Contributions of Administrative *and Social Services to Peacebuilding.* United Nations Peacebuilding Support Office.

Stein, Tracy, Carl Bruch, & Jordan Dieni. 2023. "Characterizing and Preventing the Green Resource Curse." *Environmental Law Reporter* 53(3): 10212-10238.

USAID (United States Agency for International Development). 2013. *Theories and Indicators of Change Briefing Paper: Concepts and Primers for Conflict Management and Mitigation.* Washington, DC. https://pdf.usaid.gov/pdf_docs/pnaed181.pdf
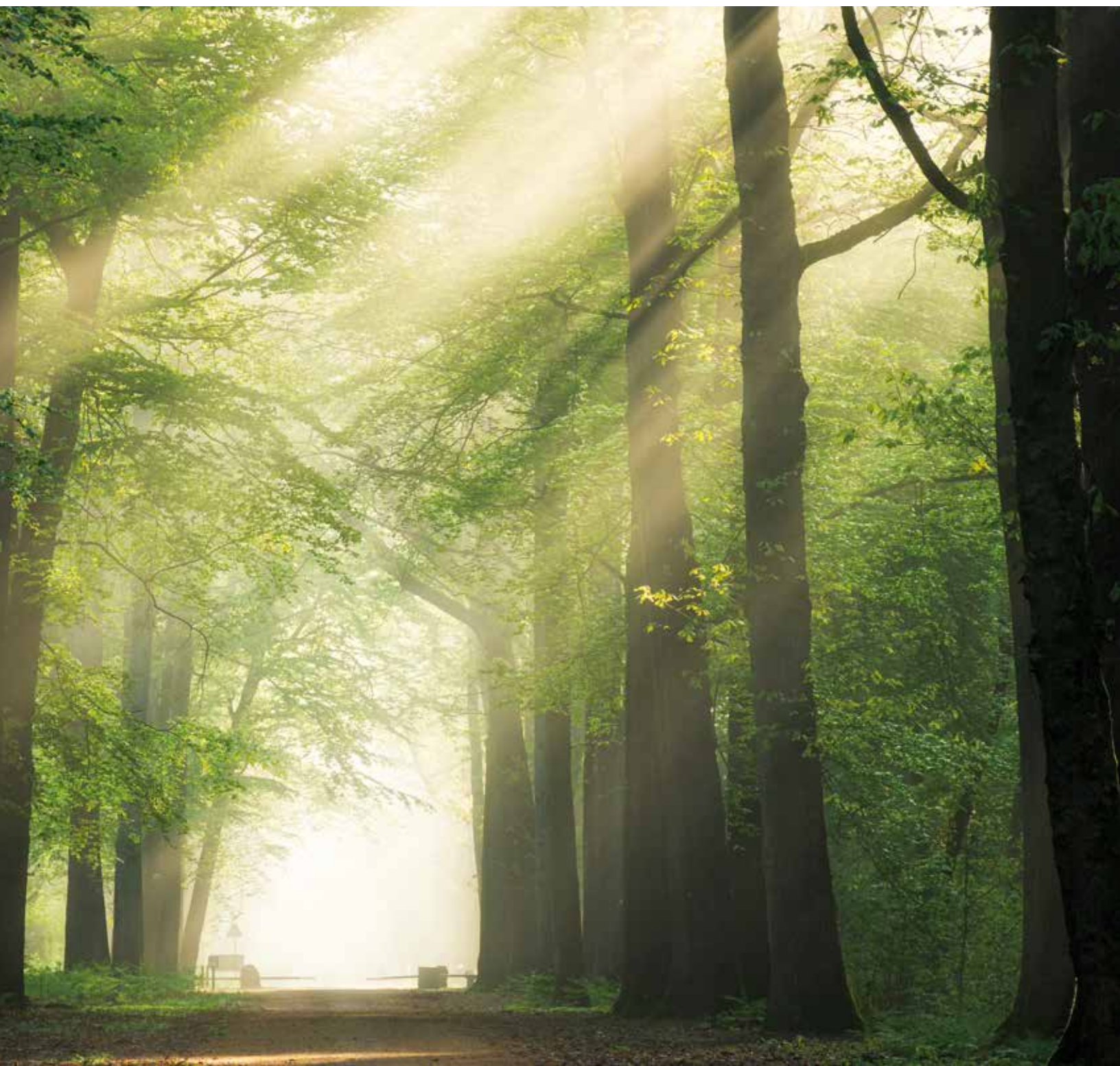
References

Acharya, Keshav K. 2015. "Community Governance and Peacebuilding in Nepal." *Rural Society* 24(1): 65-84. https://doi.org/10.1080/10371656.2014.1001477

Ajroud, Brittany, Nathalie Al-Zyoud, Lydia Cardona, Janet Edmond, Danny Pavitt, & Amanda Woomer. 2017. *Environmental Peacebuilding Training Manual.* Conservation International.

Altschuld, James W., & Ryan Watkins (eds.). 2014. *Needs Assessment: Trends and a View Toward the Future.* John Wiley & Sons.

Anhalt-Depies, Christine, Jennifer L. Stenglein, Benjamin Zuckerberg, Philip A. Townsend, & Adena R. Rissman. 2019. "Tradeoffs and Tools for Data Quality, Privacy, Transparency, and Trust in Citizen Science," *Biological Conservation* 238:108195.

Aryaeinejad, Kateira, Lynn Brinkley, Taylor Budak, Julia Chalphin, Stephanie Hickel, Gabriella Neusner, Jessica Obi, & Kady Pecorella. 2015. "Water, Cooperation, and Peace: The Peacebuilding Significance of Joint Israeli-Palestinian Wastewater Projects." American University School of Practicum. https://arava.org/wp-content/uploads/2015/05/Water-Cooperation-and-Peace-Practicum-Summer-2015.pdf

Barwari, Nesreen. 2013. "Rebuilding Peace: Land and Water Management in the Kurdistan Region of Northern Iraq." In *Land and Post-Conflict Peacebuilding,* ed. Jon Unruh & Rhodri Williams. London: Routledge.

Béland, Daniel, & Robert Henry Cox. 2011. "Introduction: Ideas and Politics." *Ideas and Politics in Social Science Research,* ed. Daniel Beland & Robert Henry Cox, 3-20.

Bergmann, Julian, & Arne Niemann. 2013. "Theories of European Integration and Their Contribution to the Study of European Foreign Policy." *8th Pan-European Conference on International Relations.*

Bickman, Leonard, & Stephanie M. Reich. 2009. "Randomized Controlled Trials: A Gold Standard with Feet of Clay?" In *What Counts as Credible Evidence in Applied Research and Evaluation Practice?*, ed. Stewart I. Donaldson, Christina A. Christie, & Melvin M. Mark. Los Angeles: Sage. 51-77.

Bornstein, Lisa. 2010. "Peace and Conflict Impact Assessment (PCIA) in Community Development: A Case Study from Mozambique." *Evaluation* 16(2): 165–176.

Bosch, Don, Alicia Jones, James Guy, Laurie Pearlman, & Rick Williamson. 2020. "Going the Distance: Managing the Emotional Challenges of Humanitarian Aid Work." Headington Institute. https://www.headington-institute.org/resource/going-the-distance/

Boyer, Glaucia, & Adrienne Stork. 2015. "The Interface between Natural Resources and Disarmament, Demobilization, and Reintegration: Enhancing Human Security in Post-Conflict Situations." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding,* ed. Helen Young & Lisa Goldman. London: Routledge.

Bradshaw, Jonathan Richard. 2013. *Jonathan Bradshaw on Social Policy: Selected Writings 1972-2011*, ed. Richard Cookson, Roy Sainsbury, & Caroline Glendinning. University of York.

Bruch, Carl, Marion Boulicault, Shuchi Talati, & David Jensen. 2012. "International Law, Natural Resources and Post-conflict Peacebuilding: From Rio to Rio+ 20 and Beyond." *Review of European Community & International Environmental Law* 21(1): 44-62.

Bruch, Carl, David Jensen, & Monica Emma. 2022. "Defining Environmental Peacebuilding." In *The Routledge Handbook on Environmental Security,* ed. Richard Matthew, Evgenia Nizkorodov, & Crystal Murphy. London: Taylor and Francis, 9-25.

Bruch, Carl, David Jensen, Mikiyasu Nakayama, & Jon Unruh. 2019. "The Changing Nature of Conflict, Peacebuilding, and Environmental Cooperation." *Environmental Law Reporter* 49(2): 10134-10154.

Bruch, Carl, Carroll Muffett, & Sandra S. Nichols (eds.). 2016. *Governance, Natural Resources, and Post-Conflict Peacebuilding.* London: Routledge.

Bruch, Carl, Ross Wolfarth, & Vladislav Michalcik. 2012. "Natural Resources, Post-Conflict Reconstruction, and Regional Integration: Lessons from the Marshall Plan and Other Reconstruction Efforts." In *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding*, ed. David Jensen & Steve Lonergan. London: Routledge.

Brusset, Emery, Cedric de Coning, & Bryn Hughes. 2016. *Complexity Thinking for Peacebuilding Practice and Evaluation.* Basingstoke: Palgrave Macmillan.

Bryson, John M. 2004. "What to Do When Stakeholders Matter." *Public Management Review* 6(1): 21-53.

Bumiller, Elisabeth. 2010. "We Have Met the Enemy and He Is PowerPoint." *New York Times*, April 26.

Burt, Murray, & Bilha Joy Keiru. 2014. "Community Water Management: Experiences from the Democratic Republic of the Congo, Afghanistan, and Liberia." In *Water and Post-Conflict Peacebuilding*, ed. Erika Weinthal, Jessica Troell, & Mikiyasu Nakayama. London: Routledge.

Bush, Kenneth, & Colleen Duggan. 2013. "Evaluation in Conflict Zones: Methodological and Ethical Challenges." *Journal of Peacebuilding & Development* 8(2): 5-25.

Carbon, Michael, & Tiina Piiroinen. 2012. *Evaluation of the UNEP Sub-Programme on Disasters and Conflicts.* https://wedocs.unep.org/bitstream/handle/20.500.11822/227/Evaluation_of_the_UNEP_Sub-programme_on_Disasters_and_Conflicts.pdf?sequence=1&isAllowed=y

Carius, Alexander. 2007. "Environmental Peacebuilding: Conditions for Success." *Environmental Change and Security Program Report 2006-2007*, 12. https://www.wilsoncenter.org/sites/default/files/media/documents/publication/CariusEP12.pdf

Carstensen, Martin B., & Vivien A. Schmidt. 2016. "Power through, over and in Ideas: Conceptualizing Ideational Power in Discursive Institutionalism." *Journal of European Public Policy* 23(3): 318-337.

Center for Democracy and Technology. 2018. "Responsible Data Frameworks: In Their Own Words." 25 June. https://cdt.org/insights/responsible-data-frameworks-in-their-own-words/

Chen, Eugene, Flora McCrone, & David Mozersky. 2023. "Renewable Energy and the United Nations: A Spark for Peace in South Sudan." Washington, DC: Henry L Stimson Center.

Cheng, Christine, & Dominik Zaum. 2016. "Corruption and the Role of Natural Resources in Post-Conflict Transitions." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Chigas, Diana, Madeline Church, & Vanessa Corlazzoli. 2014. *Evaluating Impacts of Peacebuilding Interventions: Approaches and Methods, Challenges and Considerations.* https://www.cdacollaborative.org/wp-content/uploads/2016/02/Evaluating-Impacts-of-Peacebuilding-Interventions.pdf

Colletta, Nat J., Markus Kostner, & Ingo Wiederhofer. 1996. *Case Studies in War-to-Peace Transition: The Demobilization and Reintegration of Ex-combatants in Ethiopia, Namibia, and Uganda.* Vol. 331. Washington, DC: World Bank.

Collier, Paul, & Anke Hoeffler. 2012. "High-Value Natural Resources, Development, and Conflict: Channels of Causation." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Conca, Ken. 2018. "Environmental Cooperation and International Peace." *Environmental Conflict.* Routledge, 225-247.

Conca, Ken, & Geoffrey D. Dabelko (eds.). 2002. *Environmental Peacemaking.* Washington, DC: Woodrow Wilson Center Press.

Conflict Sensitivity Community Hub. n.d. "What is Conflict Sensitivity?" https://www.conflictsensitivityhub.net/index.php/conflict-sensitivity/

Cook, Orrin, Jillian Forte, David Mozersky, & Rachael Terada. 2019. "Peace Renewable Energy Credits: Facilitating High-Impact Projects in Fragile Regions." Center for Resource Solutions and Energy Peace Partners.

Corlazzoli, Vanessa & Jonathan White. 2013. "Back to Basics: A Compilation of Best Practices in Design, Monitoring & Evaluation in Fragile and Conflict-Affected Environments" CCVRI Guidance Series. London: DFID.

Dabelko, Geoffrey D., Lauren Herzer Risi, Schuyler Null, Meaghan Parker, & Russell Sticklor. 2013. *Backdraft: The Conflict Potential of Cliamte Change Adaptation and Mitigation.* Washington, DC: Wilson Center.

Dalby, Simon. 2022. "Environmental Peacebuilding." In *Rethinking Environmental Security,* ed. Simon Dalby. Edward Elgar, 151-170.

De Conig, Cedric. 2018. "Adaptive Peacebuilding." *International Affairs* 94(2): 301-317.

De Silva, Lalanath. 2016. "Reflections on the United Nations Compensation Commission Experience." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Dolatyar, Mostafa, & Tim Gray. 2000. *Water Politics in the Middle East: A Context for Conflict or Cooperation?* New York: St. Martin's Press.

Dresse, Anaïs, Itay Fischhendler, Jonas Nielsen Østergaard, & Dimitrios Zikos. 2019. ''Environmental Peacebuilding: Towards a Theoretical Framework.'' *Cooperation and Conflict* 54(1): 99–119. doi: 10.1177/0010836718808331

Dumas, Juan. 2016. "Preventing Violence over Natural Resources: The Early Action Fund in South America." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Epremian, Levon, Päivi Lujala, & Carl Bruch. 2016. "High-Value Natural Resources Revenues and Transparency: Accounting for Revenues and Peace." In *Oxford Research Encyclopedia of Politics.* Oxford University Press.

EvalCommunity. 2023. "Comprehensive Guide to Developing a Robust Monitoring and Evaluation Plan in 13 Steps." https://www.evalcommunity.com/career-center/steps-to-develop-the-monitoring-and-evaluation-plan/

Everyday Peace Indicators. n.d. "Categories for Everyday Indicators–Afghanistan." https://www.everydaypeaceindicators.org/_files/ugd/d853ef_5c211576eb014d20bf7b-49cafc508306.pdf

Everyday Peace Indicators. 2019. "Codebook for Everyday Reconciliation Indicators–Sri Lanka." https://www.everydaypeaceindicators.org/_files/ugd/d853ef_607f3de5e-1f248d3a45e6f9d0a20ec48.pdf

FAO & Interpeace. 2020. *Pathways to Sustaining Peace at the Food and Agriculture Organization of the United Nations (FAO)*. https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/fao_-_peacebuilding_and_sustaining_peace_thematic_paper_1.pdf

Fletcher, Gillian. 2015. "Addressing Gender in Impact Evaluation. What Should be Considered?" Methods Lab. https://cdn.odi.org/media/documents/9934.pdf

Garbino, Henrique Siniciato Terra. 2015. "Quick Impact Projects: The Experience of MINUSTAH's Military Component." In *CCOPAB and Peace Operations: Perspectives, Reflections and Lessons Learned*, 83-111.

Garrett, Nicholas. 2016. "Taming the Predatory Elites in the Democratic Republic of the Congo: Regulation of Property Rights to Adjust Incentives and Improve Economic Performance in the Mining Sector." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Gaston, Erica, & Oliver Brown, with Nawdwa al-Dawasari, Cristal Downing, Adam Day, & Raphael Bodewig. 2023. *Climate Security and Peacebuilding: Thematic Review.* United Nations University Centre for Policy Research. https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/documents/climate_security_tr_web_final_april10.pdf

GEF IEO (Global Environment Facility Independent Evaluation Office). 2020. *Evaluation of GEF Support in Fragile and Conflict-Affected Situations.* GEF/E/C.59/01.

Gehring, Thomas. 1996. "Integrating Integration Theory: Neo-Functionalism and International Regimes." *Global Society* 10(3): 225-253.

Ginty, Roger Mac. 2012. "Routine Peace: Technocracy and Peacebuilding." *Cooperation and Conflict* 47(3): 287-308.

Gizelis, Theodora-Ismene. 2009. "Gender Empowerment and United Nations Peacebuilding." *Journal of Peace Research* 46(4): 505-523. https://www.jstor.org/stable/25654433

Glennerster, Rachel, Claire Walsh, & Lucia Diaz-Martin. 2018. *A Practical Guide to Measuring Women's and Girl's Empowerment in Impact Evaluations*. J-PAL. https://www.povertyactionlab.org/sites/default/files/research-resources/practical-guide-to-measuring-womens-and-girls-empowerment-in-impact-evaluations.pdf

Global Affairs Canada. n.d. Conflict Sensitivity Tip Sheet. https://www.international.gc.ca/world-monde/funding-financement/conflict_sensitivity-sensibilite_conflits.aspx?lang=eng

Glouberman, Sholom, & Brenda Zimmerman. 2002. "Complicated and Complex Systems: What Would Successful Reform of Medicare Look Like?" Discussion Paper No. 8. Commission on the Future of Health Care in Canada.

Goldwyn, Rachel, & Diana Chigas. 2013. "Monitoring and Evaluating Conflict Sensitivity: Methodological Challenges and Practical Solutions." A Conflict, Crime, and Violence Results Initiative (CCVRI) product. London, UK: Care International UK, CDA Collaborative Learning Projects, and DFID.

Goodman, Sherri, & Pauline Baudu. 2023. "Climate Change as a 'Threat Multiplier': History, Uses and Future of the Concept." Briefer No. 38. Center for Climate & Security. https://councilonstrategicrisks.org/wp-content/uploads/2023/01/38-CC-ThreatMultiplier.pdf

Grant, J. Andrew. 2012. "The Kimberley Process at Ten: Reflections on a Decade of Efforts to End the Trade in Conflict Diamonds." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Green, Arthur. 2013. "Title Wave: Land Tenure and Peacebuilding in Aceh." In *Land and Post-Conflict Peacebuilding*, ed. Jon Unruh & Rhodri Williams. London: Routledge.

Haas, Ernst B. 2008. *Beyond the Nation State: Functionalism and International Organization*. ECPR Press.

Hammill, Anne, Alec Crawford, Robert Craig, Robert Malpas, & Richard Matthew. 2009. *Conflict-Sensitive Conservation: Practitioners' Manual*. International Institute for Sustainable Development. http://www.iisd.org/library/conflict-sensitive-conservation-practitioners-manual

Harwell, Emily E. 2016. "Building Momentum and Constituencies for Peace: The Role of Natural Resources in Transitional Justice and Peacebuilding." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Hartwell, Ash, Kayla Boisvert, Jenn Flemming, and Julia Novrita. 2016. *Adaptive Management Annotated Bibliography.* https://scholarworks.umass.edu/cie_eccn/7/

Hassnain, Hur, Lauren Kelly, & Simona Somma (eds.). 2021. *Evaluation in Contexts of Fragility, Conflict, and Violence: Guidance from Global Evaluation Practitioners.* IDEAS. https://ideas-global.org/wp-content/uploads/2021/06/EvalFCV-Guide-web-A4-HR.pdf

Haufler, Virginia. 2009. "The Kimberley Process Certification Scheme: An Innovation in Global Governance and Conflict Prevention." *Journal of Business Ethics* 89:403-416.

Hayes, Karen, & Rachel Perks. 2012. "Women in the Artisanal and Small-Scale Mining Sector in the Democratic Republic of the Congo." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Hogarth, Tim. 2018. "Complex vs Complicated: Which Problem Are You Solving? (Part 1)." Medium. February 25. https://medium.com/td-lab/complex-vs-complicated-which-problem-are-you-solving-211a55ca9251

Holling, C. 1978. *Adaptive Environmental Assessment and Management.* Chichester: John Wiley.

Huda, Mirza Sadaqat. 2021. "An Ecological Response to Ethno-nationalistic Populism: Grassroots Environmental Peacebuilding in South Asia." *International Affairs* 97(1): 119-138.

Hume, Liz. 2018. "Unexceptional: Assessing Conflict Trends and Peacebuilding Opportunities in the United States." *Journal of Peacebuilding and Development* 13(3): 101-107.

Hunt, Charles T. 2016. "Avoiding Perplexity: Complexity-Oriented Monitoring and Evaluation for UN Peace Operations." In *Complexity Thinking for Peacebuilding Practice and Evaluation*, ed. E. Brusset et al. London: Palgrave Macmillan.

Ide, Tobias. 2017. "Space, Discourse and Environmental Peacebuilding." *Third World Quarterly* 38(3): 544-562.

Ide, Tobias, Carl Bruch, Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Richard Matthew, & Erika Weinthal. 2021. "The Past and Future(s) of Environmental Peacebuilding." *International Affairs* 97(1): 1-16.

INTRAC. 2020. "Participatory M&E." https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Participatory-ME.pdf

IUCN (International Union for the Conservation of Nature). 2020. *Women Environmental Human Rights Defenders: Facing Gender-Based Violence in Defense of Land, Natural Resources and Human Rights.* Gland, Switzerland: IUCN.

Jaramillo Castro, Lorena, & Adrienne Stork. 2015. "Linking to Peace: Using BioTrade for Biodiversity Conservation and Peacebuilding in Colombia." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding,* ed. Helen Young & Lisa Goldman. London: Routledge.

Jensen, David, & Amanda Kron. 2018. "Environmental Peacebuilding and the United Nations." In *Routledge Handbook of Environmental Conflict and Peacebuilding,* ed. Ashok Swain & Joakim Öjendal. London: Routledge.

Jensen, David, & Steve Lonergan (eds.). 2012. *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding.* London: Routledge.

Johnson, McKenzie F. 2022. "Local Engagement in Environmental Peacebuilding: Protected Area Development as a Pathway to Peace in Afghanistan." *Development in Practice* 32(6): 755-767.

Karuru, Njeri, & Louise Yeung. 2016. "Integrating Gender into Post-Conflict Natural Resource Management." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Kaufman, Roger, Hugh Oakley-Brown, Ryan Watkins, & Doug Leigh. 2003. *Strategic Planning for Success: Aligning People, Performance, and Payoffs.* John Wiley & Sons.

Kelman, Ilan. 2012. *Disaster Diplomacy: How Disasters Affect Peace and Conflict.* London: Routledge.

Kievelitz, Uwe, Thomas Schaef, Manuela Leonhardt, Herwig Hahn, & Sonja Vorwerk. 2004. *Practical Guide to Multilateral Needs Assessments in Post-Conflict Situations.* UNDG, UNDP, and The World Bank Group.

Kingma, Kees. 1997. "Post-war Demobilization and the Re-integration of Ex-combatants into Civilian Life." After the War is Over What Comes Next: Promoting Democracy, Human Rights, and Reintegration in Post-Conflict Societies, Conference. Washington, DC: USAID, Centre for Development Information Evaluation.

Klein, Emily S., & Ruth H. Thurstan. 2016. "Acknowledging Long-Term Ecological Change: The Problem of Shifting Baselines." In Kathleen Schwerdtner Máñez, K. & Bo Poulsen (eds.), *Perspectives on Oceans Past,* pp. 11-29. Dordrecht: Springer. https://doi.org/10.1007/978-94-017-7496-3_2

Kovach, Tim, & Ken Conca. 2016. "Environmental Priorities in Post-Conflict Recovery: Efficacy of the Needs-Assessment Process." *Journal of Peacebuilding and Development* 11(2): 4-24.

Krause, J., (2021). "The Ethics of Ethnographic Methods in Conflict Zones. *Journal of Peace Research, 58*(3). 329-341. https://doi.org/10.1177/0022343320971021

Leather, Simon R., & Donald J.L. Quicke. 2009. "Do Shifting Baselines in Natural History Knowledge Threaten the Environment?" *The Environmentalist* 30:1-2.

Le Billion, Philippe. 2001. "The Political Ecology of War: Natural Resources and Armed Conflicts." *Political Geography* 20(5): 561-584.

Le Billon, Philippe. 2012a. "Bankrupting Peace Spoilers: Can Peacekeepers Curtail Belligerents' Access to Resource Revenues?" In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

------. 2012b. "Contract Renegotiation and Asset Recovery in Post-Conflict Settings." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Lee, Kai. N. 2001. "Appraising Adaptive Management." In *Biological Diversity: Balancing Interests through Adaptive Collaborative Management*, ed. Louise E. Buck, Charles C. Geisler, John Schelhas, and Eva Wollenberg (CRC Press).

Legro, Jeffrey W. 2000. "The Transformation of Policy Ideas." *American Journal of Political Science* 44(3): 419-432.

Long, David, & Lucian M. Ashworth. 1999. "Working for Peace: The Functional Approach, Functionalism and Beyond." In *New Perspectives on International Functionalism*, ed. Lucian M. Ashworth & David Long. London: Palgrave Macmillan, 1-26.

Lorenz, Edward. 2000. "The Butterfly Effect." In *The Chaos Avant-garde: Memories of the Early Days of Chaos Theory,*" ed. Ralph Abraham & Yoshisuke Ueda (World Scientific), 91-94.

LPI (Life & Peace Institute) & UNDP (United Nations Development Programme). 2023. *Mapping of Climate Security Adaptations at Community Level in the Horn of Africa.* https://reliefweb.int/report/kenya/mapping-climate-security-adaptations-community-level-horn-africa

Lujala, Päivi, & Siri Aas Rustad (eds.). 2012. *High-Value Natural Resources and Post-Conflict Peacebuilding.* London: Routledge.

Machonachie, Roy. 2012. "The Diamond Area Community Development Fund: Micropolitics and Community-Led Development in Post-War Sierra Leone." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Mähler, Annegret, Miriam Shabafrouz, & Georg Strüver. 2011. "Conflict Prevention through Natural Resource Management? A Comparative Study." German Institute for Global and Area Studies.

McCandless, Erin. 2012. *Peace Dividends and Beyond: Contributions of Administrative and Social Services to Peacebuilding.* United Nations Peacebuilding Support Office.

McCarthy, Michael A., & Hugh P. Possingham. 2007. "Active Adaptive Management for Conservation." *Conservation Biology* 21(4): 956-963.

McIlroy, Damian, Seán Brennan, & John Barry. 2022. "Just Transition: A Conflict Transformation Approach." In *Handbook of Critical Environmental Politics*, ed. Luigi Pellizzoni, Emanuele Leonardi, & Viviana Asara. Edward Elgar, 416-430.

Mehyar, Munqueth, Nader Al Khateeb, Gidon Bromberg, & Elizabeth Koch-Ya'ari. 2014. "Transboundary Cooperation in the Lower Jordan River Basin." In *Water and Post-Conflict Peacebuilding*, ed. Erika Weinthal, Jessica Troell, & Mikiyasu Nakayama. London: Routledge.

Meijer, Karen, Emilie Broek, Nella Canales, & Biljana Macura. 2023. "Three Steps to Including Conflict Considerations in the Design of Climate Change Adaptation Projects." Stockholm: SIPRI. https://www.sipri.org/publications/2023/partner-publications/three-steps-including-conflict-considerations-design-climate-change-adaptation-projects

Mitchell, Harrison. 2012. "A More Formal Engagement: A Constructive Critique of Certification as a Means of Preventing Conflict and Building Peace." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Morales Muñoz, Héctor, Leigh Martens, Katharina Löhr, Michelle Bonatti, Julian Chara, Lisset Perez, Stefan Sieber, & Augusto Castro-Nunez. 2023. "Integrating Climate Mitigation and Environmental Peacebuilding Strategies through Sustainable Land Use Systems: Theory of Change and Indicators." *PLOS Climate* 2(5): e0000075. https://doi.org/10.1371/journal.pclm.0000075

Morris, Sharon, & Jessica Baumgardner-Zuzik. 2018. *Guiding Steps for Peacebuilding Design, Monitoring & Evaluation.* Washington, DC: Alliance for Peacebuilding.

Myrttinen, Henri. 2016. "Women's Participation in Peace Processes. International Alert." In *State of Civil Society Report 2016.* https://www.civicus.org/documents/reports-and-publications/SOCS/2016/Womens-participation-in-peace-processes.pdf

Narayan, Deepa. 1995. *The Contribution of People's Participation: Evidence from 121 Rural Water Supply Projects.* Washington, DC: World Bank.

Nichols, Sandra S., & Mishkat Al Moumin. 2016. "The Role of Natural Resources in Post-Conflict Peacebuilding." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

OECD (Organisation for Economic Co-operation and Development). 2009. *Preventing Violence, War and State Collapse: The Future of Conflict Early Warning and Response.* https://www.oecd-ilibrary.org/development/preventing-violence-war-and-state-collapse_9789264059818-en

OECD DAC (Organisation for Economic Co-operation and Development Development Assistance Committee). 2007. *Encouraging Effective Evaluation of Conflict Prevention and Peacebuilding Activities: Towards DAC Guidance.* DCD(2007)3. Paris: OECD.

OECD DAC (Organisation for Economic Co-operation and Development Development Assistance Committee). 2012. *Evaluating Peacebuilding Activities in Settings of Conflict and Fragility: Improving Learning for Results.* DAC Guidelines and References Series. Paris: OECD Publishing.

Omidyar Group. 2014. *Systems Practice.* http://social-labs.org/wp-content/uploads/2014/12/Systems-Mapping-Omidyar-Workbook-012617.pdf

Paffenholz, Thania. 2005. *Third-Generation PCIA: Introducing the Aid for Peace Approach.* Berghof Research Center for Constructive Conflict Management. https://www.berghof-foundation.org/fileadmin/redaktion/Publications/Handbook/Dialogue_Chapters/dialogue4_paffenholz.pdf

Paterson, Ted, Barry Pound, & Abdul Qudous Ziaee. 2013. "Landmines and Livelihoods in Afghanistan: Evaluating the Benefits of Mine Action." *Journal of Peacebuilding & Development* 8(2): 73-90.

Patton, Michael Quinn. 2011. *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use.* New York: The Guildford Press.

Patton, Michael Quinn. 2008. "Evaluating the Complex: Getting to Maybe." Presentation at Oslo, Norway, May 29. https://slideplayer.com/slide/14138399/

Payne, Cymie R. 2016. "Legal Liability for Environmental Damage: The United Nations Compensation Commission and the 1990-1992 Gulf War." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Peters, Katie, Kerry Holloway, & Laura E.R. Peters. 2019. *Disaster Risk Reduction in Conflict Contexts: The State of the Evidence.* London: ODI, GIZ and Federal Ministry for Economic Cooperation and Development. https://cdn.odi.org/media/documents/12691.pdf

Pettigrew, Thomas F., & Linda R. Tropp. 2006. "A Meta-Analytic Test of Intergroup Contact Theory." *Journal of Personality and Social Psychology* 90(5): 751-783.

Pritchard, Matthew. 2015. "From Soldiers to Park Rangers: Post-Conflict Natural Resource Management in Gorongosa National Park." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding*, ed. Helen Young & Lisa Goldman. London: Routledge.

Rathinam, F., P. Cardoz, Z. Siddiqui, & and M. Gaarder.. 2019. "Transparency and Accountability in the Extractive Sector: A Synthesis of What Works and What Does Not." 3ie Working Paper 33. New Delhi: International Initiative for Impact Evaluation.

Rich, Eddie, & Negbalee T. Warner. 2012. "Addressing the Roots of Liberia's Conflict through the Extractive Industries Transparency Initiative." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Rochow, K.W. James. 2016. "Concession Reviews: Liberian Experience and Prospects for Effective Internationalized Solutions." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Rogers, Patricia J. 2008. "Using Programme Theory to Evaluate Complicated and Complex Aspects of Interventions." *Evaluation* 14(1): 29–48.

Rohwedder, Brigitte. 2015. "Conflict Early Warning and Early Response - GSDRC," June 2. https://gsdrc.org/wp-content/uploads/2015/02/1195_-Conflict-early-warning-and-early-response.pdf

Rosamond, Ben. 2000. *Theories of European integration.* New York: St. Martin's Press.

Ross, Michael L., Päivi Lujala, & Siri Aas Rustad. 2012. "Horizontal Inequality, Decentralizing the Distribution of Natural Resource Revenues, and Peace." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Saferworld. 2015. *Gender Analysis of Conflict Toolkit.* https://www.saferworld.org.uk/resources/publications/1076-gender-analysis-of-conflict

Saferworld, International Alert, APFO, CECORE, CHA, & FEWER. 2004. *Conflict-Sensitive Approaches to Development, Humanitarian Assistance, and Peacebuilding: A Resource Pack.* http://www.international-alert.org/publications/conflict-sensitive-approaches-development-humanitarian-assistance-and-peacebuilding

Sandbu, Martin E. 2012. "Direct Distribution of Natural Resource Revenues as a Policy for Peacebuilding." In *High-Value Natural Resources and Post-Conflict Peacebuilding,* ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Schilling, Janpeter, Sarah Louise Nash, Tobias Ide, Jürgen Scheffran, Rebecca Froese, & Pina von Prondzinski. 2017. "Resilience and Environmental Security: Towards Joint Application in Peacebuilding." *Global, Change Peace & Security* 29(2): 107-127.

Shimoyachi-Yuzawa, Nao. 2011. "Linking Demining to Post-Conflict Peacebuilding: A Case Study of Cambodia." In *Harnessing Natural Resources for Peacebuilding: Lessons from U.S. and Japanese Assistance,* ed. Carl Bruch, Mikiyasu Nakayama, & Ilona Coyle. Washington, DC: Environmental Law Institute, 199-215.

Simister, Nigel. 2009. "Overview of Complex M&E Systems." International NGO Training and Research Centre. https://www.intrac.org/wpcms/wp-content/uploads/2019/09/Overview-of-complex-ME-systems.pdf

Slavchevska, Vanya, Cheryl R. Doss, Ana Paula de la O Campos, & Chiara Brunelli. 2020. "Beyond Ownership: Women's and Men's Land Rights in Sub-Saharan Africa." *Oxford Development Studies* 49(1): 2-22.

Spiel, Katta, Oliver Hamison, & Daniella Lottridge. 2019. "How to Do Better with Gender on Surveys: A Guide for HCI Researchers—*Interactions.*" https://interactions.acm.org/archive/view/july-august-2019/how-to-do-better-with-gender-on-surveys

STAP (Scientific and Technical Panel of the Global Environment Facility). 2017. *Strengthening Monitoring and Evaluation of Climate Change Adaptation.* Washington, DC: Global Environment Facility.

Stein, Tracy, Carl Bruch, & Jordan Dieni. 2023. "Characterizing and Preventing the Green Resource Curse." *Environmental Law Reporter* 53(3): 10212-10238.

Stone, Laurel. (2014). "Women Transforming Conflict: A Quantitative Analysis of Female Peacemaking." SSRN. http://dx.doi.org/10.2139/ssrn.2485242

Stork, Adrienne, Cassidy Travis, & Silja Halle. 2015. "Gender-Sensitivity in Natural Resource Management in Côte d'Ivoire and Sudan." *Peace Review* 27(2): 147-155. 10.1080/10402659.2015.1037617

Strohmeier, Hannah, & Willem F. Scholte. 2015. "Trauma-Related Mental Health Problems among National Humanitarian Staff: A Systematic Review of the Literature." *European Journal of Psychotraumatology* 6(1), https://doi.org/10.3402/ejpt.v6.28541

Swain, Ashok. 2015. "Climate Change: Threat to National Security." *Encyclopedia of Public Administration and Public Policy* (3rd ed.). Taylor & Francis.

Tänzler, Dennis, Lukas Rüttinger, & Nikolas Scherer. 2018. "Building Resilience by Linking Climate Change Adaptation, Peacebuilding and Conflict Prevention." Policy Brief. Planetary Security Initiative and adelphi. https://www.planetarysecurityinitiative.org/sites/default/files/2018-03/PSI_PB_Building_resilience_0.pdf

Theidon, K. 2014. *"How Was Your Trip?" Self-Care for Researchers Working and Writing on Violence.* Social Science Research Council. https://kimberlytheidon.files.wordpress.com/2014/04/dsd_researchsecurity_02_theidon.pdf

Therivel, Riki, Elizabeth Wilson, Stewart Thompson, Donna Heany, & David Pritchard. 2013. *Strategic Environmental Assessment.* Earthscan.

Thuy, L., M. Miletto, & V. Pangare. 2019. *Methodology for the Collection of Sex-Disaggregated Water Data.* UNESCO.

tools4dev. 2022. "Monitoring and evaluation (M&E) Plan Template." https://tools4dev.org/resources/monitoring-evaluation-plan-template/

UN (United Nations). 2017. Guidelines: Quick Impact Projects. Ref. 2017.17. New York: DPKO/DFS.

UN (United Nations). 2013. Policy: Quick Impact Projects (QIPs). Ref. 2012.21. New York: DPKO/DFS.

UN CSM (United Nations Climate Security Mechanism). 2020. *"Climate Security Mechanism Toolbox - Conceptual Approach".* https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/disaster-risk-reduction/climate-security-mechanism

UNDG (United Nations Development Group). 2017. *Conducting a Conflict and Development Analysis.* https://unsdg.un.org/sites/default/files/UNDP_CDA-Report_v1.3-final-opt-low.pdf

UNDP (United Nations Development Programme). 2009. *Community Security and Social Cohesion: Toward a UNDP Approach.* New York: Bureau for Crisis Prevention and Recovery. https://www.yumpu.com/en/document/read/27535648/community-security-and-social-cohesion-united-nations-

UNEP (United Nations Environment Programme). 2009. *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.* Nairobi: UNEP. https://wedocs.unep.org/handle/20.500.11822/7867

UNEP (United Nations Environment Programme). 2019. *Environmental Rule of Law: First Global* Report. Nairobi: UNEP. https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report

UNEP (United Nations Environment Programme) and UNDP (United Nations Development Programme). 2013. *The Role of Natural Resources in Disarmament, Demobilization and Reintegration: Addressing Risks and Seizing Opportunities.* Nairobi and New York: UNEP and UNDP. https://wedocs.unep.org/handle/20.500.11822/14218

UNEP (United Nations Environment Programme), United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), United Nations Peacebuilding Support Office (UN PBSO), and UNDP (United Nations Development Programme). 2013. *Women and Natural Resources: Unlocking the Peace Building Potential.* Nairobi and New York: UNEP, UN Women, UN PBSO, and UNDP. https://wedocs.unep.org/20.500.11822/8373

UNIFEM. 2010. *Women's Participation in Peace Negotiations: Connections between Presence and Influence.* http://peacemaker.un.org/sites/peacemaker.un.org/files/WomensParticipationInPeaceNegotiations_UNIFEM2010.pdf

Unruh, Jon, & Mourad Shalaby. 2012. "A Volatile Interaction between Peacebuilding Priorities: Road Infrastructure (Re)Construction and Land Rights in Afghanistan." *Progress in Development Studies* 12(1):47-61.

Unruh, Jon, & Rhodri Williams (eds.). 2013. *Land and Post-Conflict Peacebuilding.* London: Routledge.

UNSG (United Nations Secretary-General). 2009. Report of the Secretary-General on Peacebuilding in the Immediate Aftermath of Conflict. A/63/881–S/2009/304. June 11. New York. www.unrol.org/files/pbf_090611_sg.pdf

UNSG (United Nations Secretary-General). 2010. Progress Report of the Secretary-General on Peacebuilding in the Immediate Aftermath of Conflict. A/64/866–S/2010/386. July 16 (reissued on August 19 for technical reasons). New York.

UNSG (United Nations Secretary-General). 2012. Peacebuilding in the Aftermath of Conflict: Report of the Secretary-General. A/67/499–S/2012/746. October 8. New York.

USAID (United States Agency for International Development). 2012. *Conflict Assessment Framework.* Version 2.0. https://pdf.usaid.gov/pdf_docs/PNADY740.pdf

USAID (United States Agency for International Development). 2014. *Synchronizing Monitoring with the Pace of Change in Complexity.* ver. 1.0.

USAID (United States Agency for International Development). 2019. "Considerations for Using Data Responsibly at USAID."

USAID (United States Agency for International Development). 2020. "Implementation Tips for USAID Partners." Inclusive Development 13. https://www.ngoconnect.net/sites/default/files/2021-05/Inclusive%20Development%20-%2013%20-%20Inclusion%20in%20M%26E.pdf

USAID (United States Agency for International Development). 2021. *Discussion Note: Complexity-Aware Monitoring.*

USAID (United States Agency for International Development). 2022. *Adaptive Management Plan.* Feed the Future: Kenya Investment Mechanism. https://pdf.usaid.gov/pdf_docs/PA00ZSF3.pdf

Valters, Craig, Clare Cummings, & Hamish Nixon. 2016. *Putting Learning at the Centre: Adaptive Development Programming in Practice.* London: Overseas Development Institute.

Vester Haldrup, Søren. 2022. "Rethinking Monitoring and Evaluation in Complex Systems – When Learning Is a Result in Itself." Medium. May 20. https://medium.com/@undp.innovation/rethinking-monitoring-and-evaluation-in-complex-systems-when-learning-is-a-result-in-itself-3d1fc90d22fc

Vialle, Anne-Cécile, Carl Bruch, Reinhold Gallmetzer, & Akiva Fishman. 2016. "Peace through Justice: International Tribunals and Liability for Wartime Environmental Damage." In *Governance, Natural Resources, and Post-Conflict Peacebuilding*, ed. Carl Bruch, Carroll Muffett, & Sandra S. Nichols. London: Routledge.

Vivekananda, Janani, Janpeter S. Schilling, & Dan Smith. 2014. "Climate Resilience in Fragile and Conflict-Affected Societies: Concepts and Approaches." *Development in Practice* 24(4): 487-501.

Walters, C.J. 1986. *Adaptive Management of Renewable Resources.* New York: Macmillan.

Watkins, Ryan, Maurya West Meiers, & Yusra Laila Visser. 2012. *A Guide to Assessing Needs: Essential Tools for Collecting Information, Making Decisions, and Achieving Development Results.* The World Bank.

Weinthal, Erika, & McKenzie Johnson. 2018. "Post-War Environmental Peacebuilding: Navigating Renewable and Non-renewable Resources." *Routledge Handbook of Environmental Conflict and Peacebuilding.* Routledge, 85-96.

Weinthal, Erika, Jessica Troell, & Mikiyasu Nakayama (eds.). 2014. *Water and Post-Conflict Peacebuilding.* London: Routledge.

Wennmann, Achim. 2012. "Sharing Natural Resource Wealth during War-to-Peace Transitions." In *High-Value Natural Resources and Post-Conflict Peacebuilding*, ed. Päivi Lujala & Siri Aas Rustad. London: Routledge.

Williams, Byron K. 2011a. "Adaptive Management of Natural Resources—Framework and Issues." *Journal of Environmental Management* 92(5): 1346-1353.

William, Byron K. 2011b. "Passive and Adaptive Management: Approaches and an Example." *Journal of Environmental Management* 92(5): 1371-1378.

Wolf, Peter. 1973. "International Organization and Attitude Change: A Re–examination of the Functionalist Approach." *International Organization* 27(3): 347-371.

World Bank. 2023. "Social Cohesion and Resilience" Last updated April 7. https://www.worldbank.org/en/topic/social-cohesion-and-resilience#3

Young, Helen, & Lisa Goldman (eds.). 2015. *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding.* London: Routledge.

Zinn, Prentice. n.d. "Right-Sized Evaluation for Small Foundations." GMA Foundations. https://www.gmafoundations.com/evaluation-small-foundations/

Table of Contents

Monitoring is the ongoing and organized process of collecting, analyzing, and using information about an intervention's activities and effects, including unintended effects. It is used in the day-to-day management of an intervention to track progress against initial plans, for accountability, to guide activities and to make informed decisions, adjustments, and improvements.

This chapter will help you:

- Understand what monitoring is and the general processes that are involved.

- Be familiar with the various approaches to monitoring, including those that are particularly well suited to environmental peacebuilding interventions.

- Navigate monitoring challenges in environmental peacebuilding contexts.

- Think through what should be included in your own monitoring plan, including ways of ensuring the quality of monitoring information and how that information should be managed.
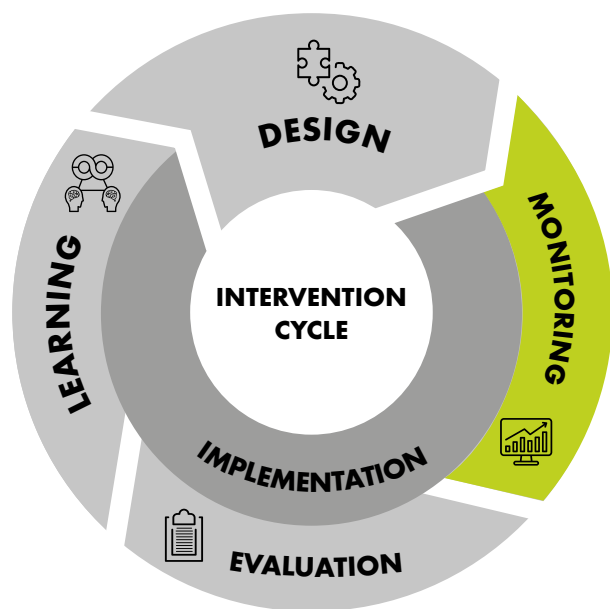
3.1. Introduction

Monitoring is the ongoing and organized process of collecting, analyzing, and using information about an intervention's activities and effects, including unintended effects.[1] This information is then used in the day-to-day management of an intervention to track progress against initial plans, share the information for accountability purposes, and use what is learned to guide activities and make informed decisions, adjustments, and improvements. Monitoring information can also function as an early warning system by providing the first indications that something might be wrong, either with the intervention or within the broader context. While there is often some overlap with evaluation, monitoring is continuous and often descriptive.[2]

Monitoring is generally composed of:

- Indicators and the methods for collecting information on them;

- Other types of data collection, such as documenting outcomes or changes in the context;[3] and

- Regular review of and reflection on the information collected.

There are a few **important concerns and risk**s related to monitoring in the environmental peacebuilding context. These include:

- I**nterventions may rely too heavily on quantitative indicators based on a predetermined and inflexible theory of change.** This can result in impractical, inadequate, or untimely monitoring information, thus limiting the effectiveness of the intervention and potentially risking harm to the environment, peace, and the organization's reputation.

- **Monitoring information may be difficult or impossible to collect** in insecure contexts. Some indicators or methods for collecting the related information may not be feasible for environmental peacebuilding interventions, and it may be necessary to develop proxy indicators or other ways of collecting monitoring information that limit the potential for harm.

1. See, for example, Nanthikesan & Uitto (2012).
2. For more information on the basics of monitoring, including contrasts with evaluation, see the Primer on Monitoring and Evaluation of Environmental Peacebuilding.

3. In discussing the relationships between climate change and conflict, researchers have pointed out that the connections are often weak and/or heavily mediated by political, economic, and social factors. It is therefore important to ensure that you are monitoring the context beyond the environment and the conflict manifestations (Hendrix et al. 2023).

- **Prioritizing certain kinds of information over others may provide a limited picture of the context and an intervention's effects.** For example, it is important to be mindful of marginalized or excluded groups which require more effort to reach. Additionally, certain sub-groups or populations may have very different perspectives on environmental or conflict issues. Finally, there are often disparate ways of thinking about environmental and conflict-related issues, and the connections between them are not always obvious.

3.2. Approaches to Monitoring Environmental Peacebuilding

The core approaches to monitoring environmental peacebuilding interventions are participatory and inclusive, structured to support early warnings and interventions, supportive of adaptive management, conflict-sensitive, and addressing gender. These are considered in turn. In addition, there are certain monitoring considerations that are especially relevant for the field of environmental peacebuilding, including leading indicators[4] and monitoring for unintended effects or outcomes.[5]

A. Participatory and Inclusive Monitoring

Participatory monitoring builds on the integrated assessment approach, which was popularized in the 1990s (Whitfield, Geist, & Ioris 2011). **This approach brings together as many stakeholders as possible, rather than relying exclusively on one type of expert (e.g., technical) in data collection, analysis, reflection, and decision making.** Participatory monitoring is crucial as it allows interventions to incorporate a multitude of perspectives, expertise, understanding, values, and disciplines. This, in turn, allows for a more complete picture of the intervention and the context in which it operates.

Undertaking monitoring in a participatory way is especially important—and complicated—in environmental peacebuilding contexts. If done well and in a conflict- and context-sensitive way, participatory monitoring can improve trust and relationships with and between stakeholders, ultimately contributing to environmental peacebuilding objectives (this is an example of **monitoring and evaluation (M&E) as intervention**). Broad stakeholder involvement also allows practitioners to understand the complexity of environmental peacebuilding contexts better while staying informed of what can be a dynamic situation (see Box 3.1).

INCLUSION / PARTICIPATION

---

4. See Primer.
5. See Section 3.3(E).

Participatory monitoring can be difficult, though, when the stakeholders do not trust one another, the government, or outside interventions. Moreover, a legacy of conflict often translates to a readiness to resort to violence quickly. As important as participatory and inclusive monitoring is, it can also be challenging.

To engage in participatory monitoring, the practitioner must determine who the key stakeholders are.[6] Common stakeholders include people who live in the area where an intervention will be implemented, local government authorities for the area where the intervention will be applied, those who will be impacted by the intervention but live outside the intervention area (for example, an intervention in Region A that targets grain production may impact cattle farmers in Region B who rely on grain from Region A for their cattle), community leaders, partner organizations, and funders. When considering the stakeholders, it is also important to keep in mind gender, ethnicity, religion, and age, as well as other factors that are often associated with marginalization.

When developing a participatory monitoring process, you should consider the following:

- What stakeholder groups are relevant to your intervention? Who might you be missing due to marginalization?

- What are their interests, needs, and values?

- What are their incentives to engage with the intervention?

- What incentives do they have to turn against the intervention?

- What are their relationships with other stakeholder groups?

- What strengths might they bring to the monitoring process?

- What monitoring information do they care about? How might they like to participate in data collection, analysis, and decision-making?

This is a good time to refer to and further develop your personas. Once you have thought through your stakeholder groups, you will need to develop a plan for involving them in information collection, analysis, and use. This might include involving stakeholders in the data collection process, validating or reviewing the collected data, or analyzing the monitoring information and identifying key themes or decisions to be taken based on that information.

---

6. See Design for the Persona Tool.

Box 3.1: Participatory Monitoring for Desertification

Desertification is a "classic example of a complex socio-ecological issue" (Whitfield, Geist, & Ioris 2011, p. 465). Addressing desertification through a participatory monitoring approach can promote an exchange of knowledge and build shared values.

In this context, one of the greatest challenges is "the amount and diversity of information that is required in order to identify thresholds and understand the interaction between the multiple drivers that push and pull the system" (468). Participatory monitoring can help identify and understand conflicting values and interests by ensuring that less powerful stakeholders are engaged. Participatory monitoring includes stakeholders during the identification of crucial socio-ecological processes and critically when determining thresholds and describing the dynamics of the system. This approach enables a practitioner to integrate multiple scales—both temporally and geographically—of monitoring and analysis.

In a non-participatory approach, a practitioner might do an assessment of the situation, generate a description of the problem, formulate policy recommendations to solve the previously identified issues, and use technical monitoring to assess the program according to the framework the practitioner built. However, in this scenario in which a single perspective is used, it is likely that the practitioner may miss key aspects of the situation or important opportunities to solve the problem. In contrast, participatory monitoring includes key stakeholders at every step of the process, meaning that *what is* monitored, what *should be* monitored, and *how* to best monitor it will all be determined with stakeholder input.

B. Monitoring for Early Warning

In volatile contexts such as those within which environmental peacebuilding often takes place, conflicts can escalate quickly and have serious effects for interventions and their stakeholders. **Monitoring information is essential as part of an early warning system.** Using monitoring information to better understand the context and how it is changing helps those implementing the intervention and its stakeholders to (1) ensure the intervention is doing no harm, (2) anticipate changes to the context that can affect the intervention's ability to achieve its objectives, and (3) limit the harm to intervention staff and stakeholders in the case that the conflict context deteriorates.

Early warning comprises "the systematic collection and analysis of information coming from areas of crises for the purpose of: a) anticipating the escalation of violent conflict; b) the development of strategic responses to these crises; and c) the presentation of options to critical actors for the purposes of decision-making" (FEWER 1997, p. 1). When considering what information to collect for early warning, think broadly and beyond the intervention itself. Potential options include:

- Changes related to societal processes, particularly those related to power relations and inequalities.

- Information on the management or distribution of key resources, including land, and associated policies such as land reform and rural development (Löhr et al. 2022).

- The movement of people, including refugees, internally displaced persons (IDPs), and militia or military groups.

- Changes or predicted changes in the environment or weather, such as changes in forest cover, drought, intense heat or cold, or other extreme weather events.

- Changes in rhetoric and narrative, for example, a sudden increase in posts on social media relating directly or indirectly to the intervention or conflict.

When determining where to get this information, you can consider official sources such as government or UN reports as well as social media, local knowledge, and informal connections. Remember: in environmental peacebuilding, it is just as important to monitor the context as your intervention.

Box 3.2: Foundation for Co-Existence Citizen-Based Conflict Early Monitoring System

Following the 2002 ceasefire agreement ending a thirty-year civil war in Sri Lanka, the Foundation for Co-Existence (FCE) created a citizen-based conflict early warning system (Rupesinghe 2009).

This early warning and early response system is an example of a third-generation early warning system. First-generation systems (including monitoring) are entirely located outside the conflict region. Second-generation systems have monitoring in the conflict region, but analysis and decision-making outside the region. Third-generation systems are located entirely within the conflict region. As such, they include more local staff and localized decision-making; they are also better at integrating early response (Rupesinghe 2009).

As a third-generation early warning system, the FCE system engaged local people to monitor, analyze, identify early warning signs, and respond. Using local expertise enabled FCE to quickly navigate a rapidly changing conflict—in contrast to first - and second-generation systems, where written reports generated at a distance rapidly become outdated.

In theory, early warning informs response measures to prevent escalation to violence; this proves to be more difficult in practice (Rohwerder 2015; Arnado 2012). In large part, this is due to the difficulties in convincing decisionmakers to act upon early warning information (Haider 2014). It is recommended that response plans be integrated into the early warning system, and that preventive interventions focus on addressing the underlying grievances. Surveying the literature—especially the gray literature—Rohwerder (2015, p. 2) observed that:

> Effective conflict early warning and early response programmes have had: i) accurate, consistent and timely information, from a wide range of sources; ii) the ability to effectively monitor the changing conflict dynamics on multiple different levels; iii) a good understanding of the local context and long-term trends; iv) participation and ownership by a range of actors across the country; v) involvement of local actors with good local knowledge leading to timely, sensitive and adequate responses to incidents, which built trust and confidence among actors involved at different levels; vi) social cohesion at the community level and a will for peace on the part of the people involved; vii) early warning linked to networks and mechanisms ready to design tailor-made response actions; and viii) flexible systems to fulfil ongoing activities and respond to emergency issues.

In short, **effective conflict early warning and early response programs are participatory and inclusive, adaptive, integrated, and supported by good monitoring.**

Early warning relies on both a rapid flow of information and a willingness to act (see Box 3.2). In East Africa, the Inter-Government Authority on Development (IGAD) created a Conflict Early Warning and Response Mechanism to cover two areas that experience frequent conflict: the Karamoja Cluster (Ethiopia, Kenya, Sudan, and Uganda) and the Somali Cluster (Ethiopia, Kenya, and Somalia) (Rohwerder 2015, p. 9). The mechanism engaged both official and non-state representatives at the local and national levels in responding to early warnings. In 2007, IGAD's mechanism learned that Pokot warriors from Kenya planned to attack the Bukwo Barracks where the Ugandan forces held their cattle. The Kenyan monitor then contacted the relevant counterpart in Uganda, who in turn alerted the and local authorities in its side. Further communications were able to warn the Pokot not to cross the border, preventing conflict.

C. Monitoring for Adaptive Management

Even if an intervention is fortunate enough to avoid flare-ups that trigger early warning mechanisms, **there is a good chance that interventions in fragile or conflict-affected settings—indeed in most contexts where environmental peacebuilding projects are undertaken—will need to adapt during implementation.** Various aspects of the context evolve, knowledge of the context changes and grows, and interventions experiment with new activities and approaches. In these cases, it is essential that those implementing environmental peacebuilding interventions know whether and when it is necessary to adapt that intervention, and how. Monitoring plays an important role in this adaptive management process.[7]

When designing and implementing a monitoring system to support adaptative management, keep in mind the following:

☐ **Are you regularly undertaking a process for reviewing, analyzing, and learning from the monitoring information you collect?** Ensure that the strategies you included in your monitoring plan to use monitoring information and modify activities remain feasible and relevant, and adjust those strategies as necessary.

☐ **Is this process happening as frequently and quickly as is necessary for the context?** Environmental peacebuilding requires timely information and decisions for effective adaptive management. If your process is overly burdensome or takes a long time, you may consider other strategies, such as delegating more power to on the ground stakeholders (Desai et al. 2018).

☐ **Are you involving the right stakeholders in these processes?** Remember, the inclusion or exclusion of certain stakeholder groups can affect both your decisions and how they are received; it can also, thereby, affect the trajectory of your intervention as different stakeholders will have different perspectives on what the information means. Who you involve and how should reflect a consideration of power and conflict dynamics, and thus be conflict-sensitive (see below).

☐ **Do you have sufficient monitoring information to make informed decisions and adjust course?** Have you been able to gather the information you need, including on unintended consequences, or do you need to alter your monitoring plan?

☐ **Are you documenting decisions made and actions to take based on your monitoring information?** It is important to keep track of what was decided and what actions were needed based on your review and analysis, including the person(s) responsible and the timeline for action. This helps to ensure that monitoring information is actually used.

7. See Chapter 2 (Design).

D. Conflict-Sensitive Monitoring

Related to adaptive management, conflict sensitivity relies on "a sound understanding of the two-way interaction between activities and context and acting to minimize negative impacts and maximize positive impacts of [an] intervention on conflict, within an organization's given priorities/objectives" (Conflict Sensitivity Community Hub n.d.). As such, conflict sensitivity starts with understanding the context in which you operate, understanding how the context affects your intervention, and understanding how your intervention affects the context. With this information and a broad understanding of what conflict means and looks like, you can avoid doing harm or exacerbating existing conflicts and maximize the positive impacts of your work.

Conflict-sensitive monitoring undertakes information collection, analysis, reflection, and use in ways that align with the processes outlined above and that seek to reduce the risk of doing harm while maximizing positive impacts. Two specific strategies for conflict-sensitive monitoring include:

- **Understanding Different Types of Conflict and Violence:** Johan Galtung provides a useful typology of violence, distinguishing between latent and manifest violence, intended and accidental violence, physical and psychological violence, and personal and structural violence (Galtung 1969). To design a successful conflict-sensitive monitoring plan, you should consider the various conflicts in the area (including latent conflicts) as well as circumstances that might contribute to escalating or worsening the conflict, such as undertaking a data collection process that relies on a certain group of stakeholders that is viewed with suspicion by others or by bringing parties in conflict together to analyze information without proper facilitation.

- **Relying on Local Expertise:** Those living in the places where environmental peacebuilding takes places are experts on that area, and likely the conflict. By partnering with local people and relying on their expertise about the intervention and the context, you will develop a more nuanced understanding of the situation. This will allow you to discern more effectively what needs to be monitored and how to do it. As a result, you may avoid doing harm and increase the positive effects of your work.

These two strategies are often linked. Consider, for example, agriculture-pastoral conflicts that are common across the Sahel, as well as in other countries (Lind 2014; Alden Wiley 2014). Analysis of these conflicts highlights that a common conflict trigger is when pastoralists who are having trouble accessing water and pasturage cross tribal boundaries into a region where water and pasture is relatively abundant (Ayana et al. 2016). To be cognizant of these boundaries, a practitioner would need to work with locals to understand where traditional agricultural boundaries lie; this data may not be readily available from any other source.

E. Gender in Monitoring

There are various ways to take gender into account when monitoring environmental peacebuilding interventions. These include collecting **monitoring data on gender dynamics** and outcomes, disaggregating monitoring data by gender, ensuring gender-sensitivity in the methods used to collect monitoring data, and incorporating a gender lens in data analysis and reflection.

The first approach is to monitor how an intervention influences gender dynamics by tracking certain gender-related indicators or by asking intervention participants or stakeholders about issues relating to gender, gender equality, and gender equity during surveys, focus groups, or interviews. Examples of monitoring data to collect include (Miletto, Pangare, & Thuy 2019):

- The number of or degree to which environmental governance frameworks are gender sensitive, responsive, or transformative.

- Changes in the gender balance in leadership and staff.

- Gender balance in beneficiaries, participants, and those engaged/consulted.

- Changes in perceptions of safety or the prevalence of violence among different genders.

- Increase in the proportion of women participating in dialogue, peace processes, or changes to the quality of participation.

- How the intervention affects women's access to land, forests, water, fisheries, and other resources (e.g., through resource title, practical access, revenues gained, and food security).

Regardless of the specific monitoring data that is collected, **it is important to avoid relying too heavily on counting women; it is also essential to include questions about gendered perceptions and experiences** (Merkel 2021). For example, data on increased participation by different genders should be complemented with qualitative information on the nature and impacts of that participation. Another relevant and often overlooked strategy is to ask people of those genders what success or positive change would look like for them and then monitor for those aspects.[8]

A second approach to gender-sensitive monitoring is to **collect gender-disaggregated data.** This means collecting data on respondents' or participants' gender to better understand the different experiences or perceptions of a situation or intervention as well as how your intervention affects people of various genders differently. For example, women and men may have different relationships with natural resources, and transgender people often experience conflict in different ways than others. Keep in mind that conceptions of gender extend beyond the male-female binary. Allowing participants to self-identify their genders in surveys is one way to extend inclusion in the monitoring process (Spiel, Hamison, & Lottridge 2019).

---

8. For more information, see Chapter 2 (Design).

When collecting gender-disaggregated data, you may also **consider intersectionality.** While women and men have different experiences, opportunities, and impacts, women who are also ethnic minorities have different experiences than women of the predominant ethnic group. Similarly, women and girls may have different experiences. To understand intersectionality, it is also important to **collect data on ethnicity, age, and religion, among other demographic information.**

Gender should also be considered when developing the *process* for collecting monitoring data. Gender roles can influence what kinds of data collection are appropriate or safe. Reflect on the following:

- Are there some topics that are taboo or uncomfortable for people of certain genders to discuss? If so, can you gather data about those topics in unobtrusive ways, such as anonymous SMS surveys or through observation?

- Would men or women be more open to sharing information in same gender groups or individually? For example, women may be more open to sharing when among their peers, while men may feel more comfortable talking one-on-one.

- Are there any potential safety issues with the envisioned monitoring methods? For example, is it safe for women to travel to a certain location for a focus group discussion? Is it taboo for women to speak with men outside of their family? If so, it may be necessary to adjust who collects monitoring data and how it is done.

Finally, **a gender lens is important in the analysis of monitoring data** (House et al. 2023; Young, Lee-Smith, & Carey 2020). People of different genders may interpret monitoring data in different ways; what is successful or positive to one group may not be so to another. It is therefore important to allow space for gendered interpretations of monitoring data.

3.3. Data Collection

Monitoring is built on the collection of data in three primary categories:

1. **Based on a theory of change and its associated indicators:** As with other interventions, environmental peacebuilding monitoring should be grounded in the intervention's theory of change. This means collecting data about what the intervention does and how, as well as the effects of those actions. Starting with the theory of change also allows you to draw boundaries in your monitoring around a specific geographic area or stakeholder groups. **Monitoring is particularly important for key conversion or leverage points**; in many instances, these are the parts of a theory of change that are new, innovative, uncertain, or otherwise lacking in supporting evidence. This kind of monitoring is often done through qualitative and quantitative indicators aligned with the theory of change.

2. **The intervention context:** Environmental peacebuilding work takes place in complex and dynamic contexts. It is therefore also important to collect information on the broader context to understand what factors may be influencing the intervention. Keep in mind that this information may also be linked to the theory of change in the form of assumptions or risks.

3. **Unintended effects or consequences.** Again, because environmental peacebuilding work takes place in complex contexts, the possibility of an intervention contributing to unintended effects or consequences is high. This means that it is essential to build in a monitoring process that allows practitioners to capture those unintended effects as they arise.

This section explores the use of secondary (i.e., preexisting) data and primary data in monitoring. While secondary data may have the benefit of being free or reduced-cost, it often addresses only specific aspects (e.g., changes in the intervention context and broad changes in the environment).

A. Secondary or Preexisting Data

Before collecting primary data, or data that is collected by the intervention directly, **it is important to explore whether and to what extent relevant secondary (or preexisting) data is available.** Environmental peacebuilding interventions are often multifaceted and, as such, require the collection and analysis of a multitude of indicators. Using previously collected, publicly available, or otherwise accessible data can save practitioners time and resources, helping them to **focus their primary data collection on gaps or information related to specific theories of change.** Possible sources of preexisting data include: ministries, other organizations operating in the area, universities, and researchers. In addition, there are many databases that track environment, conflict, peace, and other dimensions that may be relevant to an environmental peacebuilding project; a table of potentially relevant resources can be found in Annex 3-I.

All data have limitations. Be sure to **understand the sampling strategy used or any possible biases of secondary data that may impact its validity and reliability** prior to incorporating it into your monitoring framework. For example, remote sensing data often requires ground-truthing, which may be difficult in conflict-affected contexts (see Box 3.3).

Did you know?

Free mapping software like QGIS and Google Earth can provide low-cost and simple tools for generating maps of your area of interest.

When collating preexisting data from different sources, make sure to consider the following:

☐ At what scale was the data collected? Some data is collected at the individual or household level, while other information is for a country or region as a whole. Thus, for example, if you are working only in one community, then country-level data will likely be unhelpful.

☐ When was the data collected? There are often lags between when data is collected and when it is available; this can influence its utility in contexts that are dynamic and volatile, including fragile and conflict-affected contexts for many environmental peacebuilding interventions.

☐ What is the timeframe of the data? Is it annual, monthly, or weekly? Is this sufficiently granular to be useful for your monitoring?

☐ How is the indicator defined? For example, the World Bank has a dataset on social cohesion that combines "life satisfaction" and "media corruption" at the country level.[9] Your specific intervention may seek to increase social cohesion, but this particular definition may not be optimal (or even relevant) to your context.

☐ Are there different sources that may provide similar data but at different scales or timeframes? Local authorities, for example, may have data on a smaller scale or more quickly than national governments.

---

9. See the World Bank's GovData360, https://govdata360.worldbank.org.

Box 3.3: Something to Consider—Remote Sensing Data

Remote sensing data can allow practitioners to achieve a better understanding of the spatial and temporal variability of an ecosystem's structure and functions, as well as of biodiversity under climate change. Satellites can provide specific information on land use, land cover changes, aboveground biomass, drought conditions, and temperature variability (Nagai et al. 2020). Remote sensing data can be particularly useful in places where it is unsafe to collect data on the ground (Weir, McQuillan, & Francis 2019). However, it is important to remember that there is much that cannot be seen from satellites; collecting abundant ground-truth data from multiple sites and sources to validate satellite and remote sensing data can help to alleviate uncertainties (Nagai et al. 2020).

Ultimately, **those working in the field of environmental peacebuilding should manage expectations.** Conflict contexts in particular often require making tradeoffs between the availability, relevance, and objectivity of monitoring data. Preexisting data can be of greater utility for providing context for an intervention, while primary data collection can provide more detail.

When monitoring an environmental peacebuilding intervention—as well as other interventions—many information- and data-related challenges can arise. Figure 3.1 enumerates many of these challenges and groups them into four categories:

(1) Data does not exist (literally or practically);

(2) Accessing data;

(3) Data from multiple sources; and

(4) Complexity of data, software, and analyses.

In addition to laying out these challenges, the figure highlights the wide range of possible solutions for addressing them. Many solutions address more than one challenge, at least in part. For example, developing protocols can help address six different challenges,

including collecting sensitive data, accessing existing data, and using data from different geographic scales. Simply because solutions address a large number of challenges does not mean that these solutions are more important. The numerous linkages between challenges and solutions, as illustrated in the figure below, emphasize that practitioners can often choose from many possible actions to address a given challenge or wield a particular solution to address more than one obstacle.
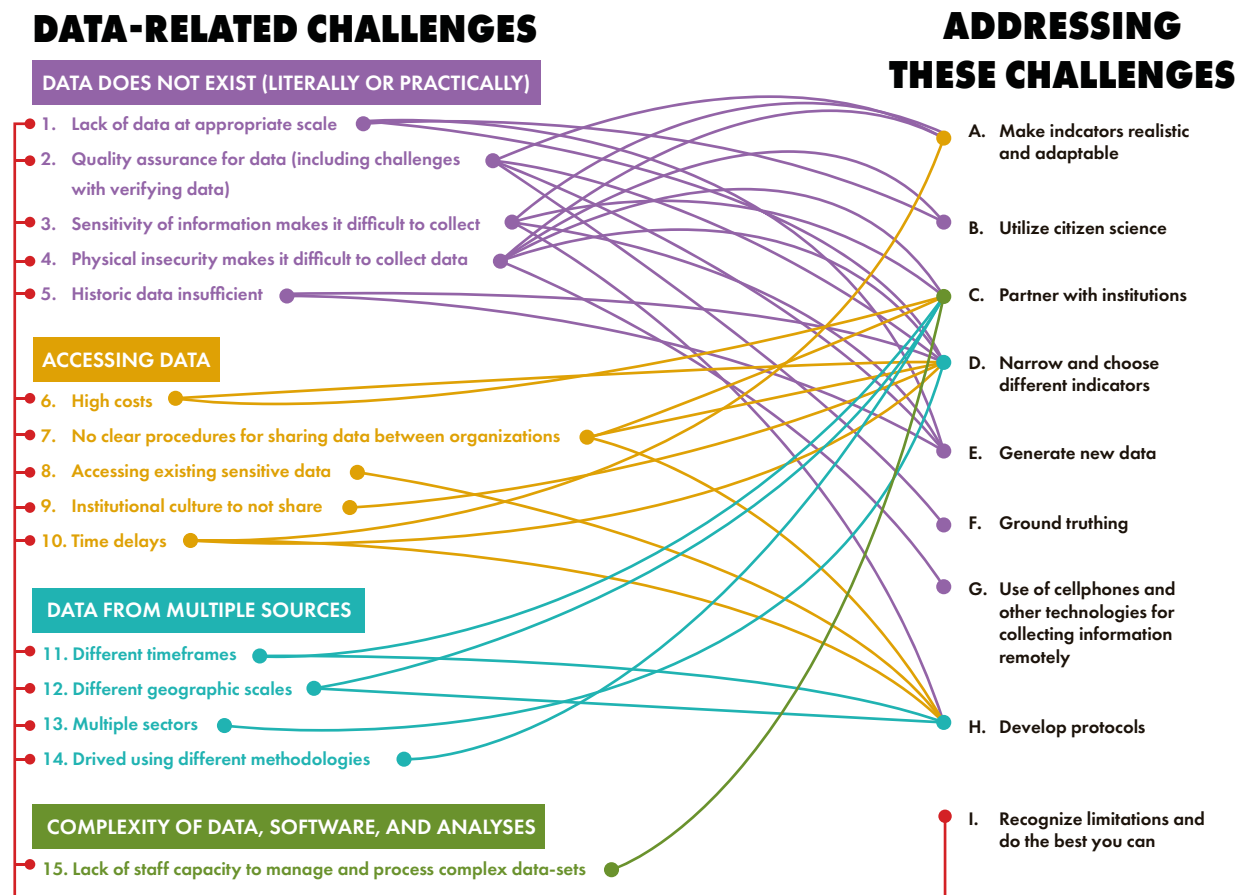
DATA-RELATED CHALLENGES

ADDRESSING THESE CHALLENGES

DATA DOES NOT EXIST (LITERALLY OR PRACTICALLY)

1. Lack of data at appropriate scale
2. Quality assurance for data (including challenges with verifying data)
3. Sensitivity of information makes it difficult to collect
4. Physical insecurity makes it difficult to collect data
5. Historic data insufficient

ACCESSING DATA

6. High costs
7. No clear procedures for sharing data between organizations
8. Accessing existing sensitive data
9. Institutional culture to not share
10. Time delays

DATA FROM MULTIPLE SOURCES

11. Different timeframes
12. Different geographic scales
13. Multiple sectors
14. Drived using different methodologies

COMPLEXITY OF DATA, SOFTWARE, AND ANALYSES

15. Lack of staff capacity to manage and process complex data-sets

A. Make indcators realistic and adaptable

B. Utilize citizen science

C. Partner with institutions

D. Narrow and choose different indicators

E. Generate new data

F. Ground truthing

G. Use of cellphones and other technologies for collecting information remotely

H. Develop protocols

I. Recognize limitations and do the best you can

Figure 3.1: Heat Map Illustrating Numerous Linkages Between Data-Related Challenges and Solutions
Source: ELI.

B. Primary Data

For those cases in which preexisting monitoring data is unavailable or unsuitable, interventions will need to collect their own data. This is called primary data. When determining the kind of primary data to collect, remember that **data collection should be right-sized for the intervention and its resources, the information needed (including for the indicators), and the context.** This is an imperfect process: usually, there is a need (and certainly a desire) for more primary data than there is budget and other resources for collecting information. For this and other considerations, see Box 3.4.

Box 3.4: Considerations in Selecting Data Collection Methods and Tools

When determining the data collection methods and tools, consider the following:

☐ **Relevance and Utility:**

- Does the data provide an adequate and appropriate picture of what you are trying to measure?

- Does the collected data provide a sufficient level of detail and confidence in the data to inform learning and decision-making?

- Does the data collection process ensure that you receive the information you need by the time you need it?

- Are you monitoring the wider/broader social, political, and economic contexts?

☐ **Reliability:**

- Is there a potential for bias, including in how the sample is determined or related the biases of the people collecting the information?

- Does the data collection process ensure the integrity of the data? Or are there risks that the data could be manipulated?

- Can the same data collection method be used over time? This is particularly important in dynamic conflict contexts. Make sure to select an approach that you think can reasonably be carried out as things change.

☐ **Conflict Sensitivity and Ethical Considerations:**

- Is the data collected in such a way as to protect the privacy, confidentiality, and/or anonymity of stakeholders?

- Do you have a sufficient informed consent process whereby those providing information are aware of the reason for collecting and uses of the data, their rights (including not to participate), and who they can contact regarding questions or concerns?

- Are the data collection tools and processes culturally and contextually sensitive and appropriate? Are they set up in a way that makes sense for the context and avoids putting anyone in harm's way?

☐ **Impact:**

- How can the data collection process empower stakeholders, build trust and relationships, and otherwise support the objectives of your intervention?

☐ **Feasibility:**

- Do you have the necessary funding, staff, and other resources to collect and process the data?

Typical monitoring methods for collecting primary data include **observations, individual and group interviews, focus groups, and surveys.** In addition to these more traditional methods, there are a number of innovative monitoring methods that are well suited for environmental peacebuilding contexts, including, for example:

- **Civilian or citizen science** may prove useful for collecting environmental data during and after conflict, both in "addressing gaps in data collection" and potentially serving to "empower communities affected by environmental degradation, enhance their environmental human rights, supplement the often limited monitoring capacity of government agencie, and facilitate cooperation and peacebuilding" (Weir, McQuillan, & Francis 2019, p. 1). Citizen science can encompass multiple activities and be used as a complementary, on the ground approach to remote monitoring. Examples of potential monitoring applications for conflict-related environmental impacts include monitoring of land degradation; mapping of damage to infrastructure, including buildings and industrial facilities; and monitoring of oil pollution.

- Similarly, **crowdsourcing** is a useful monitoring method for areas where it is difficult to collect data on the ground in a timely manner, such as those affected by active conflict. Advantages of this approach include its rapidity, which can support early warning systems, "generating 'state of the moment' information," which can lead to "rapid and timely action" and "make alternative sources of information available for verification, action planning and response" (Kahl, McConnell, & Tsuma 2012, p. 30). Types of crowdsourcing include collecting photos and videos to create a map of violence; relying on volunteers or participants to tag incidents or important locations on satellite images; data mining social media information on key topics; and even crowdsourcing analysis of information through community platforms (Shiel 2013).

- For interventions that include an element of information communication or awareness raising in their theory of change, one approach to monitoring for increased knowledge or awareness as well as for unintended effects is **rumor tracking** (Guidrey, Bango, & Ayoob 2022). Partnering with local community members to monitor the content of rumors or information being spread throughout a community "is a deeply localized method that allows programs to respond quickly to changing environments and gather feedback from communities on the effectiveness of program activities ..." (91). It is also actionable in insecure contexts where it may be difficult for an intervention or M&E team to reach a specific area. Additionally, this monitoring method "enables adaptive management by providing regular updates and actionable data points for the program team" (91). Analyzing rumors and responding to them can also be a collaborative activity that increases stakeholder participation, increasing the relevance of the response, and further developing trust through transparency.

- **Participatory mapping with communities** can be used to integrate local knowledge into spatial planning processes, informing the development of climate-security risk maps (Kron et al. 2022). Such maps provide insights into "potential climate-security hotspots, which regions and population groups are affected and what sectors need to be targeted, and where to carry out measures" (32). They can also be useful at multiple levels and across different stakeholder groups, providing "an opportunity to initiate dialogue processes, either among the affected population and conflicting groups when collecting data and developing the map in a participatory process at the local level, or among policymakers and stakeholders when presenting the results of the mapping at the national level."

- **Community conversations** are an informal community engagement method with broad application (Kotze et al. 2013). These conversations "enable community-led discussions to identify, reflect upon, and find local solutions to shared issues of justice, security, and land use" (UNDP 2022, p. 6). They have been found to help identify "practical, community-led solutions" (6) to issues, to "contribute to the healing process of community" (7) by providing a space for community members to share, to have "strengthened social cohesion and gave participants a sense of the changes they can bring when they work together" (7), and to have "highlighted the need for communities to address their past and the need to establish community-based transition justice mechanisms" (7), among others.

- **Storytelling** is a participatory method which has been applied in the context of peacebuilding (Higgins 2011; Linabary, Krishna, & Connaughton 2017). Cultural storytelling has been suggested as a method for addressing issues of cultural relevance and local ownership in community-based participatory research and "as a method for co-constructing meaning and encouraging dialogue that could lead to productive action toward social change" (Linabary, Krishna & Connaughton 2017, p. 432). Storytelling can also be digital (e.g., Higgins 2011), which may be suitable for conflict-affected contexts where it may be difficult to reach communities on the ground; however, the degree of inclusion afforded by using digital tools should be considered as well as how the use of these tools can increase access for some while limiting access for others.

- **Visual (photography or video) or arts-based** monitoring methods allow for a different way for people to express themselves, as opposed to more traditional monitoring methods such as surveys or interviews. These methods can also allow stakeholders to express complex ideas or lay the groundwork for more-depth responses later (Charlton n.d.). As a result, these methods can be more accessible in situations where the topics explored are complex, taboo, or otherwise uncomfortable or challenging for stakeholders to discuss. In the case of environmental changes, visual methods of monitoring also provide a concrete way of getting a quick snapshot in time of the situation.

- **Drones:** In areas not accessible on foot, drones may be used as a remote monitoring method. They have been used in United Nations Peacekeeping with applications including information gathering on potentially unnoticed events in conflict zones (Yekple 2017). Important to consider are political and privacy concerns associated with this type of monitoring.

- **Lot Quality Assurance Sampling (LQAS):** LQAS is a monitoring approach initially used as a method for quality control in manufacturing (MEASURE 2022), which has been applied in various health-related development program settings and may have applicability in conflict-affected settings. It samples a pre-defined area to determine if an indicator is performing acceptably. Pham et al. (2016) discuss the use of LQAS in primary health interventions in West Darfur, Sudan. Despite challenges, the method was considered beneficial in the context it was applied in; the authors note that "the ability of LQAS to be easily taught to local managers and the decentralized nature of data collection and analysis in LQAS enhance its prospects for sustainability, which is vital in low-resource settings."

C. Participation and Inclusion

Increasing participation and inclusion in monitoring in culturally and contextually appropriate and conflict sensitive ways is important for environmental peacebuilding interventions, as participation and inclusion can support the objectives of those interventions and help ensure their relevance, effectiveness, and sustainability. Key strategies for enhancing participation and inclusion in monitoring processes include:

- **Co-developing monitoring methods with stakeholders** to ensure their relevance and applicability to the context. This may include exploring more localized or Indigenous ways of knowing (Hendrix et al. 2023);

- **Communicating the purpose and methods** of monitoring and data collection to stakeholders early and **gathering feedback** on the process and potential challenges;

- Ensuring and understanding local or otherwise applicable conceptualizations of **data ownership, transparency, and data sensitivity**; and

- **Enlarging the areas of focus for participation**, as the effects (intended or unintended) of environmental peacebuilding interventions can be far-reaching (Hendrix et al. 2023).

Like in design, evaluation, and learning, increasing participation and inclusion in monitoring can take time and additional resources. One way to involve more stakeholders in monitoring, decrease the chance of cultural bias, and scale data collection efforts is to gather data by **working with community members who can become self-ethnographers and collect data within their own community.** As people may not respond accurately to surveys and interviews, especially in conflict contexts, it is sometimes better for stakeholders to self-report their narratives and gather data. Tools such as the Cynefin Centre's SenseMaker can be used to support communities in telling their own stories in their own language and in creating their own solutions (Cynefin Centre 2017).

Youth can often be effective ethnographers as they are already familiar with recording technologies such as smartphones and have access to community members. Girl Hub—an organization that aims to empower and improve adolescent girls' lives in Rwanda, Ethiopia, and Nigeria—successfully used a similar data collection method, giving girls and their caregivers open-ended prompts on the girls' experiences and supporting them in analyzing their own narratives. Using this approach, Girl Hub was able to identify common issues for adolescent girls as well as the best responses to them, societal attitudes towards adolescent girls, and the effects of Girl Hub activities (Narrate 2014).

Note that increased participation and inclusion can generate tensions between transparency and the sensitivity of information. For example, sharing monitoring information that indicates one group may be benefiting more than another from the intervention could provoke tensions. Sharing sensitive information concerning vulnerable community members could increase their vulnerability.

While there is no single way to navigate or balance these tensions, understanding stakeholder concerns around the environment, conflict, and relevant value systems is crucial.

Box 3.5: Something to Consider— How Participatory Monitoring Can Support Intervention Objectives

Participatory monitoring processes that appropriately and safely involve stakeholders in the collection and analysis of information can play a key role in ensuring transparency, building trust and relationships with stakeholders, and increasing buy-in for an intervention.

In conflict-affected contexts where access is difficult or even dangerous—or in cases like the COVID-19 pandemic (see Box 3.6)—it may be helpful and perhaps necessary to rely on local stakeholders to collect monitoring data. This means **adapting M&E frameworks to use simple, often digital tools with clear directions and in local languages.** While this approach requires more careful consideration of the monitoring process, it also contributes to greater participation of those stakeholders and other participants in the data collection and analysis of the intervention's successes and challenges. This can provide better monitoring information and reinforce learning processes.

Although technology is an important tool for monitoring in volatile, dynamic, or unsafe contexts, it is important to **consider the tradeoffs of using it for monitoring.** While the use of technology can produce monitoring information not otherwise available, some stakeholders may be left behind due to a lack of technical literacy or access. Relying on technology and virtual means of data collection can also negatively affect communication and relationships. It is important that practitioners identify ways to mitigate these challenges, especially given the importance of trust and transparency in environmental peacebuilding contexts.

Box 3.6: Monitoring During the COVID-19 Pandemic

With the COVID-19 pandemic, practitioners suddenly faced the challenge of how to undertake intervention activities and gather monitoring information as travel and access to local sites were limited, and often ceased.[a] This experience drove innovations and learning.

With pandemic restrictions limiting in-person data collection, **practitioners turned to alternative sources of data and remote tools.** The Independent Evaluation Office (IEO) of the Global Environment Facility (GEF), for instance, combined geospatial and socioeconomic data from existing datasets collected by other organizations such as the World Bank, as well as communication with local counterparts who took over responsibility for monitoring when staff could not access the intervention site (GEF IEO 2020). By looking at both kinds of data, the IEO could draw conclusions on interventions' co-benefits. For example, in Uganda they were able to demonstrate a positive correlation between household assets and proximity to GEF interventions; households closer to intervention areas had $310 more in assets than those farther away. In another case (occurring before the pandemic), the GEF used geospatial data to analyze deforestation over time around Sapo National Park in Liberia. Despite being unable to visit the site in person, the IEO was able to determine that while areas around the park had experienced significant deforestation, the park and areas close to it had experienced less deforestation.

Geospatial data can also be used in conjunction with information collected by local consultants to create hybrid datasets. During the pandemic, the World Bank conducted virtual visits to Uzbekistan´s intervention sites as part of its Resilient Landscape Restoration Program. This hybrid approach combined data collected remotely from geospatial analysis of the sites, drone imagery, and aerial satellite imagery with photos and videos of the sites taken by local consultants. For example, the consultant filmed the drive leading to the intervention site to provide a sense of place and context for stakeholders who were unable to visit during the COVID-19 pandemic. The consultant also collected interview data. This approach highlights the importance of both having a broad network of local consultants who can be mobilized to support remote work and ensuring those consultants have the capacity to collect monitoring data.

These innovative approaches to monitoring during a global pandemic are good examples of why **it is important to have the skills, resources, systems, and knowledge already in place to effectively respond to shocks like pandemics or conflicts.** It is far more difficult to create innovative systems in the middle of a crisis than it is to prepare them preemptively. The GEF, for instance, had already examined links between health and environmental interventions and invested in technology and human resources prior to the pandemic. This allowed the IEO to quickly leverage those resources.

---

a. The observations in this box draw upon both the literature and a peer learning workshop organized by ELI and EnPAx in May 2022.

D. Timing and Baselines

The timing of data collection is important and challenging for environmental peacebuilding work. For example, the timing of data collection may reflect different aspects of the conflict or the environment differently; short time-horizons relevant to a post-conflict context should not be measured after the point of relevance as the conflict context can change quickly, and long time horizons for some outcomes may mean that data collected at an early stage seemingly indicates no change. Depending on the intervention's theory of change, environmental changes may lag behind changes to the conflict context or vice versa. Practitioners should thus carefully consider at which points in time data should be collected to capture indicators and other evidence of change most effectively, while also considering how the timing could itself affect the conflict context. **In many cases, longitudinal data collected over time and at regular intervals is more helpful, as it allows for a more complete picture of changes in the environment and conflict dynamics and, thus, a better assessment of how well an intervention is working.**

Related to this point is the issue of baseline data. Developing baseline data for environmental peacebuilding interventions is challenging because of the difficulties in working in a conflict environment, the political nature of conflict, and because conflict contexts tend to be "more convoluted and nonlinear" (Abu-Nimer 2020, p. 64). Environmental contexts are also constantly changing, which makes it challenging to determine what the baseline environmental context is and when to use it. The obvious option is to consider the environmental situation at the start of the intervention as the baseline. That can help track change over the life of the intervention and, thereby, the environmental impacts of the intervention. The problem is that conflicts often have diverse impacts that can be significant, widespread, and long-lasting. Interventions often seek to restore environmental conditions to their historic baseline. The historic environmental baseline may be substantially different from the environmental baseline taken at the beginning of an intervention; the situation may be similar for the conflict baseline. **It is therefore important to be clear on at what point a baseline is taken—either of the conflict or the environmental context—and why, and to document those decisions.** Moreover, it may be that progress is tracked with respect to more than one baseline (i.e., the historic baseline and the baseline at the start of the intervention).

Additionally, environmental peacebuilding interventions may benefit from **subjective or perception-based baselines.** These baselines are identified based on what stakeholders feel about a current situation and what they see as a future end state or goal to achieve (see, for example, Jones 2020). For example, stakeholders may start by describing the current (i.e., baseline) environmental and conflict context and then articulate what improvement would look like. Later on in the intervention, stakeholders can return to their original description of where they started and provide feedback regarding how the situation has changed.

E. Monitoring for Unintended Effects

In the context of intervention monitoring, "unintended effects" can be generally understood to mean the positive, negative, or neutral effects of an intervention beyond what was anticipated (see Box 3.7). In their analysis of Search for Common Ground evaluations, Lemon and Pinet (2018, p. 257) identified robust monitoring as "a key to capturing unintended effects" and noted that continuous monitoring "allows projects to recognise problem areas and positive opportunities for improvement early on and respond to them quickly." While the literature and commentary often highlight the importance of focusing on unintended effects, practice lags: a review of USAID evaluations shows that they took into account unintended effects in only 15 percent of the evaluations (Hageboeck, Frumkin, & Monschein 2013).

In environmental peacebuilding, unintended effects are challenging for three primary reasons. First, the field is still new, and theories of change are still being tested and refined. As such, there remain substantial questions regarding under what circumstances a particular theory of change works. Second, environmental peacebuilding is inherently interdisciplinary, so the designers and implementers of interventions often have expertise in *either* environmental programming *or* peacebuilding. This means that they often lack expertise in a key dimension. Third, monitoring often tracks environmental or peace/conflict/security dimensions; tracking the intersection of environment and peacebuilding can be particularly challenging.

Box 3.7. Defining "Unintended Effects"

There are a range of definitions:

- Unintended effects are considered in the OECD-DAC impact criteria, defined as "The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects" (OECD-DAC 2019, p. 11).

- Jabeen (2016, p. 144): "In programme evaluation, unintended outcomes refer to the effects of an intervention other than those it aimed to achieve. Such effects could be positive – producing additional benefits, negative – causing harm to those involved directly or indirectly, or neutral."

- Lemon and Pinet (2018, p. 254): "Unintended effect" is defined as "unintended based on its relation to the relevant project's Theory of Change (ToC), logical framework, goal, specific objectives, and results measured by their respective indicators. In other words, unintended effects were defined under the umbrella of any effect outside of the logical framework or going against the direction of the original ToC."

Monitoring methods that can support the identification of unintended effects include:

- **Open-ended questions** in key informant interviews, community conversations, etc. You might ask, "What else has happened as a result of these activities?"

- **Outcome journals** or otherwise reporting or documenting unusual events (Better Evaluation 2022). Keeping a systematic log of events or effects that come up during an intervention's implementation is a good way to qualitatively track unintended effects that can be explored and reflected upon.

- **Outcome Harvesting** is used to capture a wide range of behavioral changes. Because outcome harvesting is not tied to any predetermined outcomes like those in a theory of change, you are able to "harvest" a wide variety of intervention effects.

- **Participatory and inclusive approaches** that allow you to consult multiple stakeholders and stakeholder groups to gather diverse perceptions of an intervention and its outcomes (Lemon and Pinet 2018, p. 257).

3.4. Data Management and Quality

0101 1001 0101 DATA

In addition to collecting monitoring data, **it is important to have an effective data management process in place to ensure the data is both useful and secure.** Effective data management can make information easily accessible for use and reuse, simplify data sharing, and streamline future data collection, thus supporting practitioners in delivering efficient results relative to the resources expended on the recollection or reorganization of data. Additionally, data management helps minimize the risks to both people and organizations by ensuring that sensitive information is properly protected, thus minimizing the potential for harm to those implicated in the data if it should be lost or leaked—which is especially important in conflict contexts—and maintaining reasonable stakeholder expectations of privacy.[10] This, in turn, supports trust between an intervention and its stakeholders and confidence in the data. Good data management also minimizes an organization's reputational and legal risks.

A. Developing a Data Management Strategy

A data management strategy sets out the ways in which information will be collected, processed, stored, analyzed, and shared. Key considerations in developing a data management strategy include:

- Which types of data will be collected;

- How the data will be used;

- How certain data interact with or relate to other data;

- How much data is being produced;

- How and where the data will be stored;

- Who controls or has access to the data;

- The sensitivity of the data; and

- How the data needs to be shared and with whom.

Some of these key considerations are explored in Table 3.1.

---

10. Note that in certain jurisdictions, there are rules and regulations for data protection and the use of personal data. This includes the European Union's (EU) General Data Protection Regulation (GDPR). Failure to comply with such rules can negatively affect an organization's reputation and result in penalties and fines.

KEY QUESTIONS	CONSIDERATIONS
How will the data be used?	Monitoring information will likely need to be used in multiple ways by a variety of stakeholders. When managing the data, ensure that the type or format of your information is supportive of the various uses of the data, including for monitoring, evaluation, and learning. This may mean converting qualitative data into categories or quantitative data for analysis, converting hard copy data into a digital format, or converting numerical data into a format that is appropriate for statistical analysis. Keep in mind that in environmental peacebuilding work, it will also be important to show the links between environmental and conflict-related information.
How much data is being produced?	While big data technologies, artificial intelligence, machine learning, image recognition, and social media mining have become more common in large environmental and peacebuilding interventions (Anand and Batra 2021), many interventions still rely on more limited data. Ultimately, the best system is a manageable one. If a data management system is too unwieldy, upkeep may be difficult, and it may not be used. Practitioners should use a data management system that they are confident can be maintained over an intervention's duration, acknowledging the resources available to them.
How will the data be stored?	How and where information is stored depends on its format, level of sensitivity, and the resources available. Consider: ● What kind of access to technology is available for data storage? ● Who should have access to the place(s) where information is stored? Do you need to set certain permissions or passwords (for digital data) or utilize a safe or otherwise locked space (for hard copy data)? ● If the data is digital, is there a way to back it up? Are you using a secure cloud storage system? ● What aspects of the conflict context could disrupt data storage?
Who controls or has access to the data?	Practitioners should be clear on who controls, owns, and has access to monitoring data. This is a matter of the data management system (e.g., who has access to the database) as well as organizational and funding policies and practices. Questions of data ownership are highly relevant to the future accessibility and shareability of the data as well as to stakeholder relationships and trust. **Remember, to the extent possible, stakeholders should have ownership and control over their own data.** This is related to issues of trust and can therefore reinforce—or impede—the objectives of environmental peacebuilding work.

KEY QUESTIONS	CONSIDERATIONS
How sensitive is the data?	Data sensitivity and protection are especially important in environmental peacebuilding contexts. Once practitioners are operating in a conflict context, they become part of those dynamics, and they need to ensure that they do not create additional harm or conflict through their actions. They should also make sure they maintain the trust and confidence of stakeholders, organizations, and monitoring bodies. Management of sensitive information is central; **"sensitive information" refers to information that could cause harm if improperly disclosed.** This may include directly identifiable information, such as names or addresses, demographic data, religious beliefs or ethnicities, or a person's political views (USAID 2022). It can also include information that might inflame tensions or lead peace spoilers to target the intervention.

Greater levels of sensitivity in relation to information necessitate higher levels of security and protection, including restrictions on access. The level of sensitivity can be determined by the content of the data as well as the broader context within which the information has been obtained. Practitioners should consider the risks that collecting and sharing information may have for stakeholders.

Strategies to ensure data is safe include:

- Adopting "lean data" principles that emphasize data for value creation and favor collecting the minimum possible amount of information, limiting its storage, and deleting it once it is no longer needed.

- Anonymizing the data to the extent possible.

- Sharing only aggregated data.

- Restricting access to the data via passwords and two-factor authentication.

- Sunsetting sensitive data and ensuring its complete destruction after its use has passed.

- Providing for feedback and complaint mechanisms, whereby stakeholders can anonymously notify an intervention of issues with data safety. |

KEY QUESTIONS	CONSIDERATIONS
How does the data need to be shared and with whom?	With whom monitoring information will be shared and in what format should be considered as early in the intervention as possible, including an assessment of the potential risks, benefits, and unintended consequences. This allows you to express to stakeholders how the data they provide will be used and in what ways. It is also important to note that you will have to balance transparency with conflict sensitivity when considering how and with whom to share information; it will not always be necessary to share exactly where information is coming from, and aggregating information may be best to minimize risks to an individual's security. This is the case, for example, when certain stakeholders may seek to act as "spoilers," perceiving evidence of successful interventions as an obstacle to their own goals. In such situations, confidentiality is crucial to protect the physical security and safety of stakeholders. It may, therefore, be appropriate to share monitoring data in a more limited way. Once you are clear on what information to share with whom, make sure that it is shared in an accessible format and that the data is clear and accurate. This may mean relying on visualizations, translating information into local languages, or sharing verbally.

Table 3.1: Considerations in Developing a Data Management Strategy

Good data management practices are particularly important for environmental peacebuilding work due to the challenging contexts and inherent risks. For example, it may be difficult or impossible to recover data if it is corrupted or lost. Leaked data or a breach in privacy can also have negative and dangerous implications, especially in conflict contexts. This can include the breakdown of trust between practitioners and intervention stakeholders, which in turn impacts the ability of practitioners to collect accurate data and effectively carry out an intervention. More importantly, data leakage can endanger those implicated by the information, particularly if they are identified by those who have an interest in the continuation of the conflict.

Rigorous monitoring must therefore address tensions between transparency and the sensitivity of information. Transparency encompasses many dynamics, including the idea of openness with the public, a lack of secrecy between actors, and a means to hold people and institutions in power accountable (Stone 2002; Ball 2009; Meijer 2014). Addressing transparency and sensitivity can build and maintain trust, yield more insightful monitoring results, and mitigate privacy risks. Transparency in environmental peacebuilding can increase public awareness and provide accountability, which may have secondary effects such as improving the merit of an intervention and strengthening the data (GEF 2020; Rathinam et al. 2019). Collecting sensitive information can adversely affect disclosure, minimizing transparency. Box 3.8 illustrates these tradeoffs. Failure to effectively address these tradeoffs can skew monitoring results, harm stakeholders, and negatively affect the intervention (Anhalt-Depies et al. 2019). USAID and other organizations use the concept of **"responsible data"** to recognize the tensions between privacy protection, data security, transparency, and openness (Center for Democracy and Technology 2018; USAID 2022). It is crucial that you develop an understanding of and process for contextually relevant practices to manage these tradeoffs.

Box 3.8: Identifying Sensitive Information in the USAID Central Africa Regional Program for the Environment (CARPE)

Started in 1995, the USAID CARPE initiative is a multi-decadal effort to sustainably manage forest landscapes, mitigate biodiversity threats in those landscapes, establish policy and regulatory environments supporting sustainable forest and biodiversity conservation, and strengthen capacities to monitor forest cover change, greenhouse gas emissions, and biodiversity in the Congo Basin. Phase III of the project began in 2013.

In monitoring and evaluating this intervention, it became clear (in the mid-term evaluation) that cultural factors played a significant role in determining what information was sensitive:

Spiritual matters are given a very high priority by the inhabitants of the Congo Basin. This has direct consequences for social change endeavors, including governance and development initiatives, because of fatalistic attitudes and superstitions. People of the Congo Basin are reluctant to disclose their intentions—to marry, buy a plot of land, apply for a job, or take a trip — out of fear that the forces of the occult will interfere before their aims have been met. Secrecy is therefore a powerful cultural reality, and a political strategy as well. Political elites in Congo tend not to believe in transparency; on the contrary, they generally adhere to the belief that to wield power effectively, it must be done in secret (USAID 2017, p. 16).

B. Data Quality Assurance and Control

While there is no such thing as perfect monitoring data, **it is important to establish measures to check and validate the accuracy, reliability, and reproducibility of monitoring data.** Like other aspects of the M&E framework, quality assurance and control mechanisms should be balanced with the time and resources available—i.e., they should be right-sized. Specific considerations include:

- **Validity:** Does the data provide information on what was intended? Does the data reflect any bias, such as the bias of an interviewer, interviewees, or a sampling bias? In environmental peacebuilding contexts, it may be more challenging to directly access certain kinds of data, and proxies may be needed.

- **Reliability:** Is the data collection tool and process consistent over time? This is particularly challenging in conflict contexts, and different scenarios should be considered when designing monitoring processes. If the approach to data collection must change, make sure that the change is clear in the documentation of the intervention.

- **Randomly selecting data** for an in-depth exploration of its validity and reliability, the data sources, and the collection tool(s). In this case, limited resources are focused on spot checks of data, which may be a more efficient and appropriate approach to data quality.

- **Contextual Issues:** Given the multitude of stakeholders and perspectives often implicated in environmental peacebuilding work, it is important to consider the ways in which cultural, political, and social factors influence perceptions of data quality (Shanks & Corbitt 1999). Not everyone will agree, for example, on what counts as valid and reliable information. This should be explored at the start of an intervention to counter any challenges to monitoring information that may arise.

No matter the situation, it is essential that practitioners acknowledge the limitations and potential biases of their data and that this is transparent in the way information is communicated and shared.

Worksheet: Monitoring

Objectives:

- Effectively and efficiently monitor or measure changes (in the environment, peace/conflict, and the intervention) during an intervention.

- Produce evidence through a conflict-sensitive process that can be used for adaptive management, evaluation, and learning.

- Use monitoring to identify escalating risks (early warning).

- Develop adaptive strategies to respond to early warning.

Selecting Methods for Monitoring

Monitoring is often descriptive and centered on multidimensional qualitative and quantitative indicators, including indicators that measure changes to the intervention context, as well as methods for gathering unintended results outside of the scope of the intervention's theory of change. When selecting methods for monitoring, consider the following:

☐ **What qualitative or quantitative data is already available?** Does the available data capture both the environmental and peacebuilding or conflict-related dimensions of the intervention as well as the interactions between them? What are the limitations of the data?

☐ **What kinds of data do you need to collect** yourself for the indicators you have identified? What will best describe the environmental, peacebuilding, or conflict dimensions of the intervention and its context? Have you explored different ways of knowing or understanding those indicators, particularly as they relate to different stakeholder groups?

☐ **What resources do you have to collect primary data?** This includes skills and expertise, time, technologies, and connections, or networks—and, of course, money.

☐ What considerations are there for **monitoring in a conflict-sensitive way?** What cultural, political, or other factors might affect how you collect data and from whom? For example, how will you gather data from different ethnic or gender groups? Are there any sensitivity concerns about making that data public?

☐ **How can you create an inclusive, equitable environment for monitoring?** Who can be involved in the monitoring process and how? Brainstorm ways to incorporate stakeholder groups (particularly marginalized groups) in collecting, analyzing, and using the monitoring information in ways that do not exacerbate or feed tensions. Remain aware of uneven power relations and incorporate strategies to build trust and empower different stakeholder groups.

☐ How can you go beyond specific indicators to also **monitor the context and unintended outcomes?**

Establish a Baseline

A baseline can be helpful for assessing change. However, environmental peacebuilding interventions present unique challenges for establishing baselines due to rapidly changing contexts. As a result, it may not be feasible to establish a robust baseline. Only establish a baseline to the extent that you can. Consider the following:

☐ **At what point in time** in the environmental and conflict context could you take a baseline? What would taking a baseline at this point in time mean as compared to another point in time?

☐ **Does it make sense to capture a longer period of time** in your baseline as opposed to a single "snapshot" in time? Or to have multiple baselines correlated to different points in time?

☐ **A baseline may include a combination of quantitative and qualitative information**, including traditional knowledge.

☐ **Explicitly identify the sources of your baseline.** Are they comparable across environmental, peace, and conflict dimensions?

Using Monitoring for Early Warning

In fragile and conflict-affected situations, early detection of and response to potential problems is necessary to prevent the rapid escalation of conflict and mitigate risks. Consider the following:

☐ **Have you established context or leading indicators** on which to base early warning detection and action? See Chapter 2 (on Design).

☐ **Have you used your monitoring process to build trust and respect among stakeholder groups, including women and other minorities?** Is there a plan in place to establish, maintain, and evolve lines of communication with stakeholders? Is it easy and safe for people to submit complaints? Do they feel heard? This communication is essential to the early identification of issues.

☐ **Can you incorporate regular conflict assessments into the intervention to detect potential risks as they arise?** This can be at regular intervals at which contextual information is gathered and analyzed from a variety of sources and stakeholders. Note that multiple perspectives are important to ensure that you have a full picture of the context.

☐ **Have you fully adopted a conflict-sensitive perspective?** How could the context affect your intervention, and vice versa?

Adjusting Course

Environmental peacebuilding is characterized by complex and fluid situations that necessitate adaptation in the face of , often rapid, change. Monitoring information can help. Consider the following:

☐ **Have you established a process for regularly reviewing and analyzing the monitoring data you collect?** Brainstorm adaptive strategies to strengthen your intervention's ability to use monitoring data and modify activities as relevant.

☐ **Who will be involved in those regular reviews?** How can the inclusion or exclusion of certain stakeholder groups affect your decisions and, thus, the trajectory of your intervention? Note that different stakeholders will have different perspectives on what the information means.

☐ **Do you have sufficient monitoring information to make informed decisions and adjust course?** Does your monitoring plan include a process for gathering information on unintended consequences, and are you reviewing it?

☐ **How will you document decisions made and actions taken based on your monitoring information?** It is important to keep track of what was decided and what actions were needed based on your review and analysis, including the person(s) responsible and the timeline for action. This helps to ensure that monitoring information is actually used.

References

Abu-Nimer, Mohammed. 2020. "Challenges in Peacebuilding Evaluation: Voices from the Field." In *New Directions in Peacebuilding Evaluation*, edited by Tamra Pearson D'Estrée, 43-67. Rowman & Littlefield.

Alden Wiley, Liz. 2014. "Resolving Natural Resource Conflicts to Help Prevent a War: A Case from Afghanistan." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding,* ed. Helen Young & Lisa Goldman, 115-137. Routledge.

Anand, Anupam, & Batra, Geeta Batra. "Using Big Data and Geospatial Approaches in Evaluating Environmental Interventions." In *Evaluating Environment in International Development*, edited by Juha I. Uitto, 79-91. Routledge.

Anhalt-Depies, Stephanie, Stenglein, Jennifer L., Zuckerberg, Benjamin, Townsend, Philip A., & Rissman, Adena R. 2019. "Tradeoffs and Tools for Data Quality, Privacy, Transparency, and Trust in Citizen Science." In *Biological Conservation* 238:108195.

Arnado, M.A.M. 2012. "Opinion – Women's Involvement in Conflict Early Warning Systems: Moving from Rhetoric to Reality in Mindanao." Centre for Humanitarian Dialogue. http://www.hdcentre.org/uploads/tx_news/77WomensinvolvementinconflictearlywarningsystemsFI NAL_2.pdf

Ayana, Essayas, Ceccato, Pietro, Fisher, Jonathan, & Ruth DeFries. 2016. "Examining the Relationship between Environmental Factors and Conflict in Pastoralist Areas of East Africa." *Science of the Total Environment* 557:601-611.

Ball, Carolyn. 2009. "What Is Transparency?" *Public Integrity* 11(4): 293-308.

Better Evaluation. 2022. "Identify Potential Unintended Results." https://www.betterevaluation.org/frameworks-guides/rainbow-framework/define/identify-potential-unintended-results

Center for Democracy and Technology. 2018. "Responsible Data Frameworks: In Their Own Words." https://cdt.org/wp-content/uploads/2018/06/2018-06-25-Responsible-Data-Frameworks-In-Their-Own-Words-FULL.pdf

Charlton, Margo. n.d. "Art-Based Evaluation 101." ArtReach Toronto. https://www.betterevaluation.org/sites/default/files/GOAL_ArtBasedEvaluation.pdf

Conflict Sensitivity Community Hub. n.d. "What is Conflict Sensitivity?" https://www.conflictsensitivityhub.net/index.php/conflict-sensitivity/

Cynefin Centre. 2017. "Submission by the Cynefin Centre for Applied Complexity and Associated Research Partners." UNFCCC. https://unfccc.int/files/parties_observers/submissions_from_observers/application/pdf/874.pdf

Desai, Harsh, Maneo, Gabriele, Pellfolk, Erica, & Annika Schlingheirder 2018. *Managing to Adapt: Analysing Adaptive Management for Planning, Monitoring, Evaluation, and Learning.* Oxfam. https://policy-practice.oxfam.org/resources/managing-to-adapt-analysing-adaptive-management-for-planning-monitoring-evaluat-620446/

Galtung, Johan. 1969. "Violence, Peace, and Peace Research." *Journal of Peace Research* 6(3): 167–191. http://www.jstor.org/stable/422690

GEF (Global Environment Facility). 2020. *Guidelines on the Project and Program Cycle Policy (2020 Update).* GEF/C.59/Inf.03. https://www.thegef.org/council-meeting-documents/guidelines-project-and-program-cycle-policy-2020-update

GEF IEO (Global Environment Facility Independent Evaluation Office). 2020. *Evaluation of GEF Support in Fragile and Conflict-Affected Situations.* GEF/E/C.59/01.

Guidrey, Megan, Bango, Emily, & Amelia Ayoob. 2023. "Equitable Evaluation in Remote and Sensitive Spaces." *New Directions for Evaluation* 176:87-96.

Hageboeck Molly, Frumkin, Micah, & Stephanie Monschein, S. 2013. *Meta-Evaluation of Quality and Coverage of USAID Evaluations, 2009-2012.* Washington, DC: Management Systems International (MSI).

Haider, H. 2014. *Conflict: Topic Guide.* Rev. ed. Birmingham: GSDRC, University of Birmingham. http://www.gsdrc.org/docs/open/CON69.pdf

Hendrix, Cullen, Koubi, Vally, Selby, Jan, Siddiqi, Ayesha, & Nina von Uedxkull. 2023. "Climate Change and Conflict." *Nature Reviews Earth & Environment* 4:144-148. https://doi.org/10.1038/s43017-022-00382-w

Higgins, J.W. 2011. "Peace-Building through Listening, Digital Storytelling, and Community Media in Cyprus." *Global Media Journal: Mediterranean Edition* 6(1): 1–13.

Holling, C.S. 1978. *Adaptive Environmental Assessment and Management.* John Wiley and Sons.

House, Jenny, Kleiber, Danika, Steenbergen, Dirk J., & Natasha Stacey. 2023. "Participatory Monitoring in Community-Based Fisheries Management through a Gender Lens." *Ambio* 52:300-318.

Jabeen, Sumera. 2016. "Do We Really Care about Unintended Outcomes? An Analysis of Evaluation Theory and Practice." *Evaluation and Program Planning* 55:144-154.

Jones, Peter. 2020. "Talking for the Sake of It, or Making a Difference? Assessing and Evaluating Track Two Diplomacy." In *New Directions in Peacebuilding Evaluation*, edited by Tamra Pearson D'Estrée, 69-90. Rowman & Littlefield.

Kahl, Anne, McConnell, Christy, & William Tsuma. 2012. "Crowdsourcing as a Tool in Conflict Prevention." *Conflict Trends* 1:27–34. https://www.semanticscholar.org/paper/Crowdsourcing-as-a-tool-in-conflict-prevention-Kahl-Mc-Connell/9e3bd52515f8e6c1f1cb7f6cab70939534a01f9c

Kiemanh, Pham, Chambers Sharpe, Emily, Weiss, William, & Alexander Vu. 2016. "The Use of a Lot Quality Assurance Sampling Methodology to Assess and Manage Primary Health Interventions in Conflict-Affected West Darfur, Sudan", *Population Health Metrics* 14(34). https://pophealthmetrics.biomedcentral.com/articles/10.1186/s12963-016-0103-3

Kotze, Marinda, Seedat, Mohamed, Suffla, Shahnaaz, & Sherianne Kramer. 2013. "Community Conversations as Community Engagement: Hosts' Reflections." *South African Journal of Psychology* 43(4): 494-505. https://doi.org/10.1177/0081246313508353

Kron, Amanda, Rüttinger, Lukas, Pohl, Benjamin, Wolfmaier, Susanne, Martinez Sequero, Albert, Kellogg, Molly, Zaidi, Asif, & Daniel Essay. 2022. *Addressing Climate-Related Security Risks: Conflict Sensitivity for Climate Change Adaptation and Sustainable Livelihoods – Toolbox.* United Nations Environment Programme. https://wedocs.unep.org/bitstream/handle/20.500.11822/40329/security_risks.pdf?sequence=1&isAllowed=y

Lemon, Adrienne, & Mélanie Pinet. 2018. "Measuring Unintended Effects in Peacebuilding: What the Field of International Cooperation Can Learn from Innovative Approaches Shaped by Complex Contexts." *Evaluation and Program Planning* 68:253-261. https://doi.org/10.1016/j.evalprogplan.2017.09.007

Linabarry, Jasmine R., Krishna, Arunima, & Stacey L. Connaughton. 2017. "The Conflict Family: Storytelling as an Activity and a Method for Locally-Led, Community-Based Peacebuilding." *Conflict Resolution Quarterly* 34(4): 431-453.

Lind, Jeremy. 2015. "Manufacturing Peace in 'No Man's Land': Livestock Access to Natural Resources in the Karimojong Cluster of Kenya and Uganda." In *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding*, ed. Helen Young and Lisa Goldman. Routledge, 91-113.

Löhr, Katharina, Morales-Muñoz, Héctor, Rodríguez, Tatiana, Lozano, Camilo, Del Río, Martha, Hachmann, Samyra, Bonatti, Michelle, Pazmino, Julia, Castro-Núñez, Augusto, & Stefan Sieber. 2022. "Integrating the Concept of Peacebuilding in Sustainability Impact Assessment." *Environmental Impact Assessment Review* 95:106803. https://doi.org/10.1016/j.eiar.2022.106803

MEASURE Evaluation. n.d. "Lot Quality Assurance Sampling Measures Performance." https://www.measureevaluation.org/our-work/evaluation/lot-quality-assurance-sampling-used-to-measure-program-performance

Meijer, Albert. 2014. "Transparency." *The Oxford Handbook of Public Accountability.*

Merkel, Katharina. 2021. *Thematic Review on Gender-Responsive Peacebuilding.* UN Peacebuilding Fund. https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/documents/gender_thematic_review_2021_23_nov.pdf

Miletto, Michela, Pangare, Vasudha, & Laurens Thuy. 2019. *Gender-Responsive Indicators for Water Assessment, Monitoring, and Reporting.* Unesco World Water Assessment Programme. https://www.womenforwater.org/uploads/7/7/5/1/77516286/wwap_tool_1_gender-responsive_indicators.pdf

Nagai, Shin, Nasahara, Kenlo, Akitsu, Tomoko, Saitoh, Taku, & Hiroyuki Muraoka. 2020. "Importance of the Collection of Abundant Ground-Truth Data for Accurate Detection of Spatial and Temporal Variability of Vegetation by Satellite Remote Sensing." In *Biogeochemical Cycles: Ecological Drivers and Environmental Impact,* edited by Katerina Dontsova, Zsuzsanna Balogh-Brunstad, & Gaël Le Roux, 223-244. https://doi.org/10.1002/9781119413332.ch11

Nanthikesan, Suppiramaniam, & Juha I. Uitto. 2012. "Evaluating Post-Conflict Assistance." In *Assessing and Restoring Natural Resources in Post-conflict Peacebuilding*, edited by David Jensen and Stephen Lonergan. Routledge.

Narrate. 2014. "Using SenseMaker to Understand Girls' Lives: Lessons Learnt from GirlHub." May. https://narrate.co.uk/wp-content/uploads/2018/03/GirlEffect-Using-SenseMaker-to-understand-girls-lives.pdf

OECD (Organization for Economic Co-operation and Development). 2019. "Better Criteria for Better Evaluation Revised Evaluation Criteria Definitions and Principles for Use." https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf

Rathinam, Francis, Finetti, Juliette, Siddiqui, Zeba, Snilstveit, Birte, Chirgwin, Hannah, Appell, Richard, Dickens, Eleanor, & Marie Gaarder. 2019. *The Effect of Transparency and Accountability Interventions in the Extractive Sectors: An Evidence Gap Map.* Evidence Gap Map Report No. 14. International Initiative for Impact Evaluation. https://www.3ieimpact.org/sites/default/files/2019-10/EGM14-TAI-report.pdf

Rohwedder, Brigitte. 2015. "Conflict Early Warning and Early Response." GSDRC. https://gsdrc.org/wp-content/uploads/2015/02/1195_-Conflict-early-warning-and-early-response.pdf

Rupesinghe, Kumar. 2009. *FCE Citizen-Based Early Warning and Early Response System: A New Tool for Civil Society to Prevent Violent Conflict.* Foundation for Co-Existence. https://earlywarning.files.wordpress.com/2009/03/fce-citizen-based-early-warning-and-early-response-system.pdf

Schmid, Alex P. 2000. *Thesaurus and Glossary of Early Warning and Conflict Prevention Terms* (Abridged ver.). Erasmus University.

Shanks, Graeme & Corbitt, Brian. 1999. "Understanding Data Quality: Social and Cultural Aspects." In *Proceedings of 10th Australasian Conference on Information Systems,* 1999, 785-797.

Shiel, Annie. 2013. "Conflict Crowdsourcing: Harnessing the Power of Crowdsourcing for Organizations Working in Conflict and the Potential for a Crowdsourcing Portal for Conflict-Related Information." McGill University.

Spiel, Katta, Haimson, Oliver, & Danielle Lottridge. 2019. "How to Do Better with Gender on Surveys: A Guide for HCI Researchers." *Interactions* 26(4): 62-65. https://doi.org/10.1145/3338283

Stone, Deborah. 2002. *Policy Paradox: The Art of Political Decision Making.* New York: Norton Press.

Sumera, Jabeen. 2016. "Do We Really Care about Unintended Outcomes? An Analysis of Evaluation Theory and Practice." *Evaluation and Program Planning* 55:144-154.

UNDP (United Nations Development Programme). 2022. *Community Conversations: Harnessing the Power of Communities to Solve Security, Justice and Land Issues* – June 2019 – April 2021. https://www.undp.org/somalia/publications/community-conversations-justice

USAID (United States Agency for International Development). 2017. *Midterm Evaluation of Phase III of the USAID Central Africa Regional Program for the Environment.* https://carpe.umd.edu/sites/default/files/documentsarchive/2017_USAID_Midterm%20Eval%20of%20Phase%20III%20of%20USAID%20CARPE.pdf

USAID (United States Agency for International Development). 2022. "Considerations for Using Data Responsibly at USAID." https://www.usaid.gov/responsibledata

Weir, Doug, McQuillan, Dan, & Robert Francis. 2019. "Civilian Science: The Potential of Participatory Environmental Monitoring in Areas Affected by Armed Conflicts." *Environmental Monitoring and Assessment* 191(618): 1-17. https://doi.org/10.1007/s10661-019-7773-9

Whitfield, Stephen, Geist, Helmut, & Antonio A. Ioris. 2011. "Deliberative Assessment in Complex Socioecological Systems: Recommendations for Environmental Assessment in Drylands." *Environmental Monitoring and Assessment* 183:465-483. https://doi.org/10.1007/s10661-011-1933-x

Woodrow, Peter, & Isabella Jean. 2019. "Scrambling after Moving Targets: Monitoring and Evaluation Applied to Adaptive Management Approaches in Peacebuilding." In *New Directions in Peacebuilding Evaluation,* ed. Tamra Pearson d'Estrée, 93-112.

Yekple, Michael. 2017. *When Drones Become UN Peacekeeping Staple,* Accra: Kofi Annan International Peacekeeping Training Centre (KAIPTC), Policy Brief 6.

Young, Laine, Lee-Smith, Diana, & Joy Carey. 2020. "Adding a Gender Lens to the Milan Urban Food Policy Pact Monitoring Framework." *Urban Agriculture* 37(July): 9-12.

Annex 3-I: Data Repositories

The following tables provide example repositories of information relevant to environmental peacebuilding. The first table focuses on repositories related to conflict, fragility, peace, and peacebuilding. The second table focuses on repositories related to the state of the environment and environmental governance. The third table highlights a few other potentially useful repositories, particularly those related to environmental governance.

Table 1: Data Repositories for Conflict, Fragility, Peace, and Peacebuilding

DATABASE	LINK	USE
UN Peacebuilding Projects	https://www.un.org/peacebuilding/documents	Provides access to the documents of the UN Peacebuilding Commission, which can demonstrate criterion applicable in peacebuilding programs.
Uppsala Conflict Data Program	https://ucdp.uu.se/	Provides data on organized violence, with the oldest ongoing data collection project for civil war.
ACLED	https://acleddata.com/#/dashboard	Collects real-time data on the locations, dates, actors, fatalities, and types of all reported political violence and protests globally.
Peacebuilding Data.org	http://www.peacebuildingdata.org/	Contains quantitative and qualitative research undertaken in countries affected by mass violence.
Journal of Peace Research Replication Datasets	https://www.prio.org/journals/jpr/replicationdata	Provides access to the datasets used by authors of articles featured in the Journal of Peace Research (since 1998).

DATABASE	LINK	USE
Eirene Peacebuilding Database	https://www.allianceforpeacebuilding.org/eirene-peacebuilding-database	Puts forward program approaches, indicators, and measures currently being used across 7 program areas: Dispute Resolution; Governance; Perceptions of Safety and Security; Resistance; Trust; Social Cohesion; and Violence Reduction.
Global Peace Index	https://www.visionofhumanity.org/maps/#/	Provides quantitative scores on the peacefulness of individual countries based upon 23 indicators.
Global Terrorism Index	https://www.visionofhumanity.org/maps/global-terrorism-index/#/	Quantitatively measures the impact of terrorism in each nation based upon four indicators, ranking countries from 0 to 10.
Fragile States Index	https://fragilestatesindex.org/	Annual assessment of fragility of nations, providing a quantitative score for each country.
Millennium Challenge Corporation Evidence Platform	https://mcc.icpsr.umich.edu	Contains studies, documentation, and data from the Millennium Challenge Corporation's foreign aid grantmaking work.

Table 2: Data Repositories on the Environment

RESOURCE	DATABASE	ORGANIZATION	SCALE	DESCRIPTION	LINK
Water	AQUASTAT	FAO	Global & Country	AQUASTAT collects, analyses, and provides free access to over 180 variables and indicators by country from 1960 onwards.	http://www.fao.org/aquastat/en/
Agriculture	FAOSTAT	FAO	Global & Country	FAOSTAT provides free access to food and agriculture data for over 245 countries and territories, covering all FAO regional groupings from 1961 to the most recent year available.	http://www.fao.org/faostat/en/#data
Fisheries	FAOSTAT & FishStatJ	FAO	Global & Country	FishStatJ is an application available on Windows and Mac, used to access FAO's Fisheries and Agriculture statistics, including datasets on production, trade, and consumption.	http://www.fao.org/fishery/statistics/en FishStatJ: https://www.fao.org/fishery/en/topic/166235
Biodiversity	GBIF	Global Biodiversity Information Facility	Global & Local	GBIF is funded by the world's governments and aims to provide open access data about all types of life on earth.	https://www.gbif.org/

RESOURCE	DATABASE	ORGANIZATION	SCALE	DESCRIPTION	LINK
Extractives	Minerals Resources Data System (MRDS)	USGS	Global & Local	MRDS describes metallic/non-metallic mineral resources throughout the world. It includes deposit name, location, commodity, and references.	https://mrdata.usgs.gov/
Land	Esri Land Cover 2020	ESRI	Global & Local	An annually updated 10-meter resolution map of the Earth's land surface from 2017-2021. It provides information about change in land cover/usage.	https://livingatlas.arcgis.com/landcover/
Forests	Global Forest Watch (GFW)	World Resources Institute	Global & Local	GFW displays a multitude of forestry-related indicators on an interactive map. It comprises over 100 global and local data sets.	https://globalforestwatch.org/
Environmental Vulnerability	INFORM Risk Index	European Commission's Joint Research Center	National (for 191 countries)	Focuses on humanitarian crises and disasters, looking at hazard and exposure (events that could occur and exposure to them), vulnerability (the susceptibility of communities to those hazards), and lack of coping capacity (lack of resources available that can alleviate the impact).	https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk.

RESOURCE	DATABASE	ORGANIZATION	SCALE	DESCRIPTION	LINK
Environmental Vulnerability	Economic and Environmental Vulnerability Index	UN Committee for Development Policy	National (for 145 developing countries)	Includes both the Economic Vulnerability Index and the Environmental Vulnerability Index, each of which contains four indicators	https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-criteria.html.
Environmental Vulnerability	Vulnerability Risk Index (VRI)	Villanova University	National (for 173 countries)	Assesses vulnerability to environmentally triggered conflict.	https://link.springer.com/content/pdf/10.1007%2F978-3-319-90975-2.pdf
General	World Development Indicators	World Bank	National (for 217 countries)	More than 100 environmental indicators, including on Agriculture and Food Security, Climate Change, Economic Growth, Environment and Natural Resources, and Gender.	https://datacatalog.worldbank.org/dataset/world-development-indicators
General	Environmental Performance Index (EPI)	Yale University Columbia University	National (180 countries)	Focuses on environmental results.	https://epi.yale.edu/

RESOURCE	DATABASE	ORGANIZATION	SCALE	DESCRIPTION	LINK
Environmental Governance	Environmental Rule of Law	UN Environment Programme	Global & National	Dataset focuses on environmental governance, laws, including institutions, civil engagement, rights, and justice.	https://www.unep.org/explore-topics/environmental-rights-and-governance/what-we-do/promoting-environmental-rule-law-0
Environmental Governance	Environmental Conventions Index (ECI)	University of Massachusetts Boston	National (more than 120 countries)	Evaluates how countries have implemented their commitments under international environmental conventions.	https://www.environmentalgovernance.org/eci
Environmental Governance	Environmental Governance Indicators for Latin America and the Caribbean	World Justice Project	National for 10 countries in Latin America	The index uses 11 primary indicators: Regulation and Enforcement, Civic Engagement, Fundamental Environmental and Social Rights, Access to and Quality of Justice, Air Quality and Climate, Water Quality and Resources, Biodiversity, Forestry, Oceans, Seas, and Marine Resources, Waste Management, and Extraction and Mining. In addition, there are 42 sub-indicators and 20 sub-sub indicators.	https://worldjustice-project.org/our-work/research-and-data/environmental-governance-indicators-latin-america-and-caribbean

RESOURCE	DATABASE	ORGANIZATION	SCALE	DESCRIPTION	LINK
Climate Risk	Global Climate Risk Index	Germanwatch en	National (for 180 countries)	Four indicators make up the Index: number of deaths; number of deaths per 100,000 inhabitants; sum of losses in US$ in purchasing power parity; and losses per unit of GDP.	https://germanwatch.org/en/cri
Climate Risk	Climate and Ocean Risk Vulnerability Index	Stimson Center	City.	Focuses on the risk coastal cities experience as a result of climate change.	https://www.stimson.org/wp-content/uploads/2020/06/Stimson_CORVIReport_FullReport_051220-1.pdf
Climate Adaptation	Notre Dame Global Adaptation Initiative Country Index (ND-GAIN)	University of Notre Dame	National (for 181 countries)	Includes 45 indicators: 36 measuring vulnerability and nine measuring readiness.	https://gain.nd.edu/our-work/country-index/
Disaster Risk	World Risk Index	United Nations University and Ruhr University Bochum	National (for 181 countries)	The Index is made up of four components and 27 indicators.	https://weltrisikobericht.de/weltrisikobericht-2020e-neu/

Table 3: Other Data Repositories

| DATABASE	LINK	HOW IS IT USEFUL AND WHAT IS IT USEFUL FOR?
Human Development Index	http://hdr.undp.org/en/content/human-development-index-hdi	Tracks important selected aspects of human development, including length of life, education, and standard of living.
Worldwide Governance Indicators (WGI)	http://info.worldbank.org/governance/wgi/	Addresses a range of the practical aspects of governance, including control of corruption, rule of law, regulatory quality, voice and accountability, government effectiveness, and political stability and absence of violence. For each of these six aggregate indicators, there are multiple individual indicators, with well over 100 individual indicators overall.
Country Policy and Institutional Assessment (CPIA)	https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment	Using 16 criteria in four clusters, it investigates how effective the frameworks are at reducing poverty, improving sustainable growth, and fostering effective use of development assistance.
Corruption Perceptions Index (CPI)	https://www.transparency.org/en/cpi/2020/index/nzl	It annually ranks 180 countries and territories by their perceived levels of public sector corruption.
Rule of Law Index	https://worldjusticeproject.org/rule-of-law-index/	It looks at policy outcomes to determine adherence to rules and laws instead of focusing on the enabling conditions of governance or how a society can work to achieve policy outcomes.

Table of Contents

Evaluation is the systematic assessment of an ongoing or completed intervention. It usually examines the intervention's design, implementation, and effects to determine its worth, quality, value, and importance. Evaluation helps to ensure accountability to the intervention's funders and other stakeholders as well as increase understanding of and learning from the intervention, its context, and its theories of change to improve future interventions. The process of performing an evaluation can be approached in many ways.

This chapter will help you:

- Understand how the intended uses and audience of your evaluation should guide its design and methodology.

- Become familiar with how to integrate conflict sensitivity into all stages of planning and conducting your evaluation.

- Consider ways to make your evaluation more inclusive and gender sensitive.

- Become familiar with multiple evaluation approaches that can be used in environmental peacebuilding interventions as well as their respective benefits and limitations.

4.1. Introduction

Evaluation is the systematic assessment of an ongoing or completed intervention's design, implementation, and effects to determine its worth, quality, value, and importance. Evaluations often utilize monitoring data in addition to collecting more in-depth information that examine the *how* and *why* of an intervention. These assessments can take place at various points during an intervention's implementation, from beginning to end and even some time after an intervention concludes. Decisions regarding when and how to evaluate should be driven by the objective of the evaluation itself, which in turn is linked to learning questions[1] and accountability needs.

DESIGN

LEARNING

MONITORING

INTERVENTION CYCLE

IMPLEMENTATION

EVALUATION

---
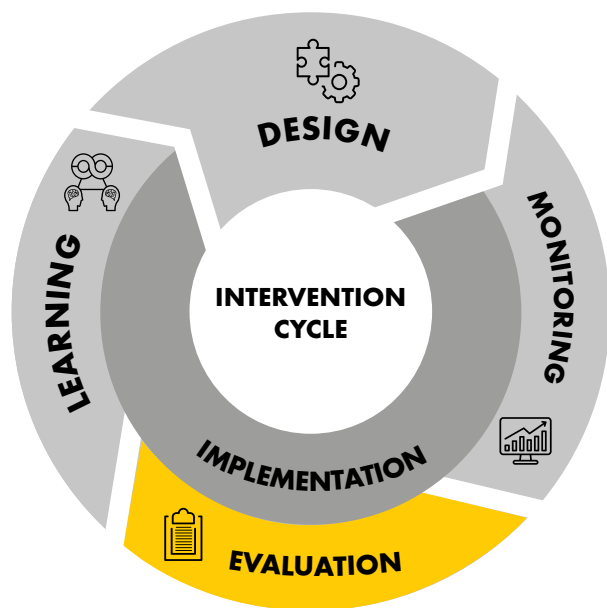
1. For more information on learning questions, see Chapter 2 (Design).

Evaluations are often undertaken for accountability purposes. **Accountability means being responsible for doing the work that you said you would do; conforming to certain standards, norms, or requirements in doing that work; and being transparent about the process, effects, and results of the work.** There are multiple kinds or directions of accountability: upward to funders, downward to beneficiaries or participants, horizontal to peer organizations, and inward accountability within an organization (Simister 2018) (see Figure 4.1). Upward accountability focuses on fulfilling specific commitments to take actions and achieve results, as well as accounting for how money and other resources were used. Downward accountability focuses on accountability to beneficiaries or other participants, particularly community members, non-governmental organizations (NGOs), and local administrators (rather than funders), considering who benefits how much and how, as well as opportunities for local people to participate in the initiative. Horizontal accountability focuses on sharing information with peer organizations, adhering to informal and formal agreements, and meeting shared standards. Finally, inward accountability focuses on adhering to the standards and procedures of the organization undertaking the intervention.

Although evaluations frequently focus on upward accountability as a condition of funding, other forms of accountability are also important in the context of environmental peacebuilding. Downward accountability is particularly important because it addresses participation and stakeholder engagement, which

can build local support for the intervention and substantially influence whether the benefits are sustained after the initiative ends.[2] Moreover, horizontal accountability and inward accountability are important in helping organizations, practitioners, and decisionmakers to learn what works under what circumstances and thereby improve environmental peacebuilding interventions.
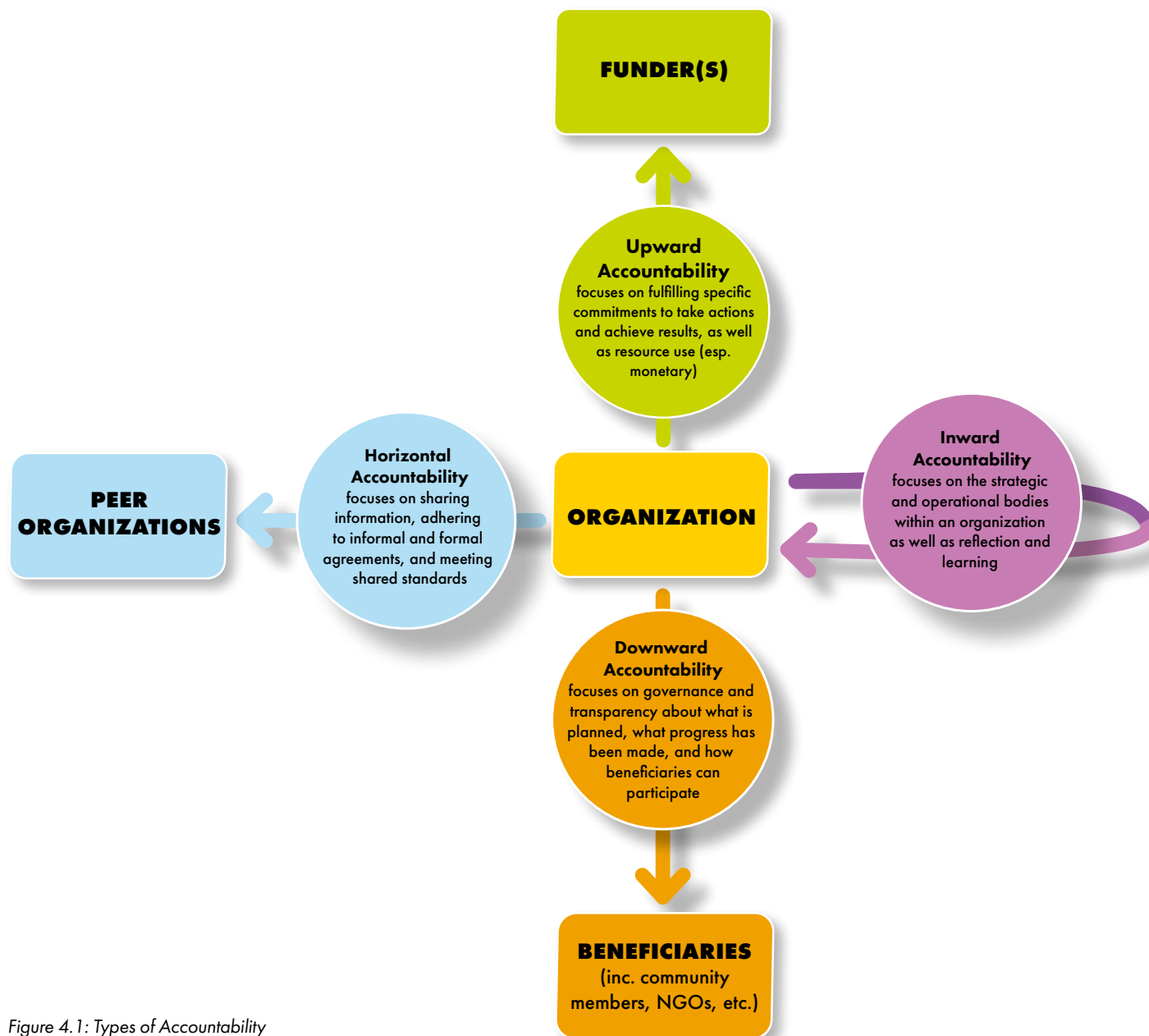
FUNDER(S)

Upward Accountability
focuses on fulfilling specific commitments to take actions and achieve results, as well as resource use (esp. monetary)

Horizontal Accountability
focuses on sharing information, adhering to informal and formal agreements, and meeting shared standards

PEER ORGANIZATIONS

ORGANIZATION

Inward Accountability
focuses on the strategic and operational bodies within an organization as well as reflection and learning

Downward Accountability
focuses on governance and transparency about what is planned, what progress has been made, and how beneficiaries can participate

BENEFICIARIES
(inc. community members, NGOs, etc.)

Figure 4.1: Types of Accountability
Source: ELI, drawing upon Simister 2018.

2. On the diverse stakeholders, see Box 4.1; on M&E as intervention, see Chapter 2 (Design).

Evaluations are also conducted for learning. This is especially the case for environmental peacebuilding, where theories of change are still evolving and evidence supporting them is often modest.

Box 4.1: Something to Consider—Different Stakeholders

Learning for and accountability to different kinds of stakeholders has important implications for how an evaluation is conducted. Consider:

○ What are these stakeholders interested in learning from an evaluation? What do they care about? What do they expect?

○ What will these stakeholders consider to be valid evidence? Equally as important, what kinds or sources of evidence might they question?

○ What standards, norms, or cultural considerations are relevant to the stakeholders? How will these affect how you conduct and share an evaluation?

When in doubt, refer back to the personas that you have developed during the design process (discussed in Chapter 2 (Design)).

LEARNING

Learning-oriented evaluations investigate why and how something happened, with the aim of increasing understanding and improving current and future interventions. Like accountability, learning can be for different audiences: for the intervention team, for the community or other stakeholders, for partners or the wider sector or field, for academia, and for funders. Like accountability, understanding who the learning is for and what they want to learn can help determine the focus of an evaluation. How learning is undertaken can likewise support the attainment of environmental peacebuilding objectives. The more participatory and frequent evaluation activities are, the more stakeholders will learn, and—generally speaking—the more effective the evaluations and interventions will be. Learning-oriented evaluations can also help build trust and support among stakeholders.

4.2. Challenges to Environmental Peacebuilding Evaluations

Before diving into how to conduct an evaluation of environmental peacebuilding work, it is important to note a few specific challenges. The first notable challenge to evaluating environmental peacebuilding interventions is **linking the environmental and peacebuilding dimensions.** As a practical matter, it is often relatively straightforward to monitor and evaluate changes in the environment and natural resources; similarly, there are established and tested techniques to monitor and evaluate efforts to resolve conflict and build peace. It can be challenging, though, to ascertain whether and how environmental changes may have contributed to changes in peace and security—or whether the changes in peace and security were due to other factors unrelated to environmental changes. This is made more complicated by cases in which outcomes related to conflict, peacebuilding, the environment, and other concepts related to an intervention's theory of change have not been well defined.

Options for an evaluation to link the environmental and peacebuilding dimensions include:

- Based on your theory/ies of change, start with the specific causal linkages that you anticipated.

- Use multiple methods and data sources collected over time (often through the process of monitoring) and as part of the evaluation process to build a picture of cause-and-effect relationships.

  - Survey and interview information can be complemented with satellite imagery to construct a picture of what happened, when, and to what effect.[3]

  - Diverse sources are useful for triangulation and understanding the different dimensions that are being evaluated, but they have their limitations in tying it all together.

- Ask stakeholders via interviews, focus groups, or surveys about their perceptions of the connections between the environment and conflict or peace situations.

  - For example, have improvements to the environment (documented through the various methods and data sources mentioned above) resulted from or contributed to increased trust? To peace?

  - Similarly, have changes to the conflict context resulted in any changes to the natural environment?

  - Did the conflict or fragile context affect the intervention in any way? Were these impacts anticipated?

- In retrospect, were there any other indicators that you wished you had tracked to be better able to evaluate the environment-conflict-peace linkages?

---

3. See, for example, Emerson, Muhweezi, & Ayul 2017 (evaluating the Boma-Jonglei-Equatoria Landscape Program).

Another challenge to environmental peacebuilding evaluations is **understanding their long-term effects.** Changes to the environment as well as the conflict context often manifest over extended timeframes (Kupermintz & Salomon 2005; Swain 2016). As a practical matter, funding cycles often require long-term reforms or changes to be pursued through a series of shorter-term interventions, with each intervention lasting on the order of a year or a few years. As a result, transforming conflict—including through environmental pathways—requires multiple interventions, with evaluations often at the end of each intervention. In such situations, the evaluation of a single intervention, particularly those focusing on accountability, necessarily focuses on the time-frame covered by that intervention, providing earlier interventions as context and not yet knowing if the outcomes of the particular intervention will actually manifest or be sustained over the longer term.

To address these challenges, consider the following:

- Is it possible to allocate resources to assess long-term impacts?

   o For example, is it possible to set aside funding or budget for an evaluation 1-5 years after an intervention has ended?

   o Alternatively, consider the possibility of a programmatic evaluation (see Chapter 4.4).

- Contextualize the intervention and its evaluation within the broader suite of interventions and their evaluations in the same space. What long-term trends can you observe? Did this intervention build on other interventions (particularly ones that your organization undertook)? Or do they conflict and overlap? To what effect?

- Even if an evaluation of the long-term impacts is not possible, is it possible to assess leading indicators of success; what has happened so far that makes it likely to contribute to sustainable, positive change?

   o Make sure your evaluation includes an assessment of sustainability, potentially including sociopolitical, environmental, institutional, and financial sustainability (see Box 4.4).

Evaluations need to be gender-sensitive

GENDER

Women and girls as well as non-binary individuals have different roles, vulnerabilities, and opportunities than men in relation to both environmental management and to peace and conflict transformation. Accordingly, it is important to not assume that people of different genders were equally engaged, benefitted equally, or that the intervention was able to capitalize on the range of benefits that come from effective gender engagement and empowerment. Box 4.2 further explores consideration of gender in evaluations of interventions at the intersection of environment, conflict, and peace.

Evaluations should focus on contribution more so than attribution

Many funders want to know that their investments have achieved the desired objectives. This is core to evaluations that emphasize upward accountability. However, even when it is possible to identify changes (whether it is to the environment, to peace, or both), it can be difficult to attribute those changes to a particular intervention. Environmental peacebuilding interventions take place in complex contexts with diverse actors and interventions, a dynamic environment, and many intervening factors. Many factors influence conflicts and the environment, and control groups for counterfactuals may be impractical, ethically questionable, or outright dangerous (Goldwyn & Chigas 2013). There are often multiple, similar interventions happening at different scales and in different geographies, sometimes overlapping.

For example, if an intervention seeks to improve agricultural livelihoods in a post-conflict setting, there are often other simultaneous efforts to secure land tenure, improve land administration, build or restore irrigation systems, provide seed and other inputs, train farmers, train government administrators, resolve disputes over land and water rights, and so forth. If it is possible to track improvements in livelihoods, how can an evaluation of a particular intervention attribute those improvements to that intervention and not the other dozens of interventions related to agricultural livelihoods? And how can the evaluator ascertain whether that intervention and "its" livelihoods impact strengthened peace, whose improvements might be due (entirely, largely, or partially) to other peace-building efforts? The solution, in short, is to focus on the contribution of an intervention to the overall objective, rather than direct attribution.[4]

---

4. This is discussed further in Chapter 4.3 (Step 2).

Box 4.2: Gender in Environmental Peacebuilding Evaluation

Women often have gender-specific relationships with natural resources (UNEP et al. 2013). They may be the main users and managers of certain resources, be heavily dependent on resource availability for their livelihoods, or face challenges due to restricted resource rights. Additionally, women may be affected by conflict differently than men. In times of conflict, they may experience limited mobility, forced proximity to hazards, gender-based violence, or be forced to take on non-traditional economic or familial roles.

There is growing evidence that inclusion of women in both environmental and peacebuilding interventions improves their success and sustainability. Including women in local peace processes helps establish a more durable peace (Stone 2014; UNIFEM 2010). Additionally, UN peacekeeping operations are more effective in societies with greater female public participation and gender equality, which create opportunities for greater economic development (Gizelis, 2009). This makes women both important beneficiaries of and participants in environmental peacebuilding interventions.

Including and empowering women in environmental peacebuilding evaluations is essential because doing so (1) provides a more complete picture of the intervention and its effects on a greater range of people and (2) improves understanding of the roles of women and girls in achieving interventions' objectives, supporting the ongoing improvement of environmental peacebuilding. Gender inclusion means designing evaluations to assess gender considerations in an intervention's design, implementation, and effects; incorporating women's voices in the collection of evaluation information; and building a gender-balanced evaluation team.

Evaluation questions related to gender may include:

- Was the intervention's design gender-sensitive? How were women involved in the design of the intervention?

- Did the intervention's implementation create opportunities specifically for women and girls? What were these? Were they relevant and appropriate?

  o Regardless of the opportunities, were women and girls actually involved in the implementation of the intervention? How? How many females participated compared with how males many were involved in different aspects of the intervention's implementation?

  o What were the perceptions of different groups regarding gender inclusion at different stages?

- How were different genders affected differently by the intervention?

- How did the inclusion of different genders contribute to the achievement of intervention outcomes?

  o What were the effects of gender inclusion on intervention design? Implementation? Evaluation?

The collection of gender-disaggregated data is essential to understanding the gender dimensions of an intervention. When collecting gender-disaggregated information for an evaluation, consider:

- Should interviews or focus groups be separated by gender?

- Would women feel more comfortable talking to female evaluators?

- Is it possible to speak with both men and women in a culturally appropriate and respectful way while also ensuring people of all genders feel safe?

In building a gender-balanced evaluation team:

- Proactively hire women to lead or support evaluations. This may be challenging in areas where women are not traditionally formally employed or perceived as leaders.

- In the event that there are few women evaluators available, provide mentorship and capacity-building opportunities.

It is important to remember that being gender sensitive does not mean focusing exclusively on women. For example, it may also mean considering how young men are impacted by the conflict, the availability of natural resources, and the intervention. Young men are often forced into illicit occupations in times of conflict; they may also be compelled to participate in violence.
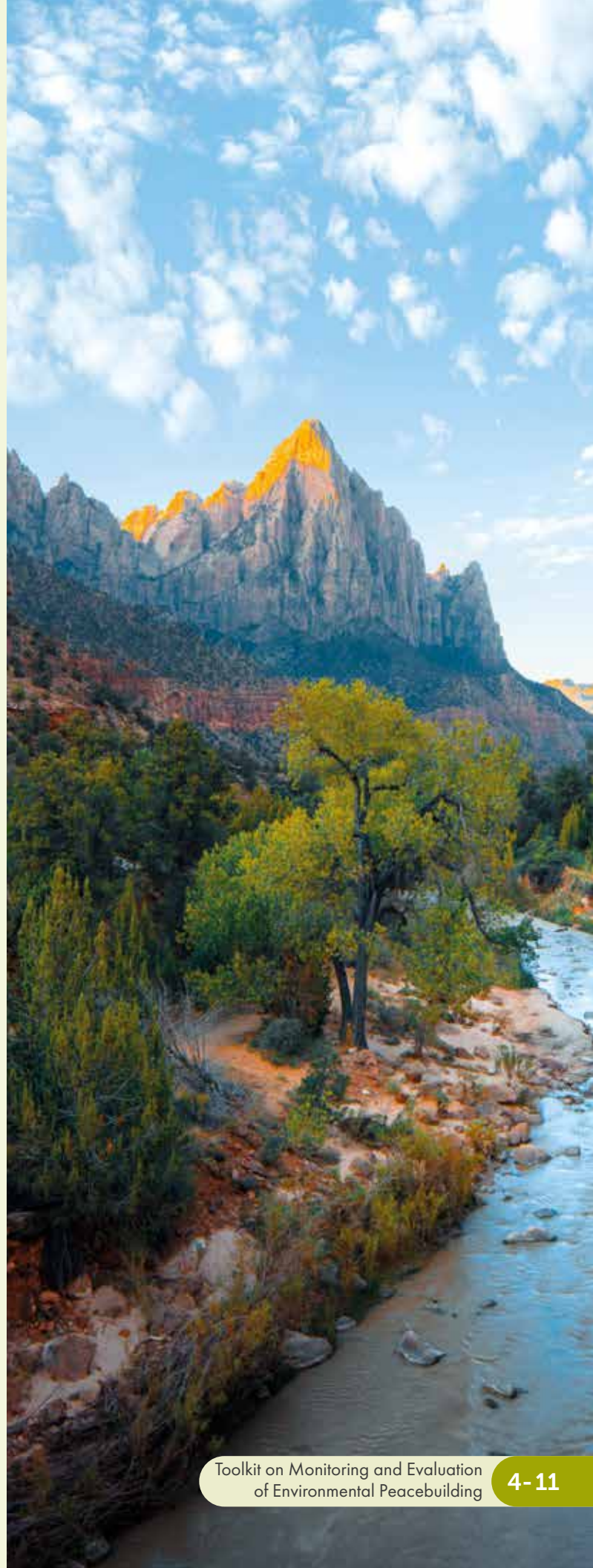
4.3. Step-by-Step Environmental Peacebuilding Evaluation

This section includes basic four-step guidance for planning and conducting an evaluation of an intervention at the intersection of environment, conflict, and peace. Throughout the design and implementation of an evaluation, there are a few key cross-cutting considerations, including how to conduct a gender-sensitive evaluation (Box 4.2), the extent to which stakeholders and other members of the public should be engaged (Box 4.3), and how to right-size the evaluation.

INCLUSION / PARTICIPATION

Box 4.3: Something to Consider—Participatory Evaluations

In each of the steps listed in this section, it is important to consider *who* is participating and *how*. Who is involved in deciding what to evaluate and how will affect the focus of your evaluation, what information is captured, the perceived legitimacy of your evaluation, and how it is used once completed. Participation and inclusion of various stakeholder groups often increases the evaluation's efficacy, legitimacy, and its eventual use. How stakeholders participate can also further or undermine your environmental peacebuilding objectives. Take the time to think through the various options so you can make appropriate and conflict sensitive choices.

Step 1: Decide for Whom, Why, and What You Will Evaluate

It is essential to define your scope before conducting an evaluation. This includes:

- **Establishing who the evaluation is for and why it is being undertaken.** Remember, different stakeholders will have different priorities when it comes to an evaluation (including different forms of accountability, learning, and adaptive management).[5] This is critical for environmental peacebuilding evaluations: who the evaluation is for, or who it is *perceived* to be for, could affect its legitimacy or even the conflict context. However, it is likely not possible to address every stakeholder group's priorities, so carefully consider your options and be selective.

- **Developing the evaluation questions.** Every evaluation or assessment should be guided by a few high-level questions. For environmental peacebuilding interventions, those questions will likely focus on what has happened to the environment and why, what has happened with conflict or peace and why, and what relationship the two have with each other. It is important to consider your theory/ies of change and focus on key "conversion points," or places where you have hypothesized a causal relationship and need evidence to validate it. You should also consider evaluating the degree to which the intervention was conflict-sensitive. Finally, remember to keep in mind scale and timing: on what level(s) will your evaluation focus, and are the questions relevant to the timeline? See Box 4.4 for more details.

- **Exploring whether it is possible to answer your desired evaluation questions.** Given the context, stage of the intervention, available data, etc. Environmental and socio-political changes can and often do happen along different timelines, so you need to ensure that it is feasible to answer all your questions now. Additionally, make sure you have the information and resources available to adequately answer your questions, or revise them accordingly.

- **Considering how to address the potential negative impacts of the evaluation.** Even if an evaluation is possible, undertaking it may cause harm or exacerbate tensions depending on the timing, content, and context of the evaluation. Consider how doing an evaluation could affect ongoing conflicts or tenuous relationships, either positively or negatively. How can you ensure that at the very least no harm is done, and at most, the evaluation helps achieve the environmental peacebuilding objectives? These considerations will be further explored as you design the evaluation.

---

5. For further information on the different stakeholders, see discussion of personas in Chapter 2 (Design).

Box 4.4: Evaluation Criteria

Many evaluations utilize criteria developed by the Development Assistance Committee of the Organisation for Economic Co-operation and Development (OECD DAC) to frame evaluation questions. These criteria include relevance, coherence, effectiveness, impact, sustainability, and efficiency. Below are some evaluation questions related to each of these criteria:

- **Relevance**
  - Does the intervention address the key drivers of the conflict or of the environmental issue? Does it reflect the connections between environment and conflict factors?
  - Has the intervention adapted over time as the context has changed?
  - How is the intervention relevant to the needs of different stakeholder groups? How do these stakeholders perceive the relevance of the intervention?

- **Coherence**
  - How does the intervention fit within the broader context, particularly as it relates to other ongoing interventions?
  - How has the intervention coordinated with other stakeholders?
  - How is the intervention coherent with the actions of other stakeholders or changes to the relevant governments' policies?

- **Effectiveness**
  - How effective has the intervention been at meeting its environmental- and peacebuilding-related objectives? What challenges did it face in doing so?
  - Is the theory of change based on assumptions that are still valid?
  - How do the intervention's outcomes relate to broader trends or dynamics in the environmental and conflict contexts?

- **Impact**
  - What are the long-term or lasting effects of the intervention on the environmental and conflict contexts?
  - What are the most plausible explanations for those changes?

- **Sustainability**
  - Is it likely that new institutions, relationships, agreements, practices, etc. related to the intervention will last? Who will take ownership of them, and are there sufficient resources and political will to do so?
  - Has the intervention addressed the underlying causes or drivers of conflict and/or environmental degradation in a way that is sustainable?
  - Is there sufficient community resilience to deal with future shocks and stressors?

- **Efficiency**
  - Has the intervention delivered results in a cost-effective manner?
  - How well have resources been used, including environmental, human, cultural, and other kinds of resources?
  - In what ways did the intervention rely on or maximize local capacities?

Source: Adapted from OECD DAC 2012.

Step 2: Design Your Evaluation Methods and Approach

There are a wide range of types of evaluations and a multitude of ways to conduct an evaluation. No matter what approach and methods you choose, **the evaluation approach should match the questions and the context.** This means:
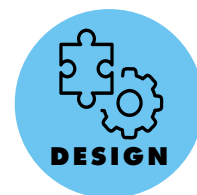
- Once you know who your evaluation is for and are clear on what questions the evaluation should answer, **determine a "good enough" way to get the information** using an approach and methods that are reasonable for answering those questions and for your stakeholders. Remember, you do not have to do the perfect evaluation; you just need to be transparent about what was done and why.

- You do not need experimental methods or an external consultant to do a good evaluation. While randomized control trials might have been the "gold standard" in the past, **it is important that you right-size your evaluation approach to your needs and available resources.** This may mean an internal evaluation, a rapid evaluation, or even an informal after-action review. Select an evaluation approach that is fit for the purpose and congruent with the available resources, and be transparent about that choice.

- **Aim for contribution, not attribution.** As noted above, environmental peacebuilding interventions take place in complex contexts with diverse actors and interventions, a dynamic environment, and many intervening factors. Additionally, changes in environment and peace happen at different scales and along different timelines. Instead of trying to determine what changes can be specifically attributed to your intervention, look at the ways in which your intervention *contributed* to the observed changes, as well as how your intervention *interacted* (positively or negatively) with other related interventions.

- **Consider methods that can account for complexity and interdisciplinarity.** First and foremost, this requires adopting a systems approach. It also means incorporating multiple methods and stakeholders with different areas of expertise into your evaluation, investigating multiple components of the intervention, and identifying emergent outcomes. Incorporating diverse stakeholders'

perceptions in the data collection also helps to capture more dimensions of the intervention in the evaluation. Complex systems such as those common to environmental peacebuilding work also require an evaluation of both the intervention process and the outcome. This is because a successful process does not necessarily result in the desired outcome, which can be affected by many other parts of the system. It is therefore important to understand if your process was building toward your objectives, even if the outcomes were not achieved for other reasons.

- Ensure that you **revisit or conduct a conflict analysis.** As a first step of any environmental peacebuilding evaluation, conflict analysis is essential both for assessing how an intervention responded or adapted to the conflict and for ensuring the evaluation itself is conflict-sensitive (Jean, Nelson, & Ris 2019) (see below). Evaluations should investigate whether an intervention has developed and revisited a conflict analysis as part of its implementation as well as to what degree the intervention was responsive to changes in the conflict context.[6] If a conflict analysis or assessment was completed during the design phase, this can serve as a baseline for an updated conflict analysis included as part of the evaluation (Goldwyn & Chigas 2013). Conflict analysis can also serve as a key input for assessing an intervention's relevance, coherence, effectiveness, and impact (OECD 2012).

6. A timeline tool, as described by Goldwy & Chigas (2013), can be useful for assessing an intervention's responsiveness to changes in the conflict context. Practitioners can use the timeline tool to outline changes in the conflict context, corresponding changes to the intervention, if any, and how the intervention has remained relevant, or not, as a result. The same tool can be applied in environmental peacebuilding to track changes in the environmental context as well.

- An evaluation is also a good opportunity to **revisit your theory or theories of change.** This includes checking the assumptions explicitly or implicitly included in the theory of change, as the broader context in which an intervention is taking place has likely changed over time. See Table 4.1 for information on theory-based evaluations.

- Regardless of the approach you use, **ensure that your evaluation incorporates methods that explore unintended consequences.** The complexity of environmental peacebuilding as well as the limited availability of evidence for what works makes it important that you look for and identify any unintended consequences, both positive and negative. You can do this by asking open-ended questions in your interviews or surveys or intentionally seeking information on changes or effects outside of your theory of change. This includes speaking with non-targeted groups, or those who are outside of the intended beneficiaries or participants of your intervention (Goldwyn & Chigas 2013).

- Since environmental peacebuilding work is intrinsically connected with the broader context in which it takes place, make sure **to evaluate your intervention considering the larger context in which it takes place.**[7] The success of environmental peacebuilding work is often linked (directly or indirectly) to other, simultaneous interventions as well as broader changes in the physical environment, the political or policy space, migration, etc. (OECD 2012). You should make sure to take these changes—and what they mean for your intervention—are taken into account.

- When thinking through your approach, **consider if your evaluation methods are appropriate for and conflict-sensitive to the context.** Be mindful of who the evaluation is for and your intervention's stakeholders. Will the approach you choose be valid to and accepted by them? How will the methods employed in the evaluation affect those stakeholders and the context? Are any data or conclusions sensitive? Is there any way that the source of a sensitive statement could be identified putting the person who made it at risk? How can you avoid exposing participants in the intervention and evaluation to risk?[8] These are all essential questions to consider prior to conducting an evaluation.

- Relatedly, e**valuations should be as participatory as possible without exacerbating tensions.** Multiple perspectives should be considered and consulted. At the same time, transparency, participation, and inclusion must be balanced against the potential to do harm. See Box 4.6.

- Remember that **evaluation can be an integral part of the intervention.** What questions you ask and how you conduct an evaluation can intentionally or unintentionally affect the success and sustainability of your intervention. Consider this when choosing your approach and methodology. For example, a participatory, inclusive evaluation design that takes longer and is perhaps less objective or rigorous may be better suited to achieving objectives such as developing trust between stakeholder groups.

- **Consider the timing of your evaluation.** While evaluations traditionally happen at the beginning (formative), middle (mid-term), or end (summative, final) of an intervention, it is particularly important in environmental peacebuilding to consider the timing of the evaluation. That is because environmental peacebuilding interventions take place in complex and dynamic contexts that may be dangerous. Additionally, achieving environmental peacebuilding objectives often requires multiple interventions at different scales and operating on different timelines. And finally, environmental peacebuilding work may benefit from real-time evaluation or ongoing evaluations that can produce timely and actionable findings for immediate use. Consider the following:[9]

---

7. See, for example, https://pdf.usaid.gov/pdf_docs/ PBAAC691.pdf .
8. See Jean, Nelson, & Ris 2019 for more guidance on vulnerable and at-risk groups in evaluation.

9. See OECD 2012 for a more in-depth consideration of issues of timing for peacebuilding evaluations.
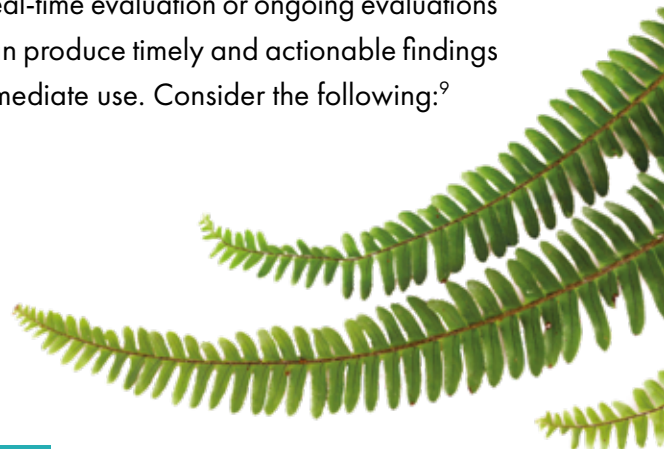
- Has there been sufficient time for the outcomes you want to evaluate to occur? Environmental and peace processes can take a long time, and they often happen along different timelines. If your evaluation focuses on outcomes, **consider whether it has been long enough for those outcomes to manifest.**

- Given the current context, *will conducting an evaluation now potentially harm your intervention or make the conflict worse?* Consider if the evaluation would affect your intervention directly or spark a community or political reaction that could be detrimental to the intervention, the conflict, or the environment.

- **Is it safe to conduct an evaluation now?** What is happening within the conflict context? Would the evaluation put the evaluators or other stakeholders at risk?

Box 4.5: Something to Consider—First-, Second-, and Third-Order Effects

In complex, adaptive, and systems change-focused work that characterizes many environmental peacebuilding interventions, it can help to explore first-, second-, and third-order outcomes. First-order effects are the immediate results. Second-order effects are the longer-term effects. And third-order effects are the most significant effects of the intervention. For example:

First-Order Effects

- Trust, relationships
- Mutual understanding
- High quality agreements

Second-Order Effects

- New partnerships
- Coordination
- Changes in perceptions
- Changes in behavior

Third-Order Effects

- New collaborations
- On-the-ground results
- New institutions
- New norms

Consider the timing of your evaluation and if you might be looking for first-, second-, and third-order effects.

Source: Adapted from Innes & Booher 1999.

After considering the points above, it is time to select one evaluation approach or a mix of approaches. Table 4.1 provides a list of potential approaches that may be appropriate and effective for your environmental peacebuilding evaluation. Remember: your choice of evaluation approach should always be based on the evaluation objectives, questions, and context.

Approach	Description	Pros & Cons
After Action Review	An informal approach to assess an intervention that can be implemented after individual activities or at various times during the intervention cycle.	**Pros:** It requires minimal resources or expertise. Can be very fast. Provides timely feedback. **Cons:** More subjective with limited perspectives of those who can participate in the review. Less comprehensive and systematic than other approaches.
Causal Link Monitoring[10]	Centers on a cycle of design, monitor/evaluate, and redesign throughout the intervention cycle to support adaptive management.	**Pros:** Supports adaptive management. **Cons:** Requires a commitment of time and resources to regular monitoring and check-in points.
Contribution Analysis[11]	Explores the extent to which the observed results stem from an intervention's activities rather than other factors. Useful for cases in which experimental or quasi-experimental designs are not feasible.	**Pros:** Can be done at different levels depending on the level of influence. **Cons:** More subjective than some other approaches.

10. Britt 2021.
11. Mayne. 2008.

Approach	Description	Pros & Cons
Developmental Evaluation[12]	Good for social change interventions in uncertain or complex contexts. Facilitates real-time feedback for decision making in evolving and innovative interventions. Utilization-focused. Positioned as an internal process to an intervention team.	**Pros:** Provides real-time feedback that is important for environmental peacebuilding work. Focused on the needs of the intervention team and can support team capacity development. Supports adaptive management. **Cons:** Can lack structure. Requires a qualified evaluator to facilitate, which can be costly.
Empowerment Evaluation[13]	An approach to evaluation that is inclusive of stakeholders so that they can monitor and evaluate their own progress and outcomes.	**Pros:** Fosters sustainability. If used appropriately, can increase evaluation's use as intervention, develop the capacities of participants, and improve inclusion. **Cons:** Requires high-level facilitator skills. Can take longer than other evaluation approaches. Can be more complicated than other evaluation approaches.
Formative Evaluation	Early-stage evaluation of an intervention's development to identify improvements for design and implementation. These evaluations are likely to be internal and less formal.	**Pros:** Can provide early feedback that is important for avoiding harm or exacerbating conflict. **Cons:** Often relies heavily on internal capacity. Can slow down implementation.
Most Significant Change[14]	An approach that generates accounts of change and seeks to understand what change is most significant and how it occurred.	**Pros:** Can provide evidence on unintended outcomes. Gives a strong voice to stakeholders. **Cons:** Requires a good facilitator to review and identify changes.

---

12. Quinn Patton 2010; Global Evaluation Initiative, 2021.
13. Fetterman 2021.
14. Dart & Davies 2016; Davies, 1996.

Approach	Description	Pros & Cons
Outcome Harvesting[15]	An assessment that begins with documenting outcomes and then works to understand how an intervention contributed to those outcomes as part of an iterative process of identifying and validating outcomes.	**Pros:** Great for identifying unintended consequences or for situations in which the intervention does not have a comprehensive theory of change. Prioritizes the voices of stakeholders. **Cons:** Requires a high level of expertise and familiarity with the outcome harvesting approach. Can be subjective.
Process Tracing[16]	A case-based approach to evaluating causal relationships to examine possible explanations. Involves various types of causal tests.	**Pros:** Good for looking at a variety of causal relationships that might be possible in complex contexts. Can answer questions of attribution. **Cons:** Can be complicated to undertake.
Qualitative Impact Protocol (QuIP)[17]	An approach to impact evaluation that draws on contribution analysis (see above). QuIP provides a "reality check" of pre-determined theories of change through narrative causal statements.	**Pros:** Like other methods listed here, it does not require experimental or quasi-experimental conditions (such as a control group). Gives a strong voice to selected stakeholders. Good for understanding unexpected outcomes. **Cons:** Requires the evaluator to be very intentional in avoiding bias.
Rapid Evaluation[18]	An approach for quickly and systematically conducting an evaluation with limited resources. Iterative and flexible designs useful for collecting real-time information to support programming and policies. Can be helpful for early-stage evaluations of non-linear interventions employing adaptive management.	**Pros:** Quick, less costly, timely, iterative, and can be participatory. **Cons:** Shallow or high-level findings. Only good for evaluating certain process components. Limited applicability to long-term outcomes.

15. Wilson-Grau 2023.
16. Global Evaluation Initiative 2023.
17. Remnant & Avard 2021.
18. Williams 2022.

Approach	Description	Pros & Cons
Realist Evaluation[19]	Focused on understanding what works in what contexts and for whom. Seeks to explain the "how" underlying the outcomes. An important goal is to test the underlying theory of change.	**Pros:** Grounded in the reality of the specific context. Can help identify the right contexts for certain interventions. **Cons:** Since causality is used, claims can only be modest.
Strategic Evaluation	Useful for evaluating the strategic approaches of organizations to have environmental peacebuilding impact, e.g., through strategic plans, impact partnerships, alignment of programs to strategies, resource investment in strategies that is commensurate with ambition, etc.	**Pros:** Provides useful information on strategy and organizational structure. Can help establish standards. **Cons:** Requires a well-developed strategy to assess.
Theory-Based Evaluation[20]	Assesses an explicit theory of change to understand what worked, why, and how. While this approach is often used with an existing theory of change, it can also be used to develop a theory of change at the start of an evaluation.	**Pros:** Can help an intervention to explicitly identify its theory of change. This is important as environmental peacebuilding interventions often rely on implicit or unexamined theories of change. **Cons:** Can only be used if there is a known or identified theory of change in place. This can be challenging for some interventions to develop, or in the case where an intervention has evolved but its theory of change has not.

---

19. Van Belle, Westhorp, & Marchal 2021.
20. Intrac 2017.

Approach	Description	Pros & Cons
Multiple Interventions (i.e., Projects and/or Programs)		
Cluster Evaluations[21]	Assessments of a group of related or similar projects that can produce broader lessons.	**Pros:** Identifies higher-level results and learnings, making it more useful as a general learning exercise for that field, theme, or sector. May require fewer resources for travel and primary research/data collection. Useful for looking at synergies between and across interventions. Can help with assessing long-term impacts.
Thematic or Sector Evaluations	Covers one theme or sector across different projects.	
Meta Evaluations (Evaluation Synthesis)[22]	An assessment of existing evaluations to explore lessons learned, larger patterns, and otherwise glean knowledge that is useful.	**Cons:** Can be difficult to evaluate a cluster or projects using the same criteria. Comparability can be challenging.

While there are numerous approaches to evaluation, the ones shared here show promise for environmental peacebuilding work because they seek to understand the multi-dimensional nature of change, gather diverse perspectives, seek to understand the various causal mechanisms behind outcomes, and support adaptive programming. These approaches recognize that it is unlikely that there will be a control group or case available and that environmental peacebuilding work happens within complex systems with various dynamics.

21. Sanders1997.
22. Uusiklyä &Virtanen 2000; Stufflebeam 1974.

Step 3: Conduct the Evaluation

With your approach and methods outlined, it is time to undertake the evaluation. During the evaluation, consider the following:

- **Make sure to communicate what you are doing before and during the evaluation.** Stakeholders should be clear on what the evaluation is for, when it will take place, and what it entails before it starts. Additionally, depending on the length of time the evaluation takes, you may want to provide updates to stakeholders and allow for their feedback as part of the accountability and learning process. This is particularly important if either the evaluation or the conflict context changes. If possible, build in discrete activities for sharing updates with and openly gathering feedback on the evaluation process from a variety of stakeholders.

- **Monitor the evaluation process closely to ensure you are doing no harm.** Even if your evaluation was planned to be conflict-sensitive (see Box 4.6), it is impractical to account for every possibility beforehand. Check in with key stakeholders during the evaluation process, monitoring contextual indicators that are relevant to your intervention and include questions about the evaluation, and its impact as part of your methodology.

- **Ensure that your evaluation examines the differentiation in effects or impacts among different groups,** particularly women and other historically marginalized groups. Interventions at the intersection of conflict and the environment can affect different groups or communities in varying ways; while some people are empowered, others may feel excluded or marginalized. Elite capture of resources or new institutions is also a concern.[23] Good evaluations will explore the full variety of an intervention's effects by gathering diverse and inclusive information that captures multiple and even divergent perspectives.

- Related to all of the above points, **make sure you have a plan in place to ensure informed consent, confidentiality, and anonymity.** While it is always important to protect the autonomy and agency of people participating in an intervention or its evaluation, this is all the more important in an environmental peacebuilding context where participation can have substantial negative impacts for individuals or groups, including intervention staff and evaluators.[24] The ways in which you protect confidentiality and anonymity and secure informed consents will be highly dependent on your evaluation, stakeholders, and the context.

---

23. See Stark et al. 2022 for additional information related to participatory natural resource management.
24. See Jean, Nelson, & Ris 2019 for an in-depth discussion of risks.

Box 4.6: Something to Consider—Conflict-Sensitive Evaluations

Even if you are evaluating an intervention with peacebuilding objectives, conflict sensitivity is not guaranteed. To make sure your environmental peacebuilding does not exacerbate the conflict context, consider the following:

- Have you conducted a conflict analysis (or has one been conducted recently) that can be used to inform your evaluation design?

- How will including some stakeholders and not others in interviews, focus groups, etc. affect the conflict dynamics? Might certain stakeholders perceive your data collection process as unfair or illegitimate, depending on who is included? What kind of implicit political messages might you be sending?

- Who should be part of the evaluation team? What message(s) will their participation send? How might their involvement affect your ability to conduct the evaluation? For example, if you hire local evaluators, how might their involvement be perceived by different stakeholder groups (who may be of a different gender, ethnicity, or background)?

- How might the way you go about conducting the evaluation, including the questions you ask and the language you use, negatively affect conflict dynamics? How can you conduct the evaluation in a way that avoids negatively shaping people's perceptions of the conflict or other stakeholders?

- How can you share evaluation results with community members and other stakeholders in a way that promotes peace and avoids exacerbating conflicts? What information should you share to balance transparency with avoiding worsening the conflict?

Step 4: Once the Evaluation is Complete

Once your evaluation is complete, it is essential to make sure that you use the evaluation in a way that supports your intervention and future interventions. As you use the evaluation, one of the challenges is to balance the transparency of reporting results with the need to avoid harming participants or otherwise negatively affecting the context. All of this requires conflict sensitivity. Based on your intervention, the stage of your intervention, and the results, consider the following:

- **Share your results.** Sharing your results is important for both accountability and learning. Funders will want to know how the intervention progressed, and there is an important need in the field of environmental peacebuilding generally for more evidence on what does and does not work, and under what circumstances. Community members and other stakeholders or beneficiaries will also want to know about the results, which should be shared with them in an appropriate and relevant way. Developing a communication plan can help you think through what people care about in advance, and ensure you present evaluation results with context. It can also help you think through the risks related to what information you share and how (see below).

- **But share your results in a contextually appropriate and conflict-sensitive way.** What you share, and how you share it, will depend on the stakeholders and the context. For example, while funders may request a long report with as much quantitative data as possible, community members may not. Instead, they may want to see a presentation, in their local language, that highlights the results that affect them and their lives. You will also want to consider how the way in which you share evaluation results could affect the intervention or the context. Sharing positive outcomes with spoilers may prompt them to sabotage the intervention's work, undermining its long-term sustainability. Sharing how one group benefited and another group did not may prompt retaliatory behavior. Alternatively, sharing how collaboration led to positive environmental outcomes could further cement trust between different groups.

- **Use your results.** Many evaluations sit on shelves, unread or underread. Evaluations can be a valuable source of learning, particularly on environmental peacebuilding. Make a plan with your stakeholders to use the results and disseminate them, and document that plan. You can also use the outcomes when planning future interventions by returning to the evaluation as you design your next program or project, or by sharing it with the wider environmental peacebuilding field through a presentation or white paper.

4.4. Programmatic Evaluations

Programmatic evaluations assess the effectiveness of a group of projects (a program) and identify what is working and what is not at the intersection and amalgamation of those projects. Programmatic evaluations often assess the relevance, coherence, effectiveness, efficiency, sustainability, and impact of a set or portfolio of projects with a shared objective, documenting high-level lessons learned and best practices, and determining the progress made toward the program's stated objectives as well as the reasons why a program did or did not achieve those objectives (Walter et al. 2017).

Programmatic evaluations can be useful for a range of reasons:

- Programmatic evaluations are especially important because they can **identify long-term impacts and synergistic effects across projects operating at multiple scales** and characterized by interconnected stakeholders and systems. This is especially useful for environmental peacebuilding work, as change may take a long time to manifest and is often the result of multiple interlinked projects (Kupermintz & Salomon 2005; Swain 2016). Programmatic evaluations can help practitioners and decisionmakers understand how different projects affect one another and how various projects alter environmental and conflict landscapes over time, reinforcing or undermining one another, and creating ripple effects across sectors, time, scales, and geographies. Box 4.7

summarizes such a programmatic evaluation of more than 25 years of programming by EcoPeace Middle East.

- Where an organization has started a new line or group of projects under a specific program area, a programmatic evaluation can help the organization to **learn from an initial tranche of projects** and decide whether to continue that programming, scale up, or refine project design and implementation in particular ways. For example, the UN Peacebuilding Support Office undertook a thematic review of more than 70 projects that the UN Peacebuilding Fund had supported to inform future programming directions. For more information, see Box 4.8.

- Programmatic evaluations can also **provide information regarding how external factors are affecting programming.** For example, an environmental organization may want to understand how conflict and fragility influence the effectiveness and sustainability of its programming. This sort of evaluation can be sensitive, though, as project staff may be concerned that they are being judged on factors that are outside the organization's mandate, expertise, or control. Rather than being an accountability exercise, though, such programmatic evaluations are focused on learning and identifying ways that projects and programs can better meet their identified objectives. Box 4.9 summarizes such an evaluation conducted by the Global Environment Facility (GEF) of projects it supported in fragile and conflict-affected situations (GEF IEO 2020).

Evaluating the long-term effects of a suite of projects requires crafting evaluation questions that seek to understand synergetic effects of projects across time, geographies, and scales. Like evaluations more generally, programmatic evaluations should begin with a clear objective and a set of questions. Often, programmatic evaluations will focus on the long-term and intersecting impacts of environmental peace-building work or how environmental peacebuilding projects overlapped, interacted, and/or built off one another over time and at different scales.

By being able to take a longer time scale, programmatic evaluations are better able to ascertain (1) whether benefits were sustained, (2) any unintended consequences (positive or negative), and (3) linkages between a cluster of related projects. While a project evaluation usually looks at one project over a period of one to three years, a programmatic evaluation often examines dozens (or even hundreds or thousands) of projects across 20 or 30 years. Box 4.7 illustrates a program evaluation that examines an organization's portfolio of projects across more than 25 years. Some program evaluations cover a shorter period. Box 4.8 provides a brief case study of a thematic review conducted for climate-security projects supported by the UN Peacebuilding Fund over seven years.

Box 4.7: Assessing the Potential for Environmental Peacebuilding over Shared Waters through EcoPeace Middle East's 25+ Years of Experience in Israel, Palestine, and Jordan

EcoPeace Middle East has fostered cooperation between Israelis, Palestinians, and Jordanians to conserve and restore their water resources for more than 25 years. Its work is frequently cited as an international model for how concerns and interests around shared environmental resources can be leveraged to catalyze cooperation and build peace between people in conflict. A team of researchers, led by Laura E.R. Peters and Jamon Van Den Hoek at Oregon State University and American University, and with support from a U.S. Institute of Peace grant on Environment, Conflict, and Peacebuilding, is undertaking an assessment of EcoPeace's on-the-ground engagement to evaluate (1) whether there is evidence of a virtuous cycle between environmental and peacebuilding gains (i.e., they are mutually supportive) and (2) whether gains in one domain depend on gains in the other (i.e., they are mutually dependent).

Theory of change

EcoPeace has taken a combined top-down and bottom-up approach to environmental peace-building, aimed at encouraging and supporting people and institutions to cooperate for mutual gains based on their own self-interest. EcoPeace complements its bottom-up strategies (including education and awareness campaigns) with top-down initiatives (including policies) to achieve the necessary changes for sustained and sustai-nable environmental and peacebuilding gains at local-to-national levels. This research interrogates that theory of change in light of more than 25 years of experience and evidence.

Developing a research methodology around the theory of change

Developing a research methodology around the theory of change. The research was designed around a mixed methodology, including a literature review, archival analysis, and six in-depth case studies to tease out the interplay and impacts of EcoPeace's interventions. The team conducted 70+ in-depth semi-structured interviews with diverse respondents with different degrees of proximity to EcoPeace in Israel, Palestine, and Jordan. Interview questions sought to understand the sustainability of programming and its impacts, such as the transfer effect (i.e., extending the benefits of programming aimed at cooperation over shared water resources to political peace) and the spillover effect (i.e., extending the benefits of programming aimed at cooperation over shared water resources to people and sectors not directly involved).

Challenging assumptions of top-down and bottom-up approaches to change

The research called into question the artificial dichotomy between top-down and bottom-up approaches to peacebuilding, which focus largely on either the state or community level, and assumes a worldview framed around homogenous or flat social, political, and environmental stakeholder groups. For example, the assessment found that regimes beyond national governments affect outcomes, with actors wearing multiple institutional hats and holding multiple interests; accordingly, considerable influence is wielded outside standard channels within and across countries.

Challenging assumptions of discrete efforts leading to discrete impacts

The research also faced the challenge of establishing causal relationships between specific project outputs and desired environmental and peacebuilding outcomes. Project milestones were often found to be the result of combined interventions, each with their own set of relative successes and failures that sometimes change over time in regard to their influence on broader goals due to outside influences. Outputs and outcomes are often separated spatially and temporally and are rarely linear, and the results of evaluating potential causality are highly dependent on the start and end dates framing the analysis.

Overarching challenges to evaluation

Overarching challenges to evaluation. The challenges of evaluating the potential for environmental peacebuilding through this research are accentuated by several underlying realities:

1. Evaluation methodologies for the field of environmental peacebuilding are challenging when the broader conflict is ongoing and may obscure or undermine gains.

2. Assessing changes in the environment associated with an intervention, such as changes in water quality or quantity, is challenging due to the subjective and dynamic nature of the environment and its connection with diverse material and cultural needs.

3. Progress across multiple nested conflicts and potentials for peace is uneven and nonlinear, and emphasizing a specific conflict in the analysis changes perspectives on results and what coalitions for peace may be needed.

4. Evaluation is challenging when there is not a single definition or experience of "peace." For some, peace may be construed as security and finding ways to coexist within the broader status quo, and for others, it may be centered around questions of social justice and a redistribution of decision-making power.

Photos taken on the Palestinian (left) and Israeli (right) side of the same shared cultural and environmental landscape at the site of an environmental peacebuilding campaign by EcoPeace Middle East.

Source: Laura E.R. Peters

The full case study of this evaluation is available at https://m-and-e.environmentalpeacebuilding.org/toolkit. More information about EcoPeace is available at https://ecopea-ceme.org/. For further information on this assessment, please contact Laura E.R. Peters peterlau@oregonstate.edu and Jamon Van Den Hoek vandenhj@oregonstate.edu. This work was supported by a United States Institute of Peace grant on Environment, Conflict, and Peacebuilding.

Some things to consider prior to conducting a programmatic or multi-program evaluation include:

- **How will the evaluation measure long-term impacts and link a program's environmental and peacebuilding dimensions** through the various projects included? Evaluators of environmental peacebuilding programs must determine causal relationships -albeit often in the form of contribution rather than sole causation- between interventions, environment, and peace outcomes over time and across projects.

- Are there **consistent or comparable** indicators across projects?

- How do the projects or programs **build upon or interact** with one another over time?

- How can the evaluation account for **contextual or secondary factors** that influence outcomes, such as climate change, sociopolitical change, etc.?

- **When will the evaluation take place?** When the evaluation is conducted, it could determine whether a program is deemed to have met its objectives. This is particularly important in environmental peacebuilding, where programs typically seek to yield long-term impacts, and the timeframe of those impacts may vary between environmental and peacebuilding objectives.

- As with any program, when evaluating the outcomes of an environmental peacebuilding program, **it is strongly recommended to examine whether there were any unintended consequences.** These consequences can be beneficial, neutral, or detrimental to the program. Surveying the unintended consequences of a program can help shed light on not only unintended outcomes stemming from a single project, but also how projects may have unintentionally influenced each other or even worked at odds against one another. Understanding unintended consequences

is particularly relevant to environmental peacebuilding as the knowledge base regarding the effectiveness, efficiency, sustainability, co-benefits, and other impacts of particular interventions (and theories of change) is still relatively modest.

While it is relatively common to budget for project evaluations, often by allocating a portion of the project budget to M&E, it can be more challenging to find funding for a programmatic evaluation. Because programmatic evaluations assess a group of projects, this may mean that a programmatic evaluation falls outside of normal funding cycles or project evaluation mechanisms and thus requires seeking out and designating specific supplemental resources. As such, it is advisable to develop program plans and budgets with programmatic evaluations in mind. Developing a standardized cycle of programmatic evaluations can be a useful learning mechanism and a good long-term investment for organizations.

Box 4.8: Thematic Review of Climate Security Projects Supported by the UN Peacebuilding Fund

Established in 2006, the Peacebuilding Fund (PBF) is the UN's primary financial instrument designed to support and build peace in countries at risk of or affected by violent conflict. PBF support seeks to address the root causes of conflict through integrated responses involving national, cross-border, and regional engagement. To examine past practices, identify lessons learned, and consider promising innovations, the UN Peacebuilding Support Office (PBSO) commissions regular thematic reviews as part of its efforts to continuously learn and improve the effectiveness of peacebuilding.

The PBSO engaged the UN University to develop *Climate-Security and Peacebuilding: Thematic Review* (Gaston & Brown 2023). The review considered 74 climate-security and environmental peacebuilding projects that the PBF supported between 2016 and 2021. These totaled approximately $162.7 million and were implemented in 33 countries. The Thematic Review placed the PBF-supported interventions in a broader global context, seeking to assess results, understand good practices, identify areas for improving programming, and ultimately guide future investments and policies in climate security. Distinct from programmatic evaluation in its larger-scale analyses, approaches, and outputs, the Thematic Review produced policy and strategic investment inferences by conducting an overarching assessment of the entire PBF climate security project portfolio, analyzing global trends within it, and extracting findings across projects.

Methodology

The Thematic Review was conducted through three core research steps: (1) a global trends analysis; (2) an analysis of key project themes, cross-cutting issues, and intervention types; and (3) three geographic case studies. To conduct research, the Thematic Review drew upon a background literature review, expert interviews, desk research on PBF-funded projects, a few in-depth case studies, and global cross-referencing of indexes such as ND GAIN, Fragile States, IEP Global Peace, and the Uppsala Conflict Database Program.

At the global scale, the Thematic Review assessed overall portfolio characteristics including funding by region, regional diversity, cross cutting and thematic issues, typologies, and responses. The Thematic Review's intermediate work analyzed 32 projects to explore theories of change and project design, which inevitably necessitated country context analysis. In analyzing the theories of change, the Thematic Review explored common trends, weaknesses and strengths, and compliance with PBF guidance, aiming to understand what projects identify as key change mechanisms and if they are effective. The Thematic Review primarily used project documents to extract or intuit theories of change, using a combination of documentation with actual outcomes to assess theories of change in circumstances where they were not clearly delineated or absent. The Thematic Review analyzed three diverse climate security project case studies

that enabled exploration of cross-cutting and regional-specific themes and practices in environments facing different security and environmental challenges, helping to contextualize the global analysis findings with contextually specific examples.

Several challenges emerged in conducting the Thematic Review. One of the first challenges was **definitional**: what constitutes climate-security risks and what is a climate-security project for purposes of the analysis? These questions were ultimately resolved, with the result that of the 74 projects initially identified, 43 were identified as having a climate-security focus.

The project team faced challenges to **theory of change validation and analysis,** as the project document-based nature of research restricted the project team's ability to validate theories of change in cases when there was a disconnect between project design and implementation or when a project was shaped by the implementation process over design. Theory of change validation was additionally challenged because ongoing projects constituted over half of the project sample.

Findings

The Thematic Review produced critical learning for both the United Nations and broader audiences. **The varying centrality of climate security dimensions** to projects posed the question regarding how climate security concerns may be better focused in PBF-funded projects. The Thematic Review additionally revealed **emerging dynamics and best practices** emphasizing the importance of greater environmental awareness in conflict awareness; greater efforts to have integrated approaches, cross-border engagement, and linkages between human security and climate change vulnerabilities; and enhancing climate change-related components in security-related activities.

Another finding related to **gender and climate security linkages.** The Thematic Review found that a significant proportion of projects were gender-focused, with sometimes only superficial climate or environmental dimensions, rather than climate security projects with gender dimensions. This may reflect a broader "trend of not fully realizing synergies in the gender-climate-security sector" (Gaston & Brown 2023, p. 5). The Thematic Review observed that natural resource management and climate change projects are often used as entry points for empowering women. It noted the importance of further learning from projects regarding the synergies between the climate and environmental dimensions of a project and women's empowerment.

The Thematic Review noted that 9 of the 10 countries that received the most funding from the PBF were the most vulnerable to climate change, and 6 of the 10 were among the most fragile states; this highlighted the **unique role that the PBF has in being willing to invest in situations that other donors may deem too risky.** As such, PBF investments seek to provide "proof of concept that these approaches can work even in volatile environments [and] will persuade larger funds or other donors to pursue similar investments in the future" (Gaston & Brown 2023, pp. 58-59). Moreover, the Thematic Review found that climate security projects were often quite effective at addressing other social issues, such as the marginalization of women and youth, through the classic environmental diplomacy mechanism of bringing together communities over shared environmental challenges.

By emphasizing learning, the Thematic Review will help to inform United Nations policy trajectories and strategic investments while also highlighting emerging issues and important climate security themes more broadly.

Box 4.9: Evaluation of GEF Supporting Fragile and Conflict-Affected Situations

The Global Environment Facility (GEF) is a multilateral trust fund that provides support to developing countries to implement multilateral environmental agreements. The GEF's work is organized around five focal areas: biodiversity loss, chemicals and waste, climate change, international waters, and land degradation. In previous evaluations, the Independent Evaluation Office (IEO) of the GEF had observed concerns regarding the work that the GEF supports in fragile and conflict-affected situations. Despite the GEF's programming in such contexts, the GEF lacked a definition, policies, and procedures for designing and implementing projects in fragile and conflict-affected situations.

The IEO commissioned the Environmental Law Institute to undertake an evaluation of GEF support in fragile and conflict-affected situations. The evaluation sought to answer four questions:

- How prevalent is conflict and fragility in the context of GEF-supported projects?

- Does the conflict or fragile context affect the outcomes of GEF-supported projects?

- To what extent do GEF-supported projects take into account the conflict or fragile context in their design and implementation?

- What conflict-sensitive measures could the GEF, its Agencies, and partners adopt to improve the performance and outcomes of GEF-supported interventions?

In undertaking the evaluation, staff expressed potential concern that they might be evaluated on actions (or inactions) that are outside their mandate, expertise, and control. The GEF is neither a peacebuilding nor a conflict-management organization. To preemptively address such concerns, the evaluation was framed not as an evaluation of whether projects were fulfilling their obligations but as an **evaluation to learn whether there are systemic factors that may influence intervention success and identify measures that could address those factors.**

Evaluation methodology

The evaluation assessed the impacts of conflict and fragility on the design and implementation of GEF interventions on three scales: globally, at the country and regional levels, and at the project level. At the global level, the evaluation examined the full GEF portfolio, considering the extent, nature, and results of GEF-funded interventions in countries affected by fragility and major armed conflict (i.e., conflicts with more than 1,000 battle deaths) vis-à-vis other countries. At the country and regional levels, the evaluation selected seven situations of focus using criteria such as regional diversity and the presence of major armed conflict since 1989. The selected situations were Afghanistan, the Albertine Rift (including parts of Burundi, the Democratic Republic of the Congo, Rwanda, Tan-

zania, Uganda, and Zambia), the Balkans (including Bosnia-Herzegovina, Croatia, (North) Macedonia, Montenegro, and Serbia), Cambodia, Colombia, Lebanon, and Mali. In each situation, the evaluation team reviewed the available project documents for all projects and then selected 6-10 illustrative projects for further analysis. The analysis utilized both quantitative and qualitative methods. In addition to reviewing of project documents, the evaluation team conducted a literature review and undertook interviews with project staff, former employees, GEF Secretariat staff members, GEF Agency staff, and civil society informants.

Findings

The evaluation (GEF IEO 2020) found that the vast majority (88 percent) of GEF projects occur in countries affected by fragility. As of July 2020, the GEF had invested $4 billion (> 1/3 of its portfolio) in countries affected by major armed conflict. Second, the evaluation found that fragility has a statistically significant impact on all performance indicators, and conflict and fragility had statistically significant impacts on a project being cancelled or dropped, as well as an increased duration of delays. Third, many GEF projects have already innovated ways to manage the risks associated by conflict and fragility.

Typologies

Drawing on GEF innovations and experiences, the evaluation organically developed two notable typologies. The typologies were based on the observations collected during the evaluation, including the findings of the in-depth analysis of designing and implementing GEF projects. The first typology presents the key pathways by which conflict and fragility affect GEF projects: insecurity, social conflict, economic drivers, political fragility and weak governance, and coping strategies (see figure below). The second typology identified the approaches to conflict-sensitive programming that GEF projects have innovated in the absence of a broader GEF approach to managing conflict- and fragility-related risks: acknowledgment, conflict avoidance, mitigation of risks, engaging in peacebuilding, and learning. These typologies were particularly notable for drawing upon a substantial evidence base of GEF experiences, while also being consistent with the broader literature.

	PHYSICAL INSECURITY	SOCIAL CONFLICT AND MISTRUST	ECONOMIC DRIVERS	POLITICAL FRAGILITY AND WEAK GOVERNANCE	COPING STRATEGIES
Negative impact	• Impedes access to project site • Physical safety of project staff and partners • Difficulties hiring staff	• Land tenure issues • Sensitivities hiring project staff	• Illicit extraction and trade of natural resources • Competition over resources can drive conflicts and put staff and parties at risk • Currency depreciation	• Institutional capacity and legitimacy • Financial capacity • Corruption and rule of law	• Conflict between internally displaced persons/ refugees and local communities • Decreased carrying capacity • Vulnerability enhanced by climatic stressors
Positive impact		• Projects designed to increase cooperation among groups	• Projects focused on livelihoods and sustainable natural resource management	• Projects designed to align with governmental priorities, including implementation of peace agreement	

COVID-19

While the evaluation was under way, the COVID-19 pandemic erupted. Travel restrictions hindered GEF project staff from working on the ground, affecting the ability of projects to establish trust with the local populations. Such restrictions made it difficult to undertake consultations to develop a project or build public consensus. The resort to virtual communications over the phone or internet rendered the projects distant from local communities. While the pandemic had some modest effect on the evaluation -affecting travel- it had a broader relevance, highlighting the importance of adaptive approaches to GEF programming. Indeed, one of the notable findings of the evaluation was that it was often difficult for projects to adapt nimbly to fragile and conflict-affected contexts that are often volatile and dynamic. COVID-19 reinforced the broader relevance of the findings and recommendations related to adaptability as being important far beyond fragile and conflict-affected contexts.

Recommendations

The evaluation made five key recommendations:

- The GEF Secretariat should use the project review process to identify conflict- and fragility-related risks to a proposed project and develop measures to mitigate those risks.

- The GEF Secretariat could develop guidance for conflict-sensitive programming.

- The GEF Secretariat and the Agencies should leverage existing platforms for learning, exchange, and technical assistance to improve conflict-sensitive design and implementation of GEF projects.

- The current GEF Environmental and Social Safeguards could be expanded to provide more details so that GEF projects address key conflict-sensitive considerations.

- The GEF Secretariat could consider revising its policies and procedures to enable projects to better adapt to rapid and substantial changes in fragile and conflict-affected situations.

The GEF Council discussed the evaluation and its findings, and endorsed the five recommendations.

Worksheet: Evaluation

Objectives:

○ Design a systematic assessment (evaluation) of your intervention, with a focus on answering key evaluation questions.

○ Ensure that your evaluation aligns with the questions, evaluation users (stakeholders), approaches, and methods.

○ Address accountability and learning-related needs and priorities.

○ Capture and link your intervention's environmental and peacebuilding dimensions in understanding its contribution to change.

Evaluation Questions

When designing your evaluation questions, which will in turn inform the selection of an evaluation approach and methods, answer the following:

- **Who are the intended users** of or the audience for the evaluation? How should they be involved in the design and implementation of the evaluation? List all the stakeholder groups who will use or be an audience for the evaluation.

  ○ Revisit the Persona Tool in Chapter 2 (Design) to review your stakeholder groups.

  ○ Common intended users include your team, your organization, your funders, intervention partners, the community in which the intervention took place, government representatives, and the larger environmental peacebuilding field.

  ○ Note that increasing the number of users for your evaluation can increase the complexity of the answers to the questions.

- **What do you want to learn** from this evaluation? What are the needs or interests of the other intended users vis-à-vis the evaluation?

  ○ You may want to revisit your theory of change and look at places where evidence is so far lacking or limited.

  ○ Your original learning questions are also a good guide.

  ○ Remember, you are likely unable to include all users and all needs, so carefully consider what is feasible to include in the evaluation.

- What **specific questions** need to be answered to address your learning needs and the interests of other intended users?

  - In outlining the key questions, you may want to include sub-questions.

  - Ensure that you include questions that link the environmental and conflict/peace dimensions of your intervention.

  - In general, it is a good idea to limit the questions to what you need to know versus what is nice to know. This makes the evaluation more manageable.

  - Consider using the OECD DAC evaluation criteria as a guide.

- **Can you feasibly answer** your evaluation questions? Consider your project context, stage, and resources.

  - If not, are there other questions that can serve as a proxy?

- **How might your evaluation positively or negatively affect the conflict context?**

  - What steps can you take to mitigate risk and achieve environmental peacebuilding objectives?

  - This is a question to ask repeatedly throughout the evaluation process.

Evaluation Design

Having developed the evaluation questions, it is time to design the evaluation approach and methods. You should consider the following:

- What **approaches and methods** will produce valid and credible information for both your evaluation questions and your intended users?

  - How will you capture and reconcile **multiple, diverse perspectives?**

    - Should you seek out an interdisciplinary evaluation team that is able to capture the complex, multi-faceted dimensions of environmental peacebuilding?

    - How are you capturing different gender perspectives?

    - How can you include a diversity of stakeholders in a conflict-sensitive and inclusive way?

- How will you capture **unintended consequences** or outcomes?

- Are these methods **appropriate for the context and the intended users?** Are they culturally and conflict sensitive? How will you keep stakeholders safe as you capture their perspectives?

  - Are there any considerations regarding the collection of information from women? Such considerations include, for example, female enumerators and groups with only women.

  - How might your evaluation approach and methods affect the success of your intervention and/or the larger context, either intentionally or unintentionally?

  - Is it safe enough to conduct an evaluation?

- Is this the **right time** for an evaluation, considering the evaluation questions you have? Has there been sufficient time for change to occur?

- Do you have **sufficient resources** to conduct an evaluation that incorporates these approaches and methods? If you are conducting the evaluation internally, do you have sufficient expertise?

  - Remember, it is more important to do an evaluation that is right-sized to your needs and context than to do a "perfect" evaluation.

Evaluation Implementation

As you begin your evaluation, think about the following:

- Have you **communicated your evaluation plans** to relevant stakeholders prior to starting?

  - This includes information on the evaluation purpose, process, and how the results will be shared and used once complete. Remember, you should balance transparency with conflict sensitivity.

- Do you have a plan for providing **regular updates** to stakeholders during the evaluation? What strategies can you employ to communicate with different stakeholders effectively and safely?

  - Consider cultural norms, preferred language, and gender dynamics of your audience.

- How will you **monitor** the evaluation process?

  - You may, for example, develop a plan to regularly consult stakeholders about how the evaluation is going, monitor contextual indicators, and assess the potential effects of conducting your evaluation.

Using Your Evaluation Results

When planning to use your evaluation results, consider the following:

- How will you **use the findings?** Have you made a plan for responding to the evaluation findings that is concrete and includes action stems, persons responsible, and timelines?

  - Ensure accountability by documenting and sharing your plan with relevant stakeholders.

- With **what audiences** will you share your evaluation?

  - Community members, stakeholders affected by your intervention, funders, policymakers, your organization, and others in the environmental peacebuilding field may all be interested in the evaluation, or a sub-set of findings.

- In **what formats** should you share the evaluation?

  - Different formats will be necessary for each stakeholder group; communities may prefer an in-person presentation in their own language, while funders may prefer a full report.

  - Ensure that your evaluation is shared in contextually and culturally appropriate ways.

- How can the way in which you share your evaluation contribute to your objectives? How can you share in a way that avoids doing harm?

References

Britt, Heather. 2021. "Causal Link Monitoring." Better Evaluation. https://www.betterevaluation.org/en/approach/causal_link_monitoring

Dart, Jessica, & Rick Davies. 2016. "A Dialogical, Story-Based Evaluation Tool: The Most Significant Change Technique." American Journal of Evaluation 24(2): 137-155. https://doi.org/10.1177/109821400302400202

Davies, Rick J. 1996. "An Evolutionary Approach to Facilitating Organisational Learning: An Experiment by the Christian Commission for Development in Bangladesh." Swansea. UK: Centre for Development Studies. http://www.swan.ac.uk/cds/rd/ccdb.htm

Emerson, Leo Bill, Alex B. Muhweezi, & James Thubo Ayul. 2017. "End-of-Project Evaluation: Boma-Jonglei-Equatoria Landscape (BJEL) Program – Performance Evaluation, 2008-2017." USAID. https://pdf.usaid.gov/pdf_docs/PA00SVGV.pdf

Fetterman, D. 2021. "Empowerment Evaluation."https://www.betterevaluation.org/en/plan/approach/empowerment_evaluation

Gaston, Erica, & Oliver Brown, with Nawdwa al-Dawasari, Cristal Downing, Adam Day, and Raphael Bodewig. 2023. "Climate Security and Peacebuilding: Thematic Review. United Nations University Centre for Policy Research." https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/documents/climate_security_tr_web_final_april10.pdf

GEF IEO (Global Environment Facility Independent Evaluation Office). 2020. "Evaluation of GEF Support in Fragile and Conflict-Affected Situations." https://www.thegef.org/council-meeting-documents/evaluation-gef-support-fragile-and-conflict-affected-situations

Gizelis, Theodora-Ismene. 2009. "Gender Empowerment and United Nations Peacebuilding." Journal of Peace Research 46(4): 505-523. https://www.jstor.org/stable/25654433

Global Evaluation Initiative. 2021. "Developmental Evaluation." https://www.betterevaluation.org/en/plan/approach/developmental_evaluation

------. 2023. "Process Tracing." https://www.betterevaluation.org/en/evaluation-options/processtracing

Goldwyn, Rachel, & Diana Chigas. 2013. "Monitoring and Evaluating Conflict Sensitivity: Methodological Challenges and Practical Solutions." A Conflict, Crime, and Violence Results Initiative (CCVRI) product. London, UK: Care International UK, CDA Collaborative Learning Projects, and DFID. https://www.cdacollaborative.org/publication/monitoring-and-evaluating-conflict-sensitivity-methodological-challenges-and-practical-solutions/

Innes, Judith E., & David E. Booher. 1999. "Consensus Building and Complex Adaptive Systems: A Framework for Evaluating Collaborative Planning." Journal of the American Planning Association 65(4): 412-423.

Intrac. 2017. "Theory-Based Evaluation." https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Theory-based-evaluation.pdf

Jean, Isabella, Henry Nelson, & Elisabeth Ris. 2019. "Beyond Mitigating Risks and Disruptions: Expanding the Meaning of Conflict Sensitive Evaluation." Peacebuilding Evaluation Consortium.

Kupermintz, Haggai, & Gavriel Salomon. 2005. "Lessons to be Learned from Peace Education in the Context of Intractable Conflict." Theory into Practice 44(4):293–302. doi: 10.1207/s15430421tip4404_3.

Mayne, J. 2008. "Contribution Analysis: An Approach to Exploring Cause and Effect." ILAC Brief No. 16. https://www.researchgate.net/publication/46472564

OECD (Organisation for Economic Co-operation and Development). 2012. "Evaluating Peacebuilding Activities in Settings of Conflict and Fragility: Improving Learning for Results." DAC Guidelines and References Series, OECD Publishing.

Quinn Patton, Michael. 2010. "Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use." Guilford Publications.

Remnant, Fiona, & Rebekah Avard. 2021. "Qualitative Impact Assessment Protocol." https://www.betterevaluation.org/en/plan/approach/QUIP

Sanders, James R. 1997. "Cluster Evaluation." In Eleanor Chelimsky and William R. Shadish (eds.), Evaluation for the 21st Century: A Handbook. Sage, 296-403.

Simister, Nigel. 2018. "Accountability." intrac. https://www.intrac.org/wpcms/wp-content/uploads/2019/05/Accountability.pdf

Stark, Jeffrey, Samantha H. Cheng, Erin Betley, & Susan Telingator. 2022. "Linkages Between Participatory Natural Resource Management and Democratic Outcomes: A Review of the Evidence". USAID.

Stone, Laurel. 2014. "Women Transforming Conflict: A Quantitative Analysis of Female Peacemaking." http://dx.doi.org/10.2139/ssrn.2485242

Stufflebeam, Daniel L. 1974. "Meta-Evaluation." Occasional Paper Series, No. 3. https://www.globalhivmeinfo.org/CapacityBuilding/Occasional%20Papers/03%20Meta-Evaluation.pdf

Swain, Ashok. 2016. "Water and Post-conflict Peacebuilding." Hydrological Sciences Journal 61(7): 1313–22. doi: 10.1080/02626667.2015.1081390.

UNEP (United Nations Environment Programme), United Nations Entity for Gender Equality and the Empowerment of Women, United Nations Peacebuilding Support Office, & United Nations Development Programme. 2013. "Women and Natural Resources: Unlocking the Peacebuilding Potential." https://www.unep.org/resources/report/women-and-natural-resources-unlocking-peace-building-potential

UNIFEM (United Nations Fund for Women). 2010. "Women's Participation in Peace Negotiations: Connections between Presence and Influence." http://peacemaker.un.org/sites/peacemaker.un.org/files/WomensParticipationInPeaceNegotiations_UNIFEM2010.pdf

Uusiklyä, Petri, & Petri Virtanen. 2000. "Meta-Evaluation as a Tool for Learning: A Case Study of the European Structural Fund Evaluations in Finland." Evaluation 6(1): 50-65. https://journals.sagepub.com/doi/abs/10.1177/13563890022209118

Van Belle, Sara, Gill Westhorp, & Bruno Marchal. 2021. "Realist Evaluation." https://www.betterevaluation.org/en/approach/realist_evaluation

Walter, Nicole, David F. Varela, Juan Tellez, Ana Montoya, & Heather Huntington. 2017. "Land and Rural Development Program: Mid-Term Performance Evaluation Report." United States Agency for International Development. https://pdf.usaid.gov/pdf_docs/PA00N2BX.pdf

Williams, Eleanor. 2022. "Rapid Evaluation." Better Evaluation. https://www.betterevaluation.org/en/approach/rapid-evaluation

Wilson-Grau, Ricardo. 2023. "Outcome Harvesting: Understanding Social Change Results in Complex Circumstances." https://outcomeharvesting.net

Table of Contents

Learning is the process of using the information, knowledge, and experience resulting from an intervention — particularly from monitoring and evaluation activities— to identify successes, challenges, lessons, and other insights. Learning seeks to improve both ongoing and future interventions. It can be informal and ad hoc, or it can be formal and structured.

This chapter will help you:

- Understand the importance of learning for environmental peacebuilding.

- Be familiar with key learning approaches for environmental peacebuilding, including:

    - Developing a learning plan as part of the M&E plan as early in the intervention process as possible

    - Focusing learning on the environment-conflict-peace nexus

    - Ensuring that the learning process is inclusive

    - Adopting learning approaches that lead to action

    - Sharing learning with the broader community

    - Encouraging funders to prioritize learning

- Be able to understand and navigate learning challenges.

5.1. Introduction

Learning is the process of using the information, knowledge, and experience resulting from an intervention—particularly from monitoring and evaluation activities—to identify successes, challenges, lessons, and other insights.[1] The objective of learning is usually action-oriented; in other words, the purpose of learning is to make improvements to the current intervention, future interventions, or the field more broadly. Learning can be informal and ad hoc, or it can be formal and structured. When done intentionally, learning is often structured around specific questions.
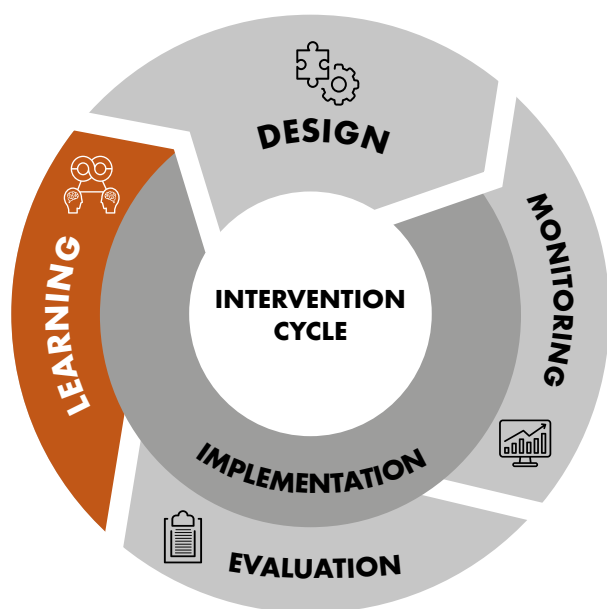
The primary objectives of M&E tend to be accountability and learning. While there can be tensions between accountability and learning, this is not necessarily the case (Guijt 2010).

M&E for learning both incorporates systems thinking and is central to systems approaches.[2] It seeks to understand an intervention's design and implementation in context, and thereby helps to understand how internal and external factors contribute to specific outcomes. M&E for learning is especially valuable for interventions at the intersection of environment, conflict, and peace, as these interventions often operate in dynamic and complex operating environments. In such circumstances, it can be difficult to understand the entire system at the outset. M&E for learning builds understanding of the system. Moreover, it helps interventions adjust to dynamic and complex operating environments.

Designing an M&E plan that emphasizes learning supports adaptive management. For example, following a large uptick in rhino poaching in Zimbabwe in 2018, an environmental organization seeking to combat these illicit activities greatly improved its effectiveness after they used monitoring data and findings from a mid-term evaluation to reconstruct its implementation plan midway through the intervention.[3] Initially, staff created a set of indicators based on the assumption that all poaching incidents would be reported to local authorities. However, the mid-term evaluation indicated that this

1. This definition draws upon and is inspired by Simister 2020; Guijt 2010; Watts et al., 2007; and Stein 1997.
2. For more on a systems approach to environmental peacebuilding M&E, see the section "Systems & Complexity" in Chapter 2 (Design).

3. Learning from Environmental Peacebuilding Monitoring and Evaluation (M&E): An Interactive, Problem-Solving Workshop, January 28, 2022.

assumption was incorrect. They consulted the local community and other stakeholders to identify a new approach. These consultations not only resulted in a new set of indicators but also reshaped the staff's understanding of the community's relationship with rhinos and poaching. The staff opted to revise their theory of change to focus on changing community perceptions of their natural resources and to further involve the community in natural resource management. By 2021, the poaching rate had fallen by 95 percent.

At the organizational level, M&E for learning can help to improve organization-wide efficiency, strategic planning, resource allocation, and integration across environmental and peacebuilding dimensions. Practitioners and their organizations can benefit from approaching the learning process as an opportunity to create a positive feedback loop. For example, the Green Climate Fund's (GCF) Programming Manual presents a 10-stage project lifecycle, illustrated as a wheel (see Figure 5.1).

Abbreviations:

- **AE** = accredited entity,
- **NDA** = national designated authority
- **ITAP** = Independent Technical Advisory Panel

Figure 5.1: GCF Project/Programme Activity Cycle
Source: Adapted from GCF 2020, p. xxiii.

In the GCF programming cycle, Stage 10, "Evaluation, Learning, and Project Closure," feeds directly into Stage 1, "Country and Entity Work Programmes." This represents how the knowledge learned from each project directly informs the organization's strategic planning, impacting how it allocates funds and designs future interventions. In keeping with this process, the GCF undertakes large-scale performance reviews every few years, posting an evaluation and the Secretariat's responses to the evaluation report to show how past experiences will shape the organization's future actions.[4]

M&E for learning also builds the evidence base for the environmental peacebuilding field. As environmental peacebuilding is still a nascent field, there is limited information about what works and under what circumstances. While the primary focus of M&E, including M&E for learning, will generally be on the interventions, (including its relevance to funders and to other stakeholders), and at the organizational level, M&E for learning is also relevant to the ongoing development of knowledge of, in, and for the broader field. Where feasible and appropriate, practitioners can help build the evidence base in environmental peacebuilding by reflecting on and sharing the results of their work, especially regarding unintended consequences. This can mean designing a M&E plan that interrogates the intervention's underlying theory/ies of change, verifies the validity of different styles of intervention, and increases participation of a variety of stakeholders—and then shares that learning more broadly.

As these examples demonstrate, M&E for learning can produce benefits for interventions, organizations, and the environmental peacebuilding discipline as a whole.

---

4. For an example, see Green Climate Fund Independent Evaluation Unit 2019.
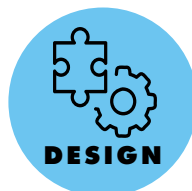
5.2. Learning Approaches

Good practice for learning in environmental peacebuilding includes: (1) developing a learning plan as part of the M&E plan as early in the intervention process as possible; (2) focusing learning on the environment-conflict-peace nexus; (3) ensuring that learning approaches are inclusive, participatory, and conflict-sensitive; (4) adopting learning approaches that ensure learning is converted into action; (5) sharing learning with the broader community of practitioners and decision makers to the extent possible; and (6) encouraging funders to both reward interventions that incorporate a strong focus on learning and operationalize learning results.

Whether and to what extent a practitioner is able to pursue these various learning approaches depends in part on the practitioner, in part on their organization (which may have institutionalized certain learning approaches,[5] or conversely may make certain approaches challenging), in part on the context, and in part on the funder (which may prioritize or deprioritize learning).

A. Include Learning in the M&E Plan

One of the best ways to promote learning is to design the intervention—and the M&E plan—to include learning from the outset. Incorporating learning

considerations into the design of an intervention's M&E plan or framework can be informed by the following questions:

- Who are the relevant stakeholders for my intervention?

  - What are the learning objectives of those stakeholders?

  - What information would be most helpful in meeting those learning objectives?

- What are the biggest questions, hypotheses, or assumptions around the intervention's theory (or theories) of change?

  - What information is needed to help answer those questions or examine those assumptions?

  - Are there methods in the implementation process that should be tested or confirmed? What information is necessary to confirm that those methods are appropriate, effective, and efficient?

  - Are there outcomes in your theory of change that seem particularly open to question? What information is necessary

---

5. These may include, for example, limiting resources for learning, not rewarding learning, and disincentivizing people from taking the time to do it.

to explore those outcomes, whether they were achieved, and how?

- Are there any gender-related differences in the benefits and impacts of the intervention? You should also think about other groups, such as certain ethnic, political, religious, or marginalized groups.

- What learning processes, tools, or approaches would be most appropriate to the intervention, context, and stakeholders involved?

  - How can the intervention be designed to enable learning throughout, and not just at the end?

  - How can stakeholders be involved? At what intervals should stakeholders review the monitoring information to generate learnings? What would that look like?

  - How can the information needed for learning be gathered in a way that is inclusive and conflict-sensitive?

  - How and with whom should be shared the collected information and findings about learning, tending particular consideration to the potential that disclosure might either endanger someone or aggravate conflicts?

- How can the use of the learning results be broadened and deepened?

  - Will the learning be useful to your organization? Does your organization have learning processes that I can support through this initiative's M&E?

  - How might you and your organization act upon the learning results?

  - How might others learn from your experiences? How can the learning from this intervention contribute to the broader environmental peacebuilding field?

See the Learning Worksheet at the end of this chapter for more guidance on developing a learning plan.

Learning can be integrated into the intervention cycle in a variety of ways. More accessible options might include informal, internal meetings (such as having a team meeting to discuss findings and recommendations from an evaluation and determine next steps) or consultative sessions with partners and community stakeholders to review monitoring and evaluation findings and develop recommendations. More comprehensive and intentional approaches can include pre-determined check-in points, the development of reports or presentations, or hosting public events such as webinars to communicate lessons learned. Table 5.1 lists some of the more common options for integrating learning practices and tools.

ACTIVITY	DESCRIPTION
AFTER-ACTION REVIEWS	After-action reviews allow a team or stakeholders to get together after a key activity and think through what worked, what did not work, why, and what could be done differently in the future in an informal and cost-effective setting.
BROWN BAGS	During brown bags, an individual, group, or panel is invited to share learnings with others in an informal environment. Often, there is a presentation followed by discussion. This is an especially useful format for institutional and peer learning.
CHALK TALKS	During this silent activity, the facilitator writes down and shares specific learning questions with a group in circles or otherwise bounded spaces on a piece of paper, chalkboard, or white board. People are then invited to silently write responses to those questions. Others can build on their responses. The key is to stay quiet!
DATA PARTIES	Often used with monitoring data, data parties bring people together to collectively reflect on the available data and generate insights, learnings, and recommendations for change or action. They may involve "data placemats", or other similar tools, to visualize the information collected for participants. Any tools used should be customized to the local context, considering language and culture.
FISHBOWL DISCUSSIONS	In a fishbowl discussion, participants are separated into an "inner" group and an "outer" circle. The "inner" group will have a discussion while those in the "outer" circle listen and take notes. This approach to learning helps ensure everyone has a chance to share their experiences and insights and have them heard.
KNOWLEDGE CAFÉS	A way to bring a group of people together to have an open conversation on a specific topic that surfaces collective knowledge and allows for the sharing of ideas and insights. The goal is to gain a deeper understanding of the subject and the issues involved.
SHARE FAIRS	Share fairs bring people together to engage in a conversation about their work. The more participants, the better. However, remember to engage them in a conflict-sensitive and gender-sensitive manner. Local knowledge, implementation experiences, and learnings are shared and then synthesized[6].

Table 5.1: Examples of Learning Approaches
Source: ELI.

6. For an example of a Share Fair, see Ohkubo et al., 2017.

B. Focus Learning on the Environment-Conflict-Peace Nexus

As environmental peacebuilding is a young field, its theories of change are still being developed and refined, and the evidence base is still being built regarding what works and under what circumstances. By comparison, there is more evidence regarding how to design and implement effective environmental interventions, whether those relate to pollution control, habitat creation, or community-based natural resource management. Similarly, there is a comparatively longer track record regarding peacebuilding (although peacebuilding efforts often remain challenging to get right in each particular context) than there is for environmental peacebuilding. The greatest gaps in knowledge—and the greatest need for learning—are at the environment-conflict-peace nexus.

Focusing learning on the environment-conflict-peace nexus necessarily means designing the M&E system to capture the linkages. Often, it also means strategically engaging across disciplines.

Environmental professionals need insights and information about how conflict and fragility can affect their environmental programming, **and how their initiatives can affect conflict and peace dynamics** (GEF IEO 2020). Environmental professionals often have limited training or experience in conflict-sensitive design and implementation or in peacemaking or peacebuilding. Moreover, their environmental priorities may not reflect the social, economic, or political priorities held by many of the other stakeholders. Accordingly, there can be blind spots in which grievances can rapidly escalate into violence. It is, therefore, a priority for environmental professionals to learn both how their interventions affect and are affected by a conflict context.

Similarly, **peacebuilding professionals need insights and information about how environmental interventions can support efforts to prevent, resolve, and recover from conflict.** These approaches are still being innovated, and the evidence is still largely anecdotal and context-specific (Ide et al. 2021). Moreover, peacebuilders rarely have expertise in natural resources, climate change, or other environmental issues. As such, transdisciplinary learning should also target peacebuilding professionals.

C. Ensure that the Learning Process is Inclusive, Participatory, and Conflict-Sensitive

Learning is most effective when it includes diverse stakeholders and is participatory.

This is true generally; it is especially true for environmental peacebuilding for three reasons. First, the political economy around environmental issues, conflict, and peace often means that different people have divergent values and views. Interventions may engage some groups more than others. The effects of an intervention on the broader context—including both those who were engaged and those who were not, and the dynamics between those groups—can be difficult to accurately ascertain if evaluations involve only stakeholders that had been engaged in the intervention. Second, environmental peacebuilding is inherently a multidisciplinary, multisectoral endeavor, and different disciplines in different sectors are likely to have diverse views. Finally, the newness of the emerging field of environmental peacebuilding means that there are often unintended consequences of interventions (both beneficial and harmful), and the inclusion of diverse stakeholders is more likely to ensure that these unintended consequences are captured; it also broadens the range of people who learn.

This can mean:

- Including practitioners with diverse backgrounds in an intervention's learning processes so that the nuances and synergies of environmental peacebuilding activities, outputs, and outcomes can be more fully explored, captured, and reflected upon.

- Involving diverse stakeholders outside of the intervention team in the learning work. By including various stakeholders in the process of interpreting, reflecting on, and learning from M&E data, it is more likely that a multitude of perspectives will be captured and that the resulting learnings will reflect a more accurate, valid, and comprehensive picture of what has happened. It is also more likely that the intervention team can build or maintain good relationships with other stakeholders. Remember: learning (like all M&E processes) can support your intervention's objectives.

- Not relying too heavily on external evaluators who may not fully grasp the local environment and conflict dynamics. These evaluators may miss important context-specific factors that affect an intervention. While it is traditional to rely on external evaluators, especially for mid-term or final evaluations, it is important that evaluations of environmental peacebuilding interventions involve strong collaboration with stakeholders.

While inclusion and participation are important for the above-mentioned reasons, **learning must also be conflict-sensitive in order to avoid doing harm and to maximize the benefits of learning.** Like M&E, learning must be conflict-sensitive to support the objectives of the environmental peacebuilding intervention and to limit unintended negative effects from a learning process. This can mean:

- **Being specific about which stakeholders should receive what M&E information and in what format.** Be careful to ensure stakeholder safety by anonymizing or aggregating M&E information, particularly information that could be used by spoilers or against marginalized groups.

- **Thinking through how learning processes can support your environmental peacebuilding objectives or exacerbate conflict.** Depending on who is invited to participate in learning and in what format, you can either increase trust in the intervention and between stakeholders or stoke tensions and suspicion.

D. Adopt Learning Approaches that Lead to Action

An important aspect of learning is the process of using the lessons learned. The process of learning should not stop once insights are generated. Rather, it is essential that learning results be converted into action. This is particularly important where learning reveals something about the organizational or institutional setup, culture, or practices in addition to the actual intervention. For example:

- Intervention staff, their partners, and other stakeholders can develop explicit and straightforward steps, action plans, or guidance to apply learning results to future interventions. These documents should provide sufficient operational detail (who should do what, in what timeframe, and with which resources) for accountability and so that people unfamiliar with the source of the learning can do what is needed. This is another process that benefits from participation; with more stakeholders involved, the recommended actions are

more likely to fit the context and needs as well as help achieve the desired objectives. There is also greater accountability if the actions are transparently shared.

- Where specific learning results are particularly impactful (for example, because they pose risks to the organization or people), the results may inform the development or revision of policies, procedures, or safeguards.

- Where learning reveals gaps in capacity or practice, operationalizing the **learning may entail measures to build staff capacity and awareness through training, hiring, or other means.**

In some cases, however, insights from the learning process may not result in immediate, specific actions; instead, **learning might contribute to long-term conversations that shape views toward projects, programs, and policies, or even the organization's mission and objectives.**

One model that can help illustrate this continuous learning process is triple-loop learning, which entails three different kinds of "loops" for utilizing M&E results (see Figure 5.3; Tamarack Institute n.d.). These are:
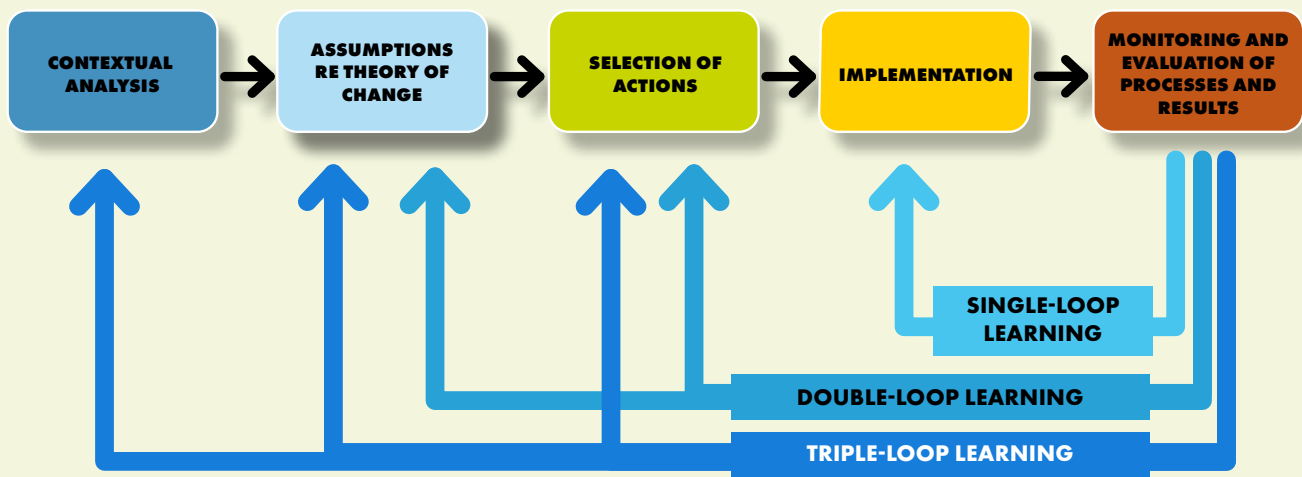
Figure 5.2. Learning Feedback Loops
Source: ELI, drawing upon Tamarack Institute n.d.
Note: This figure does not show the more complex dynamics often present in learning processes.

1. Single-loop learning, which uses the insights gleaned from M&E to revise an intervention's implementation, such as to address an issue or problem with implementation. This entails asking, "Are we doing things right?"

2. Double-loop learning, which builds on single-loop learning and also entails revisiting or reframing an intervention's theory of change, related assumptions, or the design of its actions based on what is learned from M&E. When implementing double-loop learning, the question is: "Are we doing the right things?" Practitioners may develop new understandings of the causal relationships important to the intervention.

3. Triple-loop learning, which involves using M&E insights to reassess or reanalyze the context in which the intervention operates. It asks the question, "How do we decide what is right?" Because analysis of the intervention's operating context significantly shapes its theory of change and selection of actions, triple-loop learning has the greatest potential to transform the future direction and implementation of the intervention. Practicing triple-loop learning demonstrates the greatest commitment to change, critical reflection, and openness. However, it may also require more resources to perform.

E. Share Learning with the Broader Community

For the learning gathered from M&E to make an impact on the broader field of practice of environmental peacebuilding, **M&E findings and the associated learning must be made widely available to practitioners, academics, and other stakeholders.** Whenever possible, practitioners should seek to share their learnings with partners, funders, communities, academics, and other practitioners, whether that is in the form of written reports, webinars, conference presentations, or informal discussions.

While learning may be easier and more straightforward when the results of an intervention are generally positive—with insights and lessons learned shared through policy papers, academic publications, events, and promotional materials—sharing learning is more challenging when an intervention may be perceived as failing or problematic. Failures are often perceived not as an opportunity to learn, but as a reputational risk to individuals, organizations, and their funders. Depending on the severity and nature of the failure, there can be strong disincentives to sharing failures—and thus a powerful impediment to learning, particularly outside of the intervention's

own staff. So-called "fail festivals" provide forums through which people can share difficult or awkward experiences with minimal risk to their reputation or their institution's reputation (Chambers, Massarella, & Fletcher 2022; Zeppenfeld 2020).

F. Encourage Funders to Prioritize Learning

To further encourage reflection and learning by environmental peacebuilding practitioners, **funders should put more emphasis on learning processes as a condition of funding.** This might include requiring fund recipients to fill out self-assessment questionnaires on intervention activities and outcomes, learning-focused reporting narratives, or a Learning Plan as a contingency of funding. Funders can also provide incentives to learn and work with fund recipients to explore "failures" and develop adaptive actions. Indeed, environmental peacebuilding practitioners should consider working with their funders from the beginning of an intervention to design a learning agenda that meets the needs of the funder, the practitioners, and other stakeholders. This might include tailoring or revising reporting requirements for a greater focus on learning. For two examples, see Box 5.1.

Box 5.1: Institutional Approaches to Working with Funders to Promote Learning

In the conservation context, EUROPARC created an evaluation process based on a self-assessment by the German national park administration, the results of which are interpreted through a strengths, weaknesses, opportunities, and threats (SWOT) analysis. Through this analysis, and with the help of an external expert, the administration then establishes action steps based on the lessons learned. In the German national park administration, this process is repeated every 10 years (Leverington et al. 2010).

In the peacebuilding context, the USIP requires grantees to submit quarterly reports. In addition to the customary questions regarding progress on the project's objectives, USIP also asks grantees to:

○ Please share any significant unexpected results for your project during this reporting period. Were these unexpected results positive or negative? Please use this section to explain and elaborate.

○ Please describe the most significant challenges your organization encountered during this reporting period. This may include challenges within the external operating environment. These can be internal to your organization, such as staff transition, or external, such as challenges with external stakeholders or advocacy setbacks due to a political shift. Please use this section to explain and elaborate on how these challenges impacted your project.

○ Please provide an update on the project's monitoring and evaluation strategy as outlined in your approved application. Describe any progress being made on your indicators. This may include the collection of baseline data and additional data collection efforts. [In addition to tracking the M&E strategy, this question enables learning to shape the M&E strategy.]

5.3. Challenges

While learning is an essential component of intervention implementation and M&E, there are several challenges to integrating learning into the intervention cycle. One of the primary challenges has been a **focus on upward accountability** to the detriment of learning. Historically, M&E practices have centered on collecting data and reporting results to show accountability to funders. This approach has traditionally focused on tracking indicators or metrics that highlight an intervention's ability to undertake pre-determined activities, to meet fixed goals or objectives, and to account for how resources have been used. This has resulted in significant pressure on practitioners to capture only their intended or pre-determined successes (and often only outputs), without adequately reflecting on areas in need of improvement or systematically examining challenges or failures. In fact, discussion of failures may be actively discouraged as it could entail institutional risk for the funder.

A focus on donor reporting often **disincentivizes practitioners from reflecting** upon their assumptions and processes, interrogating and adapting their theories of change, or building an accessible and transparent evidence base for stakeholders and the field as a whole. Instead, practitioners might only invest time and resources to collect the necessary data for reporting on intended outputs and outcomes. Moreover, they can be reluctant to update the theory of change based on new information collected, and they may not pursue opportunities to engage communities, colleagues, and other stakeholders in

an examination of that information if timelines are tight or the funder is uninterested.

A learning-focused M&E approach can encourage staff and partners to collect information beyond intended outputs and outcomes, emphasizing reflection on the theory of change, and engaging in participatory, inclusive, and conflict-sensitive discussion of results.

Even when practitioners are interested in taking a learning-focused approach to M&E, they may struggle to do so because of an **organizational lack of resources for M&E.** Creating processes for incorporating learning at the intervention or organizational level can require a significant upfront investment in staffing and time. It also assumes that an organization is open to honest conversations and critical reflection.

Some organizations working at the intersection of environment, conflict, and peace have seen the value of investing in learning from their experiences.

The Stockholm International Water Institute (SIWI), the Global Environment Facility (GEF), and other organizations (including the World Bank) have taken steps to integrate learning into their M&E processes, creating fixed intervals to reflect upon M&E information and adapt interventions and organizational practices accordingly. For example:
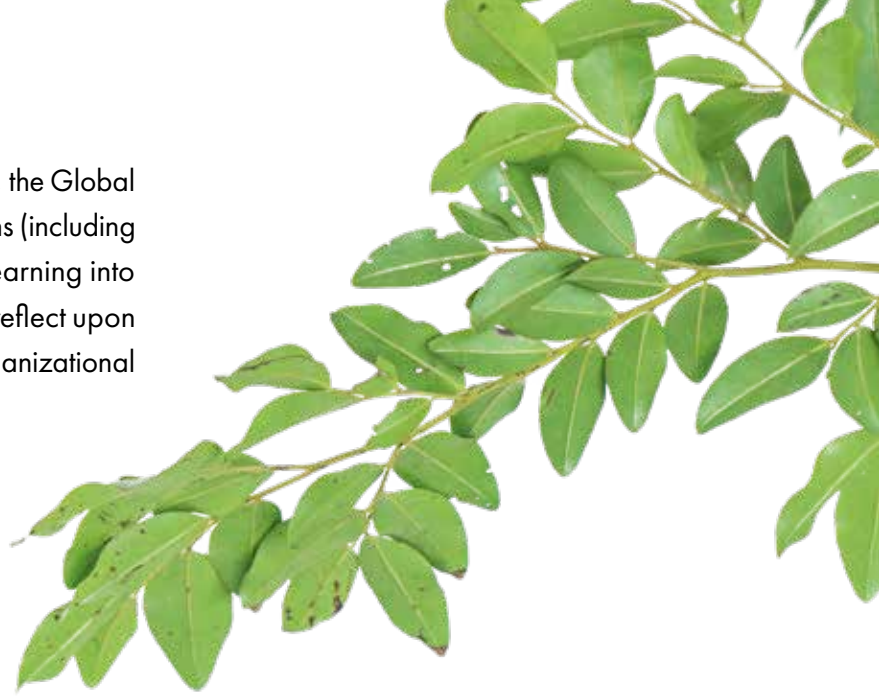
The GEF's Independent Evaluation Office (IEO) has conducted a range of thematic evaluations, including on programming in fragile and conflict-affected situations (GEF IEO 2020). In conducting these evaluations, the IEO has reached out to staff, partners, beneficiaries, and experts to identify good practices and share lessons learned from M&E. It has also facilitated the exchange of learning between GEF agencies. The GEF Secretariat is charged with implementing the learning results (and particularly the evaluations' recommendations that have been approved by the GEF Council). To encourage the GEF Secretariat to take the learning/recommendations seriously, the GEF Council reviews the extent to which the Secretariat has implemented the specific recommendations from the various evaluations.

SIWI has encouraged both its staff and other practitioners to implement learning results at the project level. For example, its "Source-to-Sea" guide highlights that an intervention's indicators should feed "directly into iterative learning cycles through adaptive management" and that "the evaluation of the monitored indicators can provide valuable information for expanding the understanding" of the project's focus (Mathews et al. 2019). At the organizational level, SIWI analyzes potential changes and lessons learned in each of its Quarterly Assessments of projects and programs.[7] These practices are fundamental to creating a culture of adaptive management.[8]

7. Interview with SIWI staff, June 2021.
8. For more on adaptive management, see Chapter 2.

Worksheet: Learning

Objectives:

This worksheet will help you:

- Design a learning plan that includes stakeholders, objectives, activities, and a process for using learnings.

- Ensure that learning processes inform decision making at multiple scales.

- Support adaptive management and the improvement of interventions.

- Explore any unintended results or outcomes stemming from an intervention.

- Build the environmental peacebuilding evidence base.

Designing a Learning Plan

In addition to institutional processes for learning, which apply across multiple interventions, you may develop a learning plan tailored to your intervention. A learning plan maps out your objectives, stakeholders, and process for learning. You should draft a learning plan prior to the start of an intervention to ensure you are gathering the information you need from the start; however, the learning plan can be updated as the context changes. Use the headings below as a template and consider the associated questions as you draft your plan.

Learning Stakeholders

List the relevant stakeholders and their needs vis-à-vis learning processes and outputs. The table below provides a template. You may want to review the personas exercise in the Design Chapter as you complete this section.

STAKEHOLDER	LEARNING NEEDS & INTERESTS	SPECIAL CONSIDERATIONS

Learning Questions

Include your learning questions here. These capture your learning objectives and expectations. Make sure they are specific enough to really guide learning activities and that there are not so many as to overwhelm the resources you have (time, people, money, etc.). Consider the following:

☐ What information would be most helpful for the current or future interventions?

☐ What parts of your theory of change need more evidence? Are there approaches or outcomes you are testing? In particular, how are you capturing the interaction or relationship between environmental and peace aspects of your intervention?

☐ What are your learning needs at the intervention and institutional levels?

☐ What are the specific learning needs of the stakeholders you have identified? How do they differ?

☐ What is there to learn about your assumptions or the context in which your intervention took place? What did you learn that was unexpected (what were the unintended effects of the intervention)?

Learning Roles & Responsibilities

Document how the learning process will be managed and by whom. This might be an individual point person or a committee/advisory group that includes local stakeholders. It should reflect your learning objectives, questions, and activities. You may want to document their specific tasks or responsibilities.

Learning Activities

Document specific learning processes and activities here. Consider the following:

☐ What do you need to do to answer your learning questions and achieve your learning objectives? For example, how frequently should you review your monitoring data? What will do you with the results of a planned evaluation?

    ☐ Revisit the Design, Monitoring, and Evaluation chapters to ensure that your learning needs are built into your broader plans.

☐ How will learning be captured? This may be an online wiki or discussion board where people can informally share, or notes taken during informal reflection sessions. Make sure there is a place and process for documenting learnings so that they are not forgotten.

☐ What different needs might the various stakeholders have vis-à-vis learning processes? For example, how can you incorporate those stakeholders into the learning process in a culturally appropriate and conflict sensitive way?

☐ How will you ensure that unintended effects or outcomes are explored?

Learning activities can be internal and informal, such as having a team meeting to discuss findings and recommendations from an evaluation. They can also be broader, involving consultative sessions with partners and community stakeholders to review monitoring data. For those who are interested in facilitating learning-focused meetings, USAID (2019) has a useful guide. Table 5.1, above, includes a list of other examples of learning and reflection activities that you may wish to pursue, including After Action Reviews, Brown Bags, Chalk Talks, Data Parties, Fishbowl Discussions, Knowledge Cafes, and Share Fairs.

While these ideas can help you get started, another step you can take is asking stakeholders how they might learn best. What approaches resonate most with those groups? What other ideas do they have?

Learning Outputs

List your learning outputs. You can use the table below as a template. When thinking through which learning outputs to prioritize, consider the following:

☐ What different needs might the various stakeholders (including your own organization) have vis-à-vis learning outputs? Will you need to create learning outputs in different languages or formats?

☐ What mediums are best to convey learnings to different stakeholders/audiences?

☐ When considering the transparency of learning outputs, what risks might there be? How can you ensure your learning outputs are conflict-sensitive and gender-sensitive?

LEARNING OUTPUT	DESCRIPTION OF CONTENT	TIMING/ FREQUENCY	STAKEHOLDERS

Learning Use

Make sure your learning plan clearly states how the learning results will be used. Consider the following:

☐ Reflect on how can the learning results support the objectives of your current and future interventions? [This is important, as there is often institutional inertia, and a key to incorporating learning results is being able to show the value of change, whether it is in benefits or risk management.]

☐ If the intervention is still ongoing, how can you incorporate the learning results into the ongoing intervention?

☐ Should you develop a written action plan that incorporates the learning results and details the steps to take, who is responsible, and by what date?

☐ How will learning results be incorporated into the design and implementation of future interventions?

☐ Who will receive the learning results, and by what means? Will they be shared with the environmental peacebuilding community at large (to help build the evidence base)?

☐ How can you ensure your learning outputs are shared in a conflict-sensitive way?

☐ Is there an ongoing or existing institutional learning process that you can feed into?

References

Chambers, Josephine M., Kate Massarella, & Robert Fletcher. 2022. "The Right to Fail? Problematizing Failure Discourse in International Conservation." *World Development* 150:105723.

GEF IEO (Global Environment Facility Independent Evaluation Office). 2020. *"Evaluation of GEF Support in Fragile and Conflict-Affected Situations."* https://www.thegef.org/council-meeting-documents/evaluation-gef-support-fragile-and-conflict-affected-situations

Green Climate Fund. 2020. *GCF Programming Manual.* https://www.greenclimate.fund/sites/default/files/document/gcf-programming-manual.pdf

Guijt, Irene. 2010. "Accountability and Learning: Exploding the Myth of Incompatibility between Accountability and Learning." In *Capacity Development in Practice*, ed. J. Ubels, N.-A. Acquaye-Baddoo & A. Fowler, 277-291. Earthscan.

Ide, Tobias, Carl Bruch, Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Richard Matthew, & Erika Weinthal. 2021. "The Past and Future(s) of Environmental Peacebuilding." *International Affairs* 97(1):1-16. https://academic.oup.com/ia/article/97/1/1/6041492

Leverington, Fiona, Anne Kettner, Christoph Nolte, Melitta Marr, Sue Stolton, Helena Pavese, Susanne Stoll-Kleemann, & Marc Hocking. 2010. "Protected Area Management Effectiveness Assessments in Europe: Overview of European Methodologies." Bundesamt für Naturschutz. http://www.europarc.org/wp-content/uploads/2015/05/PAME-Supplementary-report.pdf

Mathews, R. E., A. Tengberg, J. Sjödin, & B. Liss-Lymer. 2019. *Implementing the Source-to-Sea Approach: A Guide for Practitioners.* SIWI, Stockholm.

Ohkubo, S., C. Mickish Gross, M. Kioko, & J. Cassaniti. 2017. "East African Regional Knowledge Management Share Fair: Research Findings." Johns Hopkins Center for Communication Programs. https://pdf.usaid.gov/pdf_docs/PA00MTD6.pdf

Simister, Nigel. 2018. "Learning and Accountability." INTRAC. https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Learning-and-Accountability.pdf

Stein, Johan. 1997. "How Institutions Learn: A Socio-Cognitive Perspective." *Journal of Economic Issues* 31(3): 729-740.

Tamarack Institute. n.d. *"Single, Double and Triple Loop Learning."* https://www.tamarackcommunity.ca/hubfs/Events/Multi-Day%20Events/Community%20Change%20Institute%20-%20CCI/2017%20CCI%20Vancouver/Resources/Tool%20-%20Single%20Double%20Triple%20Loop%20Learning.pdf

USAID (United States Agency for International Development). 2019. Designing and Facilitating Learning-Focused Meetings. Ver. 1. https://usaidlearninglab.org/sites/default/files/resource/files/designing_and_facilitating_learning_focused_meetings_final_20190326.pdf

Watts, J., R. Mackay, D. Horton, A. Hall, B. Douthwaite, R. Chambers, & A. Acosta. 2007. *Institutional Learning and Change: An Introduction.* 2nd ed. ILAC Working Paper No. 3. https://hdl.handle.net/10568/70607

Zeppenfeld, Leanne. 2020. *Facing Failures: A Framework for Understanding and Identifying Failure in International Development.* M.Sc. thesis. Wageningen University. https://edepot.wur.nl/532874
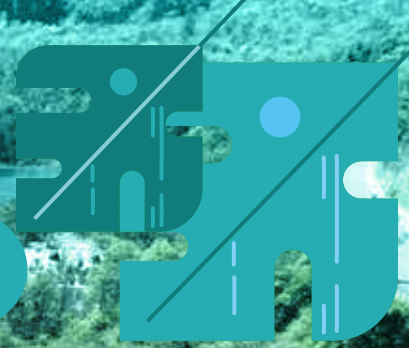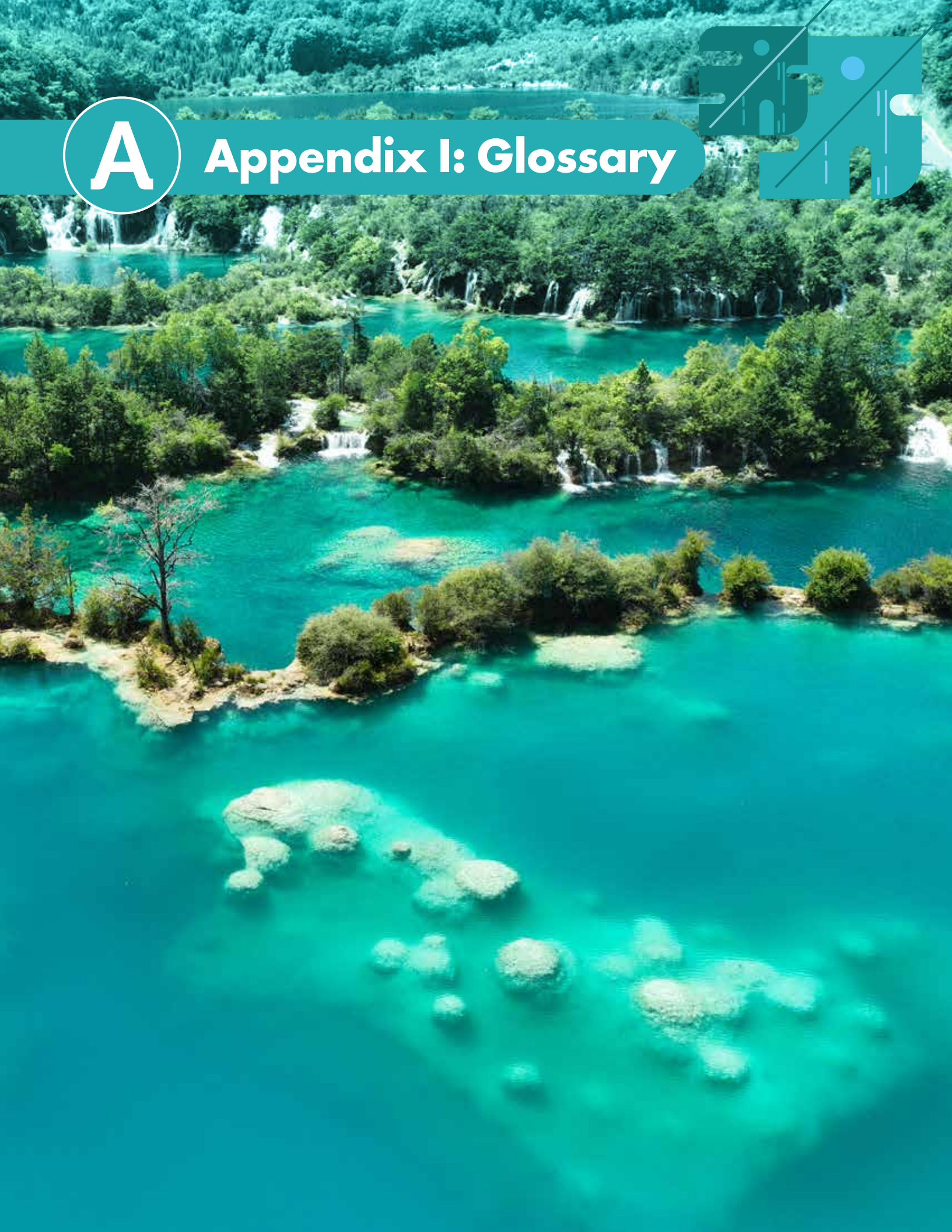
A Appendix I: Glossary

This glossary defines and describes key terms used throughout the "Toolkit on Monitoring and Evaluation of Environmental Peacebuilding." For each term, the glossary synthesizes and integrates commonly used definitions within fields of monitoring and evaluation (M&E), development, environment, peacebuilding, and environmental peacebuilding.

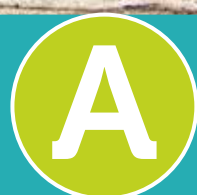- **Activity:** an action taken to achieve desired outcomes, such as a community training, discussion forum, or the building of an institution.

Activities describe actions that lead to the short- and long-term results of a theory of change (Dolfing 2020). Activities are made possible with inputs and are used to produce outputs.

- **Adaptive management:** an iterative approach to making decisions and managing interventions in situations of uncertainty that relies on making provisional decisions, implementation, monitoring, evaluation, learning, and revision (Holling 1978).

Adaptive management emphasizes learning while doing and can facilitate both the examination of and adaptation to contextual changes in complex or uncertain environments. It is a broad approach that can include many different processes, tools, and initiatives (Simister 2017). Adaptive management specifically responds to change by adjusting the pathways used to achieve goals rather than the goals themselves (USAID 2018). It can be understood within a context of structured decision making as an iterative learning process used to produce enhanced understanding and improved management over time (DOI 2009).

Adaptive management is widely used in environmental contexts (Lin 2011; Webb et al. 2018; Makate et al. 2016; Gregory et al. 2006), peacebuilding (de Coning 2020; Barnard-Webster & Jean 2017; Burnet 2021; Muto & Saraiva 2020), and development (Mercy Corps 2015; ODI 2016; USAID 2020c; Lonsdale & Pruden 2022). Adaptive management is particularly useful in situations where there is imperfect information on the context, uncertainties in the theories of change, and a dynamic, rapidly changing context. It is even more imperative in the context of environmental peacebuilding where those uncertainties occur in each of the environmental, peacebuilding, and development contexts and synergistically interact (Ide et al. 2021).

Within peacebuilding and development spheres, adaptive management is understood as a necessary tool for promoting flexibility and reducing stakeholder tensions while operating in dynamic, insecure contexts (Simister 2018; Forsyth, Queen et al. 2018). In the context of natural resource management, adaptive management is described as a process and approach to generate policies and activities which are considerate of variability within and between ecosystems (UN-REDD 1992; DOI 2009).

● **Conflict:** a dispute among two or more groups deriving from a real or perceived set of incompatible interests and goals.

Conflicts come in a variety of forms, are not necessarily violent, and are not necessarily bad (USAID 2014). Conflicts may or may not lead to outcomes that impede societal security and well-being. Conflicts are widely understood as a natural and inherent aspect of all societies. They are rarely simple, each with its own specific context, circumstances, and histories contributing to its complexity. Some definitions of conflict focus on the peace and security dimensions and the negative impacts of conflict (Igarape 2018).

Conflict does not necessarily involve armed groups and is not interchangeable with violence (Herbert 2017), although conflict may lead to destruction and destabilization. Conflict may result in violence when societal mechanisms and institutions for conflict management and resolution break down (UN Interagency Framework Team for Preventive Action 2010).

● **Conflict resources:** natural resources whose extraction, exploitation, and trade generates revenues that finance and/or drive armed conflict.

Conflict resources are frequently—and often illegally—traded by insurgent groups in exchange for weapons, extracted using forced labor, and their revenues are used to pay combatants and buy equipment and materials (European Commission 2017; Bruch et al. 2019). Conflict resources can change conflict dynamics, providing incentives to target the underlying resources that are financing an opponent's operations, and to continue to undermine peace so that parties can exploit the resources. Moreover, they can inflate "tensions that can escalate into violent

conflict, or feed into and exacerbate pre-existing conflict dynamics" (UN DPA & UNEP 2015, p. 7). To avoid financing armed conflict, many organizations aim to control conflict resource trade and promote "responsible" resource extraction and trade (European Commission 2017).

Some definitions of conflict resources emphasize additional dimensions of conflict resources. For example, the Global Witness (2006) definition includes: the systematic exploitation of resources that contributes to, benefits from, or results in serious violations of human rights, international humanitarian law, or international criminal law.

● **Conflict sensitivity:** an approach whereby there is "a sound understanding of the two-way interaction between activities and context and acting to minimize negative impacts and maximize positive impacts of [an] intervention on conflict, within an organization's given priorities/objectives" (Conflict Sensitivity Community Hub, n.d).

The concept of conflict sensitivity emerged from the recognition that humanitarian and development interventions do not inherently do good and may, in fact, exacerbate conflict (Paffenholz 2005).

Conflict sensitivity can be applied to all contexts or types of interventions and does necessarily not require changing an intervention's mandate or objectives; rather, conflict-sensitive interventions are responsive to the context while seeking to achieve their objectives, adapting to evolving conflicts and maximizing opportunities for peace and stability whenever possible (Global Affairs Canada n.d.). A related concept is Do No Harm, which is a minimum standard to avoid doing harm or making a situation worse. However, conflict sensitivity is generally accepted to extend beyond this framework to include the maximization of positive impacts, including for conflict prevention and peacebuilding (Hammill et al. 2009; Saferworld et al. 2004).

● **Environmental change:** describes a "systemic, related cluster" of physical changes to the natural environment, including an accelerating alteration to the climate as well as "biodiversity loss, ocean acidification, fertile soil loss, freshwater depletion and contamination, ... compounded by disruption to global elemental cycles" (Butler & McFarlane 2018, p. 453).

Environmental change derives from both natural and human processes, where natural systems "transform the sun's energy into matter and cause changes by cycling materials through geological, biological, oceanic and atmospheric processes" and human systems "transform materials and energy into products and services to meet human needs and aspirations" (EEA Task Force 1995). While human processes are thought to have historically contributed to environmental change in "relatively small" ways, human-induced environmental change now alters the flows of material and energy at "unprecedented scales" (EEA Task Force 1995).

Physical environmental change is "accompanied by, and will also precipitate, great social changes" such as changes to food systems and human health (Butler & McFarlane 2018, p. 453). Vulnerability to environmental change is "socially differentiated across gender, class, race, and age" (Barnett 2009, p. 555). Specifically, poor and marginalized populations "tend to be more vulnerable to environmental change" for a number of reasons, including tendencies to be more heavily dependent on at-risk resources and ecosystem services and a greater likelihood to live in areas affected by environmental degradation (p. 555).

● **Environmental peacebuilding:** a meta-framework comprising multiple approaches and pathways by which management of environmental issues is integrated in and can support conflict prevention, mitigation, resolution, and recovery (Ide et al. 2021).

Environmental peacebuilding is neither a distinct school of thought nor a concrete set of activities, but a broad umbrella term used by academics, practitioners, and decision makers to describe the relationships and pathways that emerge at the ne-

xus of environment, conflict, and peace (Dresse et al. 2016). A common element of environmental peacebuilding is the transboundary nature of environmental issues and the resulting cooperation that emerges from within ecosystem borders, rather than politico-territorial borders (Dresse et al. 2018). In the post-conflict context, many environmental peacebuilding interventions leverage and combine peacebuilding and environmental approaches to "build peace and advance post-conflict reconstruction through climate-related activities" (Kirby & Brady 2015, p. xii). It may involve cooperation over natural resource management, disaster risk reduction, and potentially climate adaptation (Conca & Dabelko 2002; Pieternal de Bruin 2022). Other framings of environmental peacebuilding emphasize the role of environment and natural resources in supporting specific peacebuilding objectives around security, livelihoods, economic recovery, basic services, and good governance (Bruch, Muffett, & Nichols 2016). And other framings focus on conflict-sensitive conservation (Conservation International 2017). There are several other related terminologies, such as "environmental security," "environmental peacemaking," "ecological peacemaking," and "environmental diplomacy" (Dresse et al. 2016; Conca & Dabelko 2002).

● **Evaluation:** the systematic assessment of an ongoing or completed intervention's design, implementation, and/or effects to determine its success, appropriateness, worth, quality, value (including cost effectiveness), and importance.

Evaluations often utilize monitoring data in addition to collecting more in-depth information that provides answers for the "how" and "why" of an intervention (IEG 2022). These assessments can take place at various points during an intervention's implementation, from beginning to end, and even some time after (USAID 2020b). Decisions regarding when and how to evaluate should be driven by the objectives of the evaluation itself.

A good environmental peacebuilding evaluation captures and links an intervention's environmental and peacebuilding dimensions. Evaluations should also incorporate methods that explore unintended effects and that are conflict sensitive to the context to ensure that the evaluation is accepted by stakeholders and does not exacerbate existing tensions (Suckling et al. 2021).

When conducting an environmental peacebuilding evaluation, it is also important to right-size an approach to the needs and available resources, incorporate methods that account for complexity and interdisciplinarity, and aim to capture an intervention's contribution rather than focusing on attribution. Good evaluations of environmental peacebuilding will support the intervention's objectives and be conflict-sensitive. Relevant evaluation approaches include: after action reviews, causal link monitoring, contribution analysis, developmental, empowerment, formative, rapid, most significant change, and outcome harvesting.

● **Fragility:** describes "the combination of exposure to risk and insufficient coping capacities of the state, system and/or communities to manage, absorb or mitigate those risks" (OECD 2022, p.107).

There is a broad range of fragile contexts, each with multidimensional characteristics that can manifest differently. Historically, fragility has been used to characterize states. The IMF defines fragile states as those with characteristics that "substantially impair their economic and social performance" and identifies fragile characteristics such as weak governance, limited administrative capacity, persistent social tensions, and violence, among others (FSDR & DEINVEST 2016, p. 1). Common attributes of a fragile state may include: the loss of physical control of its territory, the erosion of legitimate authority to make collective decisions, and the inability to provide reasonable public services (Fragile States Index 2022).

The Organization for Economic Co-operation and Development (OECD) notes that fragility "may occur at a subnational level, making it hard to keep the fragile states terminology" (FSDR & DEINVEST 2016, p.1). Accordingly, the OECD utilizes a multidimensional fragility framework to assess contexts' varying degrees of risk exposure and coping capacities across six dimensions: economic, environmental, human, political, security, and societal (OECD 2022). As of fiscal year 2020, the World Bank revised its methodology to better classify fragility at sub-national levels, defining fragile situations as those with one

or more of the following: (1) the weakest institutional and policy environment based on CPIA scores for IDA countries; (2) the presence of a UN Department of Peace Operation (DPO); and (3) flights across borders of 2,000 or more per 100,000 population, who are internationally regarded as refugees (World Bank 2022).

● **Gender:** a social and cultural construct that distinguishes the attributes associated with women, men, girls, boys, and non-binary individuals.

Gender includes norms, behaviors, expectations, and roles of women or men, girls or boys, and non-binary people in addition to the relationships between them (WHO 2022). Gender is learned through socialization processes (UN Women 2022) and is context- and time-specific so it can change (WHO 2022; UN Women 2022; UNICEF 2017). Gender identity describes an individual's internal experience of gender and may or may not correspond to an individual's sex (i.e., the biological and physiological characteristics of females, males, and intersex persons) (WHO 2022).

While some societies tend to recognize only two genders, man and woman, otherwise known as a gender binary, some people do not identify with either gender and may instead identify with a blend of man and woman, something else, or no gender at all. People who do not fit within the gender binary may describe themselves with terms like "non-binary," "genderqueer," or "agender" (NCTE 2018).

As socially constructed, gender is often hierarchical, producing inequalities between women, men, and nonbinary peoples regarding responsibilities assigned, activities undertaken, access to and control over resources, and decision-making opportunities (UN Women 2022; WHO 2022). Gender inequality interacts with other socioeconomic factors including race, class, disability, and ethnicity (UN Women 2022; WHO 2022).

● **Inclusion:** ensuring equal access to opportunities "regardless of differences in personal characteristics or identities" (USAID 2020a, p. 1). Inclusion in M&E means both including various stakeholder groups—particularly traditionally marginalized groups such as women, minorities, Indigenous people, youth, and people with disabilities—in design, monitoring, evaluation, and learning as well as ensuring M&E processes capture the different effects of an intervention on those various stakeholder groups (e.g., through disaggregated indicators) and including these groups in the sharing or dissemination of information such as evaluation results.

Genuine inclusion necessitates the empowerment and authentic participation (see below) of various stakeholder groups. It also enhances M&E proces-

ses as different perspectives are brought to bear on the design of theories of change, indicators, data collection methods, analysis approaches, and evaluative processes. While practitioners should aim for the highest level of inclusion possible, tradeoffs may need to be made based on the conflict context, resources, and other constraints.

● **Indicator:** in the context of M&E, a qualitative or quantitative variable or piece of information, generally aligning with a theory of change, that helps to measure activities, outputs, outcomes, assumptions, and risks (Lamhauge, Lanzi, & Agrawala 2013; Brooks 2014). Indicators provide the information necessary to understand an intervention's progress and effects, as well as the broader context in which an intervention takes place.

While indicators can capture processes or products and can be qualitative (including perception-based) or quantitative, it is often easiest to track indicators that are unidimensional (UNICEF 2018). It may be, however, that some qualitative indicators are multidimensional, particularly as they relate to the nexus conflict, environment, peace. Because conflict-environment relations manifest differently in different places and at different levels, indicators for environmental peacebuilding M&E are not universally applicable to all interventions. M&E of environmental peacebuilding requires indicators and techniques that link an intervention's various environmental and peace dimensions (Caroli et al. 2021). This linking may entail a combination of: (1) environment-related indicators; (2) peace/conflict-related indicators; and (3) indicators that specifically link changes in the environment and changes in the peace/conflict context.

Indicators for environmental peacebuilding M&E can support monitoring by indicating early warning and adaptation needs, as well as learning by testing theories of change and determining success of intervention design and implementation (Defontaine 2019).

● **Input:** the resources, contributions, and investments necessary for delivering an intervention, including funding, personnel, partnerships, and physical resources such as infrastructure or technology (Harries et al. 2014; Dolfing 2020).

● **Intervention:** an individual project or set of projects, programs, policies, instruments, and activities that are intended to promote change in one or more areas.

Interventions are distinct from change and can represent one of many factors that influence change (Belcher & Palenberg 2018). Interventions typically influence systems from the outside (Burgess 2004).

● **Lagging indicator:** an indicator that tracks changes that actually happened. They are important for evaluation as they provide information about the realized outcomes of past actions (Stevenson et al. 2021). Since the effects of an intervention can manifest over long time scales, lagging indicators are complemented by leading indicators (see below; Ota et al. 2021).

● **Leading indicator:** an indicator tracking certain changes that are expected to lead to other changes. They are useful for predicting or foreshadowing both immediate and long-term changes, and are important for early warning as well as for interventions with long time scales (Ota et al. 2021).

Learning: a systematic process through which stakeholders reflect on and intentionally use the information generated through their M&E activities to better understand the process and effects of an intervention and seek opportunities for improvement.

Learning is one of the most common objectives of M&E, especially for organizations incorporating a system-based programming approach (Hunt 2014). M&E for learning focuses on capturing information regarding an intervention's implementation process and associated outcomes or effects. Learning encourages practitioners to regularly reflect on progress using either existing processes such as quarterly reports or final evaluations (USAID 2021) or separate learning-focused practices. Reflection on contextual changes as well as implementation challenges, successes, and failures using M&E information is a key part of learning. When possible, reflection activities should be participatory and include the voices of stakeholders, such as local communities (USAID 2021).

When intentionally and continuously used to seek opportunities for improvement, learning can support adaptive management and directly improve intervention implementation (Hunt 2014). Learning can also be utilized to improve organization-wide efficiency, strategic planning, and resource allocation while better integrating environmental and peacebuilding dimensions and informing future decision-making (Hunt 2014). More broadly, learning can help build the limited evidence base for the environmental peacebuilding discipline.

Monitoring: an ongoing and systematic process of collecting, analyzing, and using information about an intervention's activities, effects, and context.

Monitoring is generally composed of indicators and their associated targets and baselines, data collection methods, and regular reviews and reflection on information generated (Lai 2012). While there is often some overlap with evaluation, monitoring is generally descriptive and relies on quantitative and qualitative indicators. Monitoring information is used continuously in the day-to-day management of an intervention to track progress against initial plans, functioning as evidence for strategic decision-making, learning, and results achievement (UNDAF 2017). Monitoring can reveal whether the theory of change is still valid or needs to be adapted during implementation or as the context changes (UNDAF 2017; INTRAC 2017). Monitoring is a crucial tool to assess both the intended and unintended effects of an intervention, and whether the intervention needs to be reconsidered (Lemon & Pinet 2018).

Monitoring is particularly important when working in insecure contexts, as it can support early warning by providing indications that there may be problems before they escalate further (UNDAF 2017). When collecting and sharing monitoring information, practitioners can utilize participatory ways of assessing an intervention's information environment and address concerns around transparency and information sensitivity (U.S. Global Development Lab 2019). If done well, the monitoring process itself can support the objectives of an environmental peacebuilding

intervention. To do so, it is essential that monitoring be undertaken in a conflict-sensitive way and that the safety and security of stakeholders is balanced with participation and transparency.

● **Negative peace:** the absence of direct violence and war.

Coined by Johan Galtung (1964), negative peace describes the absence of a state of war, direct violence, or overt oppression; it may be achieved through violent means. Examples of negative peace include a ceasefire agreement during a war or the presence of an armed force to dissuade unrest (Jakubowski 2021). The absence of direct violence and war does not ensure the absence of psychological violence, structural violence, injustice, repression, or rights restrictions nor does it indicate how long-term peace may be strengthened or maintained (COE 2022). Contrast with "positive peace" (see below).

● **Outcome:** the results of an intervention. Outcomes are often changes in knowledge, attitudes, awareness, skills, behaviors, or the natural or physical environment. In a theory of change, outcomes can be defined as short-, medium-, or long-term (although such designations are not inherently necessary).

While outputs can be measured immediately follow an intervention's activities, outcomes usually manifest over a longer period of time (Dolfing 2020). Measuring outcomes can help validate theory of change assumptions about how and why change occurs or can indicate when assumptions may need to be adapted (FBK 2018).

● **Output:** the direct and immediate results of an activity, limited to the scope of a project's duration (Dolfing 2020).

Outputs describe the result of an activity, including who is affected—directly and indirectly—and what is produced (Kolko 2012). For example, if an activity entailed training women in Energy Management Systems, the output would be that women are trained in Energy Management Systems.

● Participation: the active involvement of stakeholders, in this case as part of the M&E process. Participation exists along a continuum, from informing and consulting to collaborating and empowering, and can involve different stakeholder groups, including intervention staff, partners, country-based officials, and participants or beneficiaries (INTRAC 2020).

When done well, participation enhances inclusion (see above) by involving different stakeholder groups (see below) in design, data collection, analysis, and assessment processes. While there is wide agreement that interventions and their M&E should be participatory, the degree and nature of the participation may be shaped by considerations of conflict sensitivity as well as available time, staff, and other resources.

● Participatory process: a process that engages stakeholders. Participatory processes range from sharing information to consultation, codesign, and collaborative implementation. These processes emphasize the inclusion and validation of diverse stakeholder groups, especially marginalized or at-risk groups, as well as local populations.

A highly participatory M&E approach entails the active involvement of intervention participants, beneficiaries, and other stakeholders from the beginning to the end of the intervention cycle. Participatory

processes actively engage local populations and empower them to participate in decision-making processes that affect their lives (UN DESA 2017). Participatory approaches emphasize process, rather than results or products (WHO 2016). Through the process of engaging diverse and underrepresented groups, participatory approaches can enhance understanding of different perspectives that can form a basis of mutualism and joint action (UN DESA 2017).

Participatory processes often emphasize "local conflict handling potential" and, as a result, generally have high levels of legitimacy and credibility (Nascimento et al. 2004, p. 6). Local engagement can also improve M&E outcomes by resolving data access issues, enhancing dispute mechanisms, mitigating implementation risks, and building long-term local capacity (UN DESA 2017). Bottom-up participatory M&E practices are not meant to replace top-down M&E practices, but rather to enhance M&E by using "local initiatives as a vehicle to create a greater impact on peacebuilding interventions" (Chivasa 2019, p. 198). Conflict-sensitive participatory approaches, particularly those involving local people, require transparency about M&E risks and activities to ensure information accuracy and avoid increasing tension or triggering violent expressions.

Peace: describes a relationship between two or more parties that functions to manage conflict without violence and advance a common vision of a life with dignity, rights, and capacities for all (Berkowitz 2014).

Peace is not the absence of conflict, but the ability to "manage conflict without violence" (USIP 2011). That said, the absence of violence characterizes only a narrow version of peace that is relatively insecure, otherwise termed by John Galtung (1964) as "negative peace" (see "negative peace," above). Broader definitions of peace often address structural violence within social, economic, and political systems (Richmond 1997), as well as "fundamental recognition of freedom and dignity of all people" (Leckman et al. 2014, p.6).

The above quoted authors, define peace through four components: (1) as an outcome, or the absence of violence; (2) as a process, or "efforts to negotiate freedom from violence through the creation of social bonds;" (3) as a human disposition, or a social orientation to secure freedoms and foster capacities; and (4) as a culture that "fosters a sense of global citizenship" (2014, p.6).

Peace dividend: "timely and tangible deliverables, which in particular contexts can facilitate social cohesion and stability, build trust in the peace process, and support the state to earn legitimacy under challenging conditions" (McCandless 2012, p.16). Peace dividends tend to result from low-cost, small-scale interventions that can be planned and implemented over a short timeframe (UN Peacekeeping, n.d.).

Historically, peace dividends have rested on the assumption that "increased expenditures on social spending"—and a resulting decrease on military spending—promotes peace (McCandless 2012, p. 16). The UN and other international actors now understand the term more broadly, using it to describe public administration and social deliverables that "reduce social tensions through the provision of tangible, needed services, create incentives for non-violent behavior and support state-building efforts at critical junctures in the peace process" (McCandless 2012, p.2).

To be recognized, peace dividends should be: (1) tangible, including services like economic incentives, health services, and improved food security; and (2) timely, or attributed to political milestones and national governments (Laughton & Crawford 2010). A significant and growing body of evidence demonstrates the potential of peace dividends to both address a conflict's underlying grievances and (re) build a state's legitimacy and systems of accountability to society (McCandless 2012, p. 2). That said, peace dividends are not automatic (Hoeffler 2012).

Positive peace: the absence of violence (direct and indirect, including structural violence) and war in addition to the presence of attitudes, institutions, and

structures that enable and sustain peaceful growth and change.

John Galtung coined the term "positive peace" in 1964 and expanded it in 1969 by adding that positive peace has, in addition to the absence of violence, positive components such as social justice and the absence of structural violence. He later refined the typology of positive peace into direct positive peace flowing from verbal and physical kindness, structural positive peace based on freedom and equity, and cultural positive peace legitimizing peace (Galtung 1996, p. 32). Positive peace creates an environment of harmony in which "human potential can flourish" (IEP 2020, p. 2). Positive peace emphasizes that peace can exist in many forms and is more than simply the absence of violence. To endure, positive peace is a process that must be continuously sustained and cultivated over time.

● **Resource curse:** the observed negative correlation between one country's wealth in terms of natural resources and its "economic, social, or political well-being" (Ross 2015, p. 240).

Coined by Richard Auty (1994) to describe how natural resources can distort the economies of developing countries, he has subsequently attributed it to economic, institutional, and political causes (Auty 2017). The concept of "resource curse" has been used in reference to countries such as Sierra Leone, contrasted with examples such as Botswana (Ross 1999). It has been refined over the years to include an examination of the type of natural resource and enabling conditions (van der Ploeg 2011; Ross 2015).

● **Right-sizing:** a process for adjusting an M&E framework to align its approaches and methods with available resources, needs, the stage of the intervention's implementation, and context.

RIGHT SIZING

Right-sizing is founded on the notion that practitioners cannot do it all and will never have the perfect M&E framework because interventions have finite resources and time, and operations may be bounded by other constraints (GAO 2003; Wolf 2005). Specifically,

right-sizing often consists of ascertaining available data, funding, and staff, as well as the needs, time-frame, and other considerations (such as security), and then selecting the necessary and appropriate M&E measures.

Right-sizing can be an ongoing process that occurs throughout M&E design and implementation (Armada et al. 2018). For example, practitioners can right-size systems maps, theories of change, indicators, data collection, and evaluations. When right-sizing an M&E framework, transparency with partners about priorities, constraints, and related actions is essential (Rathinam et al. 2019).

● **Stakeholder:** an individual or group that is impacted by and/or has an interest in a particular decision, intervention, or context.

Recognized interests are diverse and include tangible and intangible interests such as those related to livelihood, food security, financial needs, identity, culture, religion, and the enjoyment of an area. There may be differential interests within a community based on gender, age, disability, and other characteristics. These need to be taken into consideration when identifying and mapping stakeholders.

Stakeholder engagement is usually achieved through participatory processes, including participatory M&E (see "participatory process," above). There can be a wide range of stakeholders, and when time and resources are finite, it can be challenging to decide how many people to engage and from which stake-holder groups (UN DESA & UNITAR 2020).

In some contexts, stakeholders are referred to by other terms. For example, many First Nations communities in Canada prefer the term "rightsholders" (Resource Works 2014). It is important to be context- and conflict-sensitive when defining and engaging stakeholders.

● **Sustaining peace:** is a conceptual and operational framework guiding UN actions.

According to the UN Security Council and UN General Assembly's resolutions (S/RES/2282 2016 p.8 & A/RES/70/262 2016,p. 8), sustaining peace "should be broadly understood as a goal and a process to build a common vision of a society, ensuring that the needs of all segments of the population are taken into account, which encompasses activities aimed at preventing the outbreak, escalation, continuation and recurrence of conflict, addressing root

causes, assisting parties to conflict to end hostilities, ensuring national reconciliation, and moving towards recovery, reconstruction and development, and emphasizing that sustaining peace is a shared task and responsibility that needs to be fulfilled by the Government and all other national stakeholders, and should flow through all three pillars of the United Nations engagement at all stages of conflict, and in all its dimensions, and needs sustained international attention and assistance."

The concept was coined by an advisory group of experts that was appointed by the UN Secretary-General to perform the ten-year 2015 Review of the UN Peacebuilding Architecture (UN 2015). In 2016, the UN Security Council and General Assembly adopted resolutions to mark the shift of priorities of the UN peacebuilding agenda toward the concept of "sustaining peace." The emphasis has been, among others, on inclusive decision-making and on "long-term policies that address economic, social, and political aspirations" to build institutional capacity (United Nations & World Bank 2018, p. xix). During the 2020 UN Peacebuilding Review, it was noted that the main remaining challenge was the lack of financing for sustaining peace (Dag Hammarskjöld Foundation 2021).

● **Systems approach:** a conceptual and operational way to understand and manage situations in which there are multiple interacting actors, elements, and dynamics, often characterized by feedback loops and adaptive management (von Bertalanffy 1968; Senge 1990; Richmond 1993; Sweeney & Sterman 2000).

A systems approach is "a way of seeing interconnections among structures, behaviors and relationships, that can help us identify the underlying causes and uncover opportunities for creating positive change" (CDA 2016a, p. 3). In practice, systems approaches consist of a set of processes, methods, and practices (such as systems mapping) that investigate elements of a conflict and their relationships from "various dimensions (sectoral, levels of governance, spatial scales, temporality)" and from different perspectives (Fortier 2020, p. 2). Such approaches can supplement the information provided by other models, forming a basis for strategic discussion regarding intervention entry points, opportunities, theories of change, and methods for addressing conflict dynamics (CDA 2016a). They require working across organizational boundaries and government levels (Catalan 2018; Fortier 2020).

Because environmental peacebuilding often operates within complex, adaptive, and evolving systems with multiple actors that are interconnected, systems approaches can provide a useful framework for monitoring and adapting to emergent and often unpredictable outcomes. That said, it is key for organizations incorporating systems thinking to adopt a complementary learning-focused M&E approach, which will allow them to reflect on how internal and external factors resulted in specific implementation outcomes (Hunt 2016).

• **Theory of change:** a description or depiction of how and why an intervention is anticipated to contribute to a desired change in a particular context (Taplin & Clarke 2012; Brest 2010). It identifies the desired long-term goals of an intervention as well as the specific outcomes that must be achieved for those goals to be realized—and how they are related causally. It often also includes activities, outputs, and risks, and/or assumptions.

Theories of change can take multiple formats, including narrative theories of change often characterized by "if, then, because" statements (CDA 2016b, p. 50) as well as graphical representations involving boxes for each activity, output, outcome, etc.

The theory of change is both a process and a product that should be revisited regularly throughout M&E design and implementation (Starr & Fornoff 2018). Theories of changes complement results frameworks, such as a logical framework or log frame (INTRAC 2017). The theory of change requires practitioners to determine long-term goals and pathways to achieving those goals; it also informs the development of other M&E elements, such as indicators that track progress through the intervention toward its objectives (Starr & Fornoff 2018). A theory of change helps to identify assumptions about a conflict's underlying causes and dynamics as well as the conditions necessary for change that need to be tested within the monitoring system (UNDAF 2017).

Theories of change "must be driven by sound analyses, consultation with key stakeholders, and learning on what works and what does not in diverse contexts drawn from the experiences of the UN and its partners" (UNDAF 2017, p. 4). Jones (2011) emphasizes how theories of change can improve overarching policies, enhance decision making, create accountability for stakeholders, and guide future M&E activities.

References

Armada, Nygiel B., Regina Therese M. Bacalso, Rina Maria P. Rosales, & Alfredo T. Lazarte. 2018. "Right-Sizing as a Strategy for Allocating Fishing Effort in a Defined Marine Ecosystem: A Philippines Case Study." *Ocean & Coastal Management* 165: 167-184, https://doi.org/10.1016/j.ocecoaman.2018.08.018

Auty, Richard M. 1994. "Industrial Policy Reform in Six Large Newly Industrializing Countries: The Resource Curse Thesis." *World Development* 22(1): 11-26.

Auty, Richard M. 2017. "Resource Curse." *International Encyclopedia of Geography: People, the Earth, Environment and Technology.* https://doi.org/10.1002/9781118786352.wbieg0423

Barnard-Webster, Kiely, & Isabella Jean. 2017. *Adaptive Peacebuilding Programming Through Effective Feedback Loops: Promising Practices.* Peacebuilding Evaluation Consortium.

Barnett, Jon. 2009. *"Environmental Security." International Encyclopedia of Human Geography,* 553-557. https://doi.org/10.1016/B978-008044910-4.00774-4

Belcher, Brian, & Markus Palenberg. 2018. "Outcomes and Impacts of Development Interventions: Toward Conceptual Clarity." *American Journal of Evaluation* 39(4): 478-495. https://doi.org/10.1177/1098214018765698

Berkowitz, Devra. 2014. "Peace Means Dignity, Well-being for All, Not Just Absence of War – UN Officials." UN News. https://news.un.org/en/story/2014/09/476992

Brest, Paul. 2010. "The Power of Theories of Change." *Stanford Social Innovation Review (Spring):45-51.*

Brooks, Nick. 2014. "Indicators for the Monitoring and Evaluation of Adaptation." International Institute for Environment and Development. http://www.jstor.org/stable/resrep01608

Bruch, Carl, Carroll Muffett, & Sandra Nichols (eds.). 2016. *Governance, Natural Resources, and Post-Conflict Peacebuilding.* Routledge. https://doi.org/10.4324/9780203109793

Bruch, Carl, David Jensen, Mikiyasu Nakayama, & Jon Unruh. 2019. "The Changing Nature of Conflict, Peacebuilding, and Environmental Cooperation." *Environmental Law Reporter* 49(2): 10134-10154.

Burnet, Jennie E. 2021. "Transitional Justice as Interruption: Adaptive Peacebuilding and Resilience in Rwanda." In *Resilience, Adaptive Peacebuilding and Transitional Justice: How Societies Recover after Collective Violence,* 94-110. Cambridge University Press.

Burgess, Heidi. 2004. "Intervention Processes." Beyond Intractability. https://www.beyondintractability.org/essay/large_scale_intervention

Butler, C.D., & R.A. McFarlane. 2018. "Climate Change, Food Security, and Population Health in the Anthropocene." *Encyclopedia of the Anthropocene* 2:453-459. https://doi.org/10.1016/B978-0-12-809665-9.09745-7

Caroli, Giulia, Ignacio Madurga Lopez, Grazia Pacillo, & Peter Läderach. 2021. "Measuring Climate Security: Are Peaceful Countries Immune to Climate-Related Security Threats?." CGIAR. https://cgspace.cgiar.org/handle/10568/115593

Catalan, Daniel. 2018. "What is a Systems Approach?" OECD iLibrary. https://www.oecd-ilibrary.org/sites/51e1a91d-en/index.html?itemId=/content/paper/51e1a91d-en

CDA. 2016a. *Designing Strategic Initiatives to Impact Conflict Systems: Systems Approaches to Peacebuilding.* CDA Collaborative Learning Projects. https://www.cdacollaborative.org/wp-content/uploads/2016/12/Designing-Strategic-Initiatives-to-Impact-Conflict-Systems-Systems-Approaches-to-Peacebuilding-Final.pdf

CDA. 2016b. *Reflecting on Peace Practice (RPP) Basics: A Resource Manual.* CDA Collaborative Learning Projects. https://www.cdacollaborative.org/wp-content/uploads/2017/01/Reflecting-on-Peace-Practice-RPP-Basics-A-Resource-Manual.pdf

Chivasa, Norman. 2019. "A Participatory Approach to Peacebuilding Evaluation in Seke District, Zimbabwe." *International Journal of Action Research* 15(3): 198-216. https://doi.org/10.3224/ijar.v15i3.03

COE (Council of Europe). 2022. "Peace and Violence." The Council of Europe Portal. https://www.coe.int/en/web/compass/peace-and-violence

Conca, Ken, & Geoffrey Dabelko (eds.) 2002. *Environmental Peacemaking.* Johns Hopkins University Press and Woodrow Wilson Center Press.

Conflict Sensitivity Community Hub. n.d. "What is Conflict Sensitivity?" https://www.conflictsensitivityhub.net/index.php/conflict-sensitivity/

Conservation International. 2017. "Increasing Conflict Sensitivity in Conservation." *In Environmental Peacebuilding Training Manual*, 41-50.

Dag Hammarskjöld Foundation. 2021. "The Peacebuilding and Sustaining Peace Agenda." https://www.daghammarskjold.se/hrf_faq/peacebuilding-sustaining-peace-agenda/

de Coning, Cedric. 2020. "Adaptive Peace Operations: Navigating the Complexity of Influencing Societal Change Without Causing Harm." *International Peacekeeping* 27(5): 836-858. https://doi.org/10.1080/13533312.2020.1797500

Defontaine, Catherine. 2019. "Setting up Early Warning and Response Systems to Prevent Violent Conflicts and Save Lives." World Bank Blogs. https://blogs.worldbank.org/dev4peace/setting-early-warning-and-response-systems-prevent-violent-conflicts-and-save-lives#comments

DOI (United States Department of the Interior). 2009. *Adaptive Management: US Department of the Interior Technical Guide.* https://www.doi.gov/sites/doi.gov/files/uploads/TechGuide-WebOptimized-2.pdf

Dolfing, Henrico. 2020. "Project Inputs, Activities, Outputs, Outcomes, Impact and Results." https://www.henricodolfing.com/2020/09/project-inputs-outputs-outcomes.html

Dresse, Anais, Itay Fischhendler, Jonas O. Nielsen, & Dimitrios Zikos. 2018. "Environmental Peacebuilding: Towards a Theoretical Framework." *Cooperation and Conflict* 54(1): 99-119. https://doi.org/10.1177/0010836718808331

Dresse, A., J. Ø. Nielsen, & D. Zikos. 2016. "Moving Beyond Natural Resources as a Source of Conflict: Exploring the Human-Environment Nexus of Environmental Peacebuilding." Thesis Discussion Paper No. 2016-2. Humboldt-Universität zu Berlin.

Environmental Peacebuilding Association (EnPAx). 2022. "About Environmental Peacebuilding." https://www.environmentalpeacebuilding.org/about/

European Commission. 2021. "Conflict Minerals Regulation." Trade. https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation_en

EEA (European Environment Agency) Task Force. 1995. "Environmental Changes and Human Development." In *Europe's Environment–The Dobris Assessment,* edited by David A. Stanners & Philippe Bourdeau, 676. European Environment Agency.

FBK (Fund Against Child Labour). 2018. "Developing Your Theory of Change." Dutch Ministry of Foreign Affairs. https://english.rvo.nl/sites/default/files/2018/11/FBK_theory_of_change_guidelines_0.pdf

FSDR (Financing for Sustainable Development) & DEINVEST. 2016. "Selected Definitions and Characteristics of 'Fragile States' by Key International Actors." International Labor Organization. https://www.ilo.org/wcmsp5/groups/public/—-ed_emp/documents/terminology/wcms_504528.pdf

Forsyth Queen, Emily, Jessica Baumgardner-Zuzik, Elizabeth Hume, & Melanie Greenberg. 2018. *Snapshot of Adaptive Management in Peacebuilding Programs.* Alliance for Peacebuilding. https://static1.squarespace.com/static/5db70e83fc0a966cf4cc42ea/t/5e67eba0bb05e514aa9c-deea/1583868843637/Snapshot_of_Adaptive_Management_2018.pdf

Fortier, François. 2020. "Connecting the SDG Dots through Systems Thinking." UNSSC. https://www.unssc.org/sites/default/files/u3/systems_thinking_for_a2030.pdf

Fragile States Index. 2022. "What Does State Fragility Mean?" https://fragilestatesindex.org/frequently-asked-questions/what-does-state-fragility-mean/

Galtung, Johan. 1964. "An Editorial." *Journal of Peace Research* 1(1): 1-4.

Galtung, Johan. 1969. "Violence, Peace and Peace Research." *Journal of Peace Research* 6(3): 167-191.

Galtung, Johan. 1996. *Peace by Peaceful Means: Peace and Conflict, Development and Civilization.* SAGE Publications.

GAO (United States General Accounting Office). 2003. *Overseas Presence: Rightsizing Framework Can Be Applied at U.S. Diplomatic Posts in Developing Countries.* United States General Accounting Office. https://pdf.usaid.gov/pdf_docs/Pcaab108.pdf

Global Affairs Canada. n.d. "Conflict Sensitivity Tip Sheet." https://www.international.gc.ca/world-monde/funding-finan-cement/conflict_sensitivity-sensibilite_conflits.aspx?lang=eng

Global Witness. 2006. *Breaking the Links Between Natural Resources, Conflict and Corruption: Annual Report 2006.*

Gregory, Robin, Lee Failing, & Paul Higgins. 2006. "Adaptive Management and Environmental Decision Making: A Case Study Application to Water Use Planning." *Ecological Economics* 58(2): 434-447. https://doi.org/10.1016/j.ecolecon.2005.07.020

Hammill, Anne, Alec Crawford, Robert Craig, Robert Malpas, & Richard Matthew. 2009. *Conflict-Sensitive Conservation Practitioners' Manual.* International Institute for Sustainable Development.

Harries, Ellen, Lindsay Hodgson, & James Noble. 2014. *Creating Your Theory of Change: NPC's Practical Guide.* 2014. New Philanthropy Capital.

Herbert, Sian. 2017. *Conflict Analysis: Topic Guide.* GSDRC. https://gsdrc.org/wp-content/uploads/2017/05/ConflictAnalysis.pdf

Hoeffler, Anke. 2012. "Growth, Aid and Policies in Countries Recovering from War." OECD. https://www.oecd.org/dac/conflict-fragility-resilience/docs/WP1%20Growth%20Aid%20and%20Policies.pdf

Holling, C. S. (ed.). 1978. *Adaptive Environmental Assessment and Management.* Wiley.

Hunt, Charles T. 2014. "A Framework for Monitoring and Evaluating the Impact of UNPOL." In Charles T. Hunt (ed.), *UN Peace Operations and International Policing: Negotiating Complexity, Assessing Impact and Learning to Learn.* Routledge. https://doi.org/10.4324/9781315813486

Hunt, Charles T., Cedric de Coning, & Bryn Hughes. 2016. "Avoiding Perplexity: Complexity-Oriented Monitoring and Evaluation for UN Peace Operations." In Emery Brusset (ed.), *Complexity Thinking for Peacebuilding Practice and Evaluation.* Palgrave Macmillan.

Ide, Tobias, Carl Bruch, Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Richard Matthew, & Erika Weinthal. 2021. "The Past and Future(s) of Environmental Peacebuilding." *International Affairs* 97(1): 1-16.

IEG (Independent Evaluation Group). 2022. "What is Monitoring and Evaluation?" https://ieg.worldbankgroup.org/what-monitoring-and-evaluation

IEP (Institute for Economics & Peace). 2020. *Positive Peace Report 2020: Analysing the Factors that Sustain Peace.* http://visionofhumanity.org/resources

Igarape Institute. 2018. "Defining Conflict Prevention." *The Handbook of Conflict Prevention,* 6-20. https://www.jstor.org/stable/resrep20660.5

Independent Evaluation Office of UNDP. 2021. UNDP Evaluation Guidelines. http://web.undp.org/evaluation/guideline/documents/PDF/UNDP_Evaluation_Guidelines.pdf

INTRAC. 2017. "Theory of Change." https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Theory-of-Change.pdf

INTRAC. 2020. "Participatory M&E." https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Participatory-ME.pdf

Jakubowski, Benjamin. 2021. "Positive and Negative Peace." Growing Democracy Project. https://growingdemocracyoh.org/wp-content/uploads/2021/06/Positive-and-Negative-Peace.docx.pdf

Jones, Harry. 2011. *A Guide to Monitoring and Evaluating Policy Influence.* Overseas Development Institute.

Kolko, Jon. 2012. *Wicked Problems: Problems Worth Solving: A Handbook & A Call to Action.* AC4D.

Lai, K.C. 2012. *Stocktaking of M&E and Management Information Systems.* FAO/World Bank Cooperative Programme.

Lamhauge, Nicolina, Elisa Lanzi, & Shardul Agrawala. 2013. "The Use of Indicators for Monitoring and Evaluation of Adaptation: Lessons from Development Cooperation Agencies." *Climate and Development* 5(3): 229-241.

Laughton, Sarah, & Nicholas Crawford. 2010. "Peace Dividends." In *UN Peacebuilding: An Orientation*, 8. United Nations. https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/documents/peacebuilding_orientation.pdf

Leckman, James F., Catherine Panter-Brick, & Rima Salah. 2014. "Peace is a Lifelong Process: The Importance of Partnerships." In James F. Leckman, Catherine Panter-Brick, & Rima Salah (eds.), *Pathways to Peace: The Transformative Power of Children and Families.* MIT Press.

Lemon, Adrienne, & Mélanie Pinet. 2018. "Measuring Unintended Effects in Peacebuilding: What the Field of International Cooperation Can Learn from Innovative Approaches Shaped by Complex Contexts." *Evaluation and Program Planning* 68:253-261. https://doi.org/10.1016/j.evalprogplan.2017.09.007

Lin, Brenda B. 2011. "Resilience in Agriculture through Crop Diversification: Adaptive Management for Environmental Change." *BioScience* 61(3): 183-193. https://doi.org/10.1525/bio.2011.61.3.4

Lonsdale, Jane, & Mark Pruden. 2022. Guidance Note: Practical Introduction to Adaptive Management. DT Global.

Makate, Clifton, Rongchang Wang, Marshall Makate, & Nelson Mango. 2016. "Crop Diversification and Livelihoods of Smallholder Farmers in Zimbabwe: Adaptive Management for Environmental Change." *SpringerPlus* 5:1135. https://doi.org/10.1186/s40064-016-2802-4

McCandless, Erin. 2012. *Peace Dividends and Beyond.* The United Nations. https://www.un.org/peacebuilding/sites/www.un.org.peacebuilding/files/documents/peace_dividends.pdf

Mercy Corps. 2015. "Managing Complexity: Adaptive management at Mercy Corps." https://www.mercycorps.org/sites/default/files/2020-01/Adaptive%20management%20paper_external.pdf

Muto, Ako, & Rui Saraiva. 2020. "Assessing Context-Specific Peacebuilding Approaches in Contemporary Armed Conflicts: From High-Level Mediation to Middle-Out Linkage in Syria and from Adaptive Mediation to Nationally-Owned Peacebuilding in Mozambique." *Asian Journal of Peacebuilding* 8(2): 241-264. https://doi.org/10.18588/202011.00a128

Nascimento, Daniela, Michelle Jacobs, & Sarah Keeler. 2004. "Building Peace through Participation: A Case Study of Northern Ireland." In Alexander Gray, Deirdre Kelleher, & Edward Moxon-Browne (eds.), *Conflict Resolution and European Legacies of War.* Centre for European Studies, 15-28. https://www.ces.uc.pt/nucleos/nep/documentos/DanielaNascimento.pdf

NCTE (National Center for Transgender Equality). 2018. "Understanding Non-Binary People: How to Be Respectful and Supportive." https://transequality.org/issues/resources/understanding-non-binary-people-how-to-be-respectful-and-supportive.

OECD (Organization for Economic Co-operation and Development). 2022. *States of Fragility.* https://doi.org/10.1787/c7fedf5e-en

Ota, Liz, Jennifer Firn, Robin L. Chazdon, Nestor Gregorio, Sharif A. Mukul, Ricardo A.G. Viani, Claudia Romero, & John Herbohn. 2021. "Using Leading and Lagging Indicators for Forest Restoration." *Journal of Applied Ecology* 58(9): 1806-1812. https://doi.org/10.1111/1365-2664.13938

Paffenholz, Thania. 2005. *Third-Generation PCIA: Introducing the Aid for Peace Approach.* Berghof Research Center for Constructive Conflict Management. https://www.berghof-foundation.org/fileadmin/redaktion/Publications/Handbook/Dialogue_Chapters/dialogue4_paffenholz.pdf

Pieternel de Bruin, Sophie. 2022. "Security Dimensions of Climate Change Adaptation." In *Research Handbook on Climate Change Adaptation Law*, Edward Elgar Publishing, 392-412.

Rathinam, Francis, Priyanka Cardoz, Zeba Siddiqui, & Marie Gaarder. 2019. "Transparency and Accountability in the Extractives Sector: A Synthesis of What Works and What Does Not." 3ie Working Paper No. 33. International Initiative for Impact Evaluation.

Reiling, Kirby, & Cynthia Brady. 2015. "Climate Change and Conflict: An Annex to the USAID Climate-Resilient Development Framework." USAID. https://www.usaid.gov/sites/default/files/documents/1866/ClimateChangeConflictAnnex_2015%2002%2025%2C%20Final%20with%20date%20for%20Web.pdf

Resource Works 2014. "Rights-holders not Stakeholders – A First Nation Perspective on Resource Development in BC." https://www.resourceworks.com/rights_holders_not_stakeholders_a_first_nation_perspective_on_resource_development_in_bc

Richmond, Barry. 1993. "Systems Thinking: Critical Thinking Skills for the 1990s and Beyond." *Systems Dynamics Review* 9(2): 113-133.

Richmond, Oliver P. 1997. *Peace: A Very Short Introduction.* OUP Oxford.

Ross, Michael L. 1999. "The Political Economy of the Resource Curse." *World Politics* 51(2): 297-322.

Ross, Michael L. 2015. "What Have We Learned about the Resource Curse?" *Annual Review of Political Science* 18:239-259.

Thakore, Digvisjaysinh. 2013. "Conflict and Conflict Management." *Journal of Business and Management* 8(6):7-16.

Saferworld, International Alert, APFO, CECORE, CHA, & FEWER. 2004. Conflict-Sensitive Approaches to Development, Humanitarian Assistance, and Peacebuilding: A Resource Pack. http://www.international-alert.org/publications/conflict-sensitive-approaches-development-humanitarian-assistance-and-peacebuilding

Senge, Peter M. 1990. The Fifth Discipline: The Art and Practice of the Learning Organization. Doubleday/Currency.

Simister, Nigel. 2018. "Adaptive Management." INTRAC. https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Adaptive-management.pdf

Starr, L., & M. Fornoff. 2016. Theory of Change: Facilitator's Guide. TANGO International and The Technical and Operational Performance Support (TOPS) Program.

Stevenson, Simone L., Kate Watermeyer, Giovanni Caggiano, Elizabeth A. Fulton, Simon Ferrier, & Emily Nicholson. 2021. "Matching Biodiversity Indicators to Policy Needs." Conservation Biology 35(2): 522-532. https://doi.org.ezproxy.cul.columbia.edu/10.1111/cobi.13575

Suckling, James, Claire Hoolohan, Iain Soutar, & Angela Druckman. 2021. "Unintended Consequences: Unknowable and Unavoidable, or Knowable and Unforgivable?" Frontiers in Climate 3(October): 1-12.

Sweeney, L. B., & J.D. Sterman. 2000. "Bathtub Dynamics: Initial Results of a Systems Thinking Inventory." System Dynamics Review 16(4): 249–286.

Taplin, Dana H., & Helene Clark. 2012. Theory of Change Basics: A Primer on Theory of Change. ActKnowledge, Inc. http://www.theoryofchange.org/wp-content/uploads/toco_library/pdf/ToCBasics.pdf

UN (United Nations). 2016. "Convention on Biological Diversity: Text of the Convention." https://www.cbd.int/convention/text/

UN (United Nations). 2022. "A New Era of Conflict and Violence." https://www.un.org/en/un75/new-era-conflict-and-violence

United Nations & World Bank . 2018. Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict. World Bank. https://openknowledge.worldbank.org/handle/10986/28337

UN DESA (United Nations Department of Economic and Social Affairs). 2007. Participatory Dialogue: Towards a Stable, Safe and Just Society for All. United Nations.

UN DESA (United Nations Department of Economic and Social Affairs) & UNITAR (United Nations Institute for Training and Research). 2020. Stakeholder Engagement & the 2030 Agenda: A Practical Guide. https://sustainable-development.un.org/content/documents/2703For_distribution_Stakeholder_Engagement_Practical_Guide_spreads_2.pdf

UNDG (United Nations Development Group). 2017. UNDAF Companion Guidance: Monitoring and Evaluation. United Nations.

UN DPA (United Nations Department for Political Affairs) & UNEP (United Nations Environment Programme). 2015. Natural Resources and Conflict: A Guide for Mediation Practitioners. https://www.unep.org/resources/report/natural-resources-and-conflict-guide-mediation-practitioners

UNGA (United Nations General Assembly). 2016. Resolution 70/262. A/RES/70/262. 12 May.

UNICEF (United Nations Children's Fund). 2017. Gender Equality: Glossary of Terms and Concepts.

UNICEF (United Nations Children's Fund). 2018. UNICEF Strategic Plan 2018-2021: Indicator Manual. https://www.unicef.org/media/55526/file/UNICEF%20Strategic%20Plan%20Goal%20Area%203%20Indicator%20Manual%20Ver.%201.7.pdf

UN Interagency Framework Team for Preventive Action. 2012. Land and Conflict. United Nations. https://www.un.org/en/land-natural-resources-conflict/pdfs/GN_ExeS_Land%20and%20Conflict.pdf

UN Peacekeeping. n.d. "Quick Impact Projects for Communities." https://peacekeeping.un.org/en/quick-impact-projects-communities

UNSC (United Nations Security Council). 2016. Resolution 2282. S/RES/2282(2016). 27 April.

UNSDG (United Nations Sustainable Development Group). 2017. *Theory of Change: UNDAF Companion Guide.* https://unsdg.un.org/resources/theory-change-undaf-companion-guidance

UN Women. 2022. "OSAGI Gender Mainstreaming–Concepts and Definitions." https://www.un.org/womenwatch/osagi/conceptsandefinitions.htm

USAID (United States Agency for International Development). 2014. *Water and Conflict Toolkit.* USAID. https://www.usaid.gov/sites/default/files/documents/1866/WaterConflictToolkit.pdf

USAID (United States Agency for International Development). 2020a. "Implementation Tips for USAID Partners." Inclusive Development 13. https://www.ngoconnect.net/sites/default/files/2021-05/Inclusive%20Development%20-%2013%20-%20Inclusion%20in%20M%26E.pdf

USAID (United States Agency for International Development). 2020b. "The Global Learning for Adaptive Management Initiative (GLAM)." USAID Learning Lab. https://usaidlearninglab.org/resources/global-learning-adaptive-management-initiative-glam

USAID (United States Agency for International Development). 2020c. "USAID Evaluation Policy." USAID. https://www.usaid.gov/sites/default/files/documents/Evaluation_Policy_Update_OCT2020_Final.pdf

USAID (United States Agency for International Development). 2021. "How to Note–Activity MEL Plan." USAID Learning Lab. https://usaidlearninglab.org/sites/default/files/resource/files/htn_activity_mel_plan_final2021.pdf

USAID (United States Agency for International Development). 2022. "Discussion Note: Adaptive Management." USAID Learning Lab. https://pdf.usaid.gov/pdf_docs/PBAAJ032.pdf

U.S. Global Development Lab. 2019. "Considerations for Using Data Responsibly at USAID." USAID. https://www.usaid.gov/sites/default/files/documents/15396/USAID-Using-DataResponsibly.pdf

USIP (United States Institute of Peace). 2011. *Peacebuilding Toolkit for Educators.* High School Edition. USIP.

Van der Ploeg, Frederick. 2011. "Natural Resources: Curse or Blessing?" *Journal of Economic Literature* 49(2): 366-420.

Von Bertalanffy, Ludwig. 1968. *General System Theory: Foundations, Development.* New York: George Braziller.

Webb, J. Angus, Robyn J. Watts, Catherine Allan, & John C. Conallin. 2018. "Adaptive Management of Environmental Flows." *Environmental Management* 61:339-326. https://doi.org/10.1007/s00267-017-0981-6

WHO (World Health Organization). 2016. *Taking a Participatory Approach to Development and Better Health: Examples from the Regions for Health Network.* World Health Organization, Regional Office for Europe.

WHO (World Health Organization). 2022. "Gender and Health." https://www.who.int/health-topics/gender

Wild, Leni, Matt Andrews, Jamie Pett, & Helen Dempster. 2016. "Doing Development Differently: Who We Are, What We're Doing and What We're Learning." Overseas Development Institute.

World Bank. 2022. "Historical Overview: The World Bank Group's Classification of Fragile and Conflict Affected Situations." https://thedocs.worldbank.org/en/doc/373511582764863285-0090022020/original/FCS-Historialnote.pdf

Wright, Quincy. 1957. "International Conflict and the United Nations." *World Politics* 10(1): 24-48. https://doi.org/10.2307/2009223