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Design of Climate Mitigation and  
Adaptation Strategies

# Review and Comparative Assessment of Monitoring, Evaluation and Learning (MEL) Frameworks

DEVELOPING RECOMMENDATIONS  
FOR MONITORING AND EVALUATING  
AND LEARNING FOR TARGET  
KNOWLEDGE USERS TO SCALE UP  
ADAPTATION ACTION IN COUNTRIES

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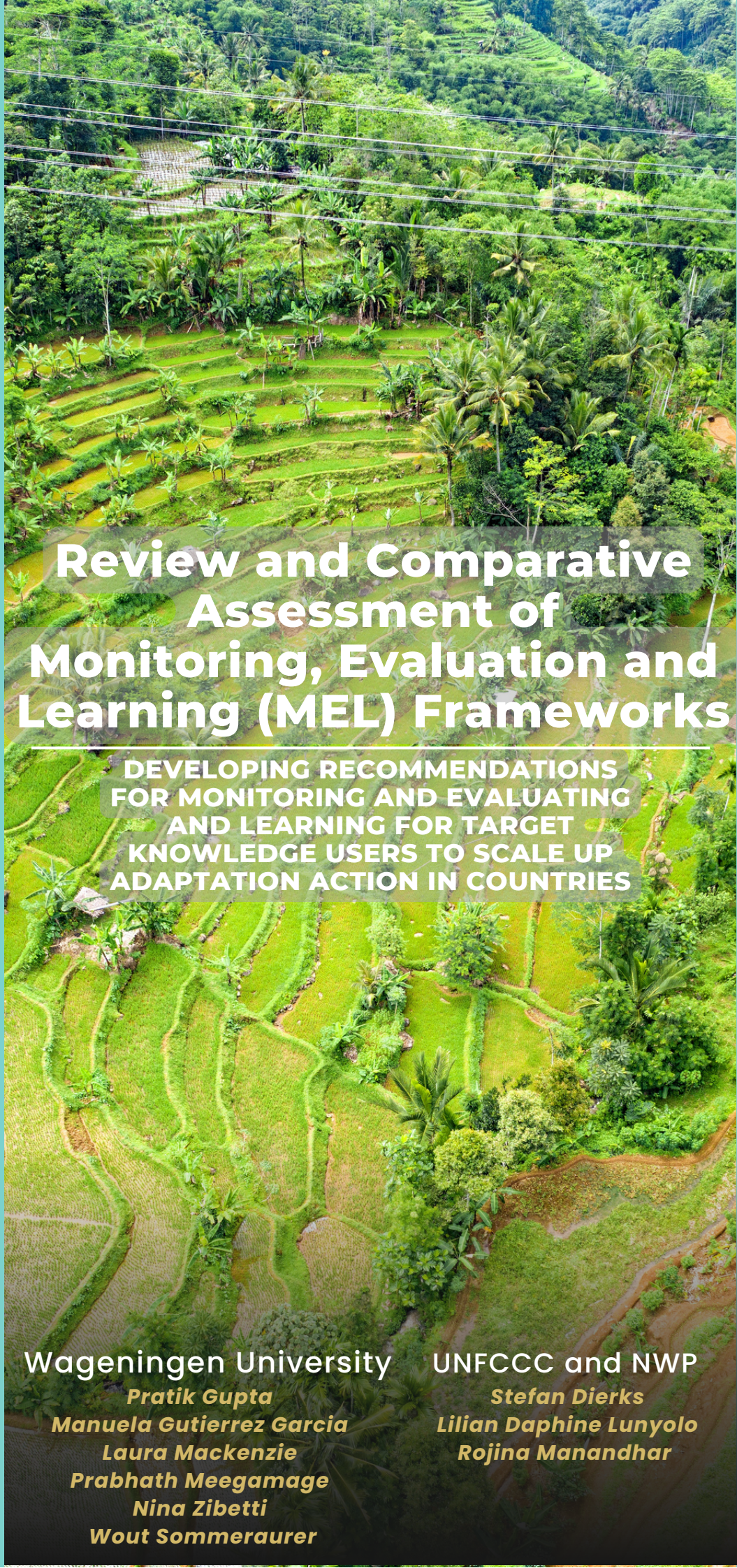
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# ACRONYMS

|           |  |
|-----------|--|
| BCAS      | Bangladesh Centre for Advanced Studies   |
| CARE      | Cooperative for Assistance and Relief Everywhere                                   |
| CCAA      | Climate Change Adaptation in Africa  |
| CDAIS     | Capacity Development for Agricultural Innovation Systems                           |
| CIF       | Climate Investment Funds   |
| COP       | Conference of Parties  |
| CCOF      | County Climate Outlook Forums  |
| DFID      | Department for International Development   |
| FCDO      | Foreign, Commonwealth and Development Office                                       |
| FCFA      | Future Climate For Africa  |
| FDF       | Future Drought Fund  |
| HI-AWARE  | Himalayan Adaptation, Water and Resilience   |
| IDRC      | International Development and Research Centre                                      |
| IPCC      | Intergovernmental Panel on Climate Change  |
| IUCN-NL   | International Union for Conservation of Nature Netherlands                         |
| ICIMOD    | International Centre for Integrated Mountain Development                           |
| M&E       | Monitoring and Evaluation  |
| MEL       | Monitoring, Learning, and Evaluation   |
| MoFA-NL   | Ministry of Foreign Affairs, Netherlands   |
| M&R       | Monitoring and Reporting   |
| NWP       | Nairobi Work Programme   |
| NICE-NUST | NUST Institute of Civil Engineering-National University of Sciences and Technology |
| OM        | Outcome Mapping  |
| PARC      | Pakistan Agricultural Research Council   |
| PPCR      | Pilot Programmes for Climate Resilience  |
| SBSTA     | Subsidiary Body for Scientific and Technological Advice                            |
| SRJS      | Shared Resources, Joint Solutions  |
| SIDS      | Small Island Developing States   |
| TAMD      | Tracking Adaptation and Measuring Development                                      |
| TERI      | The Energy and Resources Institute   |
| ToC/TOC   | Theory of Change   |
| UN        | United Nations   |
| UNFCCC    | United Nations Framework Convention on Climate Change                              |
| UNU-EHS   | United Nations University-Institute for Environment and Human Security             |
| WISER     | Weather and Climate Information Services for Africa                                |
| WRI       | World Resource Institute   |
| WUR       | Wageningen University and Research Center  |
| WWF-NL    | World Wildlife Fund Netherlands  |





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# EXECUTIVE SUMMARY



# EXECUTIVE SUMMARY

## *Motivation and context*

Robust monitoring, evaluation, and learning (MEL) frameworks can play an essential role in increasing one's adaptive capacity and resilience to climate change, by allowing organizations, policymakers, and practitioners to assess and improve the effectiveness, efficiency, and equity of their climate change adaptation actions regardless of the context and scale. The Nairobi Work Programme (NWP), an inclusive stakeholder engagement mechanism under the United Nations Framework Convention on Climate Change (UNFCCC), constitutes a demand-driven knowledge-to-action hub on adaptation and resilience. Its aim is to support Parties in 1) improving their understanding of climate change impacts, vulnerability, and adaptation, and 2) implementing measures in response to climate change based on sound scientific, technical, and socioeconomic information. The NWP achieves this by engaging a broad network of stakeholders is through an iterative knowledge-to-action methodology that facilitates the collaborative identification of knowledge gaps, and the creation and dissemination of tailored adaptation knowledge products between UN organizations, the Parties, and other partners. This project and report's specific purpose was to identify relevant MEL frameworks, tools, and approaches that could be applied to systematically measure the impact of knowledge products on the implementation and scaling up of adaptation in the context of the work of the NWP.

## *Methodology*

The research and writing team of this report adopted a stepwise approach and methodology that consisted of four sequential steps: 1) a review of the existing literature, 2) soliciting inputs from experts through interviews, 3) a comparative assessment of relevant MEL approaches, frameworks, and tools, and 4) formulating recommendations. The insights from the literature review, expert interviews, and comparative assessment were iteratively integrated in this report, initially discussed in different sections, to then be combined to form the evidence base for the recommendations. The literature review consisted of both peer-reviewed literature and gray literature – including, amongst others, reports and working papers from governments, NGOs, international organizations. Semi-structured interviews based off a standardized questionnaire constructed by the research team were conducted with various experts engaging in the field of MEL, who shared insights according to their knowledge and experience in applying specific MEL approaches and tools to their work. The comparative assessment, divided the approaches and applications found in the literature review and expert interviews by shared features, resulting in three distinct overall approaches of MEL to be compared. Relevant applications of each approach were then described and comparatively assessed over a variety of criteria. The three initial phases of the project culminated in a series of evidence-based recommendations and MEL framework features that highlighted and divided into 3 main sub-categories.

## *Key findings*

From the review of the literature, it emerged that there is no universally accepted definition of MEL in the context of climate change adaptation. Key specific features such as indicators and criteria for assessment differ according to the context, requirements, and objective of the different MEL frameworks, highlighting a no 'one-size-fits-all' approach. However, some common features identified underscore the use, function and importance of MEL frameworks, including integration of information across sectors, geographical scales, and through time; community learning and capacity development; supporting governments in planning and decision-making processes; and identifying investment priorities at different levels. Overall, across scales and contexts, MEL systems are characterized by (1) the definition of the context of the MEL system; (2) the identification of the content (i.e., adaptation intervention) to be monitored; (3) the design of the operationalization process; and (4) the establishment of strategies to communicate the results, in line with the purpose of the MEL system.



# EXECUTIVE SUMMARY

The comparative assessment of MEL approaches was articulated around three overall approaches identified: 1) Outcome Mapping which focuses on the changes - in behavior, relationships, activities or actions of the 'boundary partners'; 2) Theory of Change/Theory of Action which helps to assess the pathway through which action and change will be achieved; and 3) Co-Productive Approaches with MEL framework embedded in an inclusive, collaborative and flexible process to improve the use and uptake of knowledge, leading to action. Some key features highlighted in the assessment included the scope each MEL framework was applied within (local, regional, national and global scales), the diversity of boundary partners, the diversity in types of indicators used across different contexts and levels, and the types adaptive, flexible and iterative approaches used in each framework. Several challenges identified across approaches and applications included achieving sufficient engagement of key stakeholders across scales with respect to inclusivity, capacity, and depth of engagement (amongst other factors) in the design and operationalization of these MELs; the availability and accessibility of consistent, reliable and action-oriented data to knowledge partners; and contextualization (or lack thereof) of adaptation outcomes and impacts following an intervention action or project. Additional challenges found within all three initial phases of this project address additional issues with effective and efficient stakeholder engagement, issues in navigating limited resources (such as time, data, financial, technical, and/or institutional capacity), the impact of climate change uncertainty factors, the impact of and difficulty in establishing baselines and targets for future projects and projections, challenges in assessing attribution, and effectively applying an MEL framework that can operate over long time horizons.

## *Recommendations*

The recommendations of this report are divided into three main categories: Methodological Considerations, Indicators and Criteria, and Capacity Building and Institutional Context, all of which are further supplemented by Appendix 05 which is comprised of a list of resources deemed to be relevant references for the deployment and development of an operational MEL. The Methodological Considerations section is a series of recommendations on how to combine different approaches and methodologies from the Theory of Change, Outcome Mapping, and Co-Productive MEL approaches for the creation of an operational and specialized MEL framework for climate adaptation and knowledge uptake. The primary recommendations of the Indicators and Criteria section revolve around the importance and necessity of standardizing the operational definitions of key terms, concepts, and indicators across programs and projects. This includes the importance of including relevant climate indicators (such as hydro-meteorological indicators) in projects revolving around climate adaptation or mitigation projects as a factor for assessing the outputs, outcomes, and impacts under shifting baselines due to climate change uncertainties. The final recommendation section, Capacity Building and Institutional Context, highlights the importance of designing and implementing a parallel structure within an MEL so as to assess both the internal and external capacities of a project or program and the context (i.e., region, community, institution, government) it is applied within to determine both the framework and project's ability to sustainably function and achieve set objectives. If the design of a project or program cannot be sustainably supported or realized in the region, then that has implications for how successful and effective that project and intervention may be. Both this section and the first include recommendations for the inclusion of and amplification of stakeholders' concerns, voices, and input.

The report is then concluded with a section discussing this report's Limitations in the context of the course framework, time frame, and resources available, followed by the bibliography and appendices.



An aerial photograph of a tropical landscape. The top half shows a dense green forest with a large, cleared brown field in the upper left. The bottom half shows a village with several houses having red-tiled roofs, surrounded by lush greenery and palm trees. A road or path runs through the center. The text "1.0 INTRODUCTION" is overlaid in the middle.

# 1.0 INTRODUCTION



The following report was prepared by a group of graduate students from Wageningen University & Research in the span of 13 weeks. The work was carried out in the context of the UN Climate Change and Universities Partnership Programme, which is coordinated by the Nairobi Work Programme (NWP) of the United Nations Framework Convention on Climate Change (UNFCCC).

## 1.1 WHAT IS THE PURPOSE OF THIS REPORT?

The key objective of the research was to identify relevant monitoring, evaluation, and learning (MEL) approaches, frameworks, and tools that could be applied to systematically measure the impact of NWP knowledge products on the implementation and scaling up of adaptation action. As mentioned by the latest Intergovernmental Panel on Climate Change (IPCC) report, Monitoring and Evaluation (M&E) are one of the key stages in climate change adaptation, but critical knowledge and practice gaps remain in this area (IPCC, 2022). Considering these factors and current limitations, this report aims to identify MEL practices that may help track and improve the diffusion, uptake, and actionability of adaptation-focused knowledge products across networks of adaptation actors operating at different scales and in different contexts. Overall, this project is aimed to contribute towards the development of an effective and systematic MEL framework to measure the impact of knowledge products on the implementation of adaptation action.



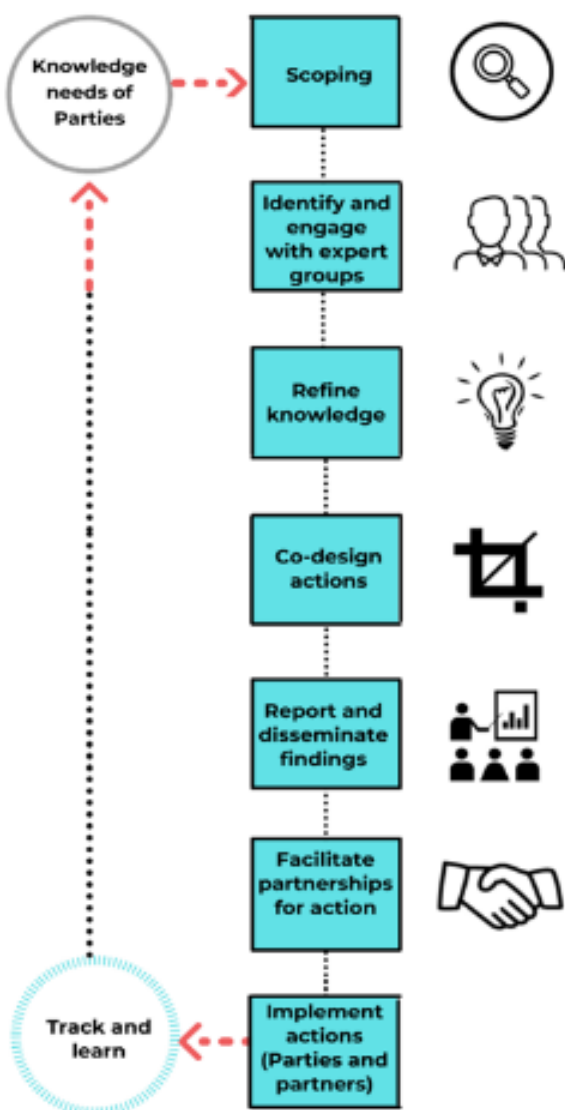
## 1.2 Who is the target audience of this report?

This report will be of use for NWP target knowledge users and partners, to gain insight into MEL approaches, frameworks, and tools that may be used to assess and report their progress. Moreover, this report and its content might be a useful body of knowledge for practitioners working in the field of climate change adaptation, especially those working on the diffusion of knowledge to stimulate adaptation innovation and action at different geographical and temporal scales.

# 1.3 ABOUT THE NWP

The Nairobi Work Programme (NWP) is a demand-driven knowledge-to-action hub on adaptation and resilience. It was established in 2005, during the 11th Conference of Parties (COP) of the UNFCCC with the aim to support all Parties, particularly the Least Developed Countries (LDCs) and Small Island Developing States (SIDS), in improving their understanding of climate change impacts, vulnerability, and adaptation. Additionally, the NWP supports the Parties in decision-making related to implementing measures in response to climate change on the basis of sound scientific, technical and socioeconomic information, with due consideration of observed and anticipated climate changes and variability.

As the first inclusive stakeholder engagement mechanism under the UNFCCC that is responsive to both Parties and non-Party organizations, the NWP seeks to (1) understand the unique adaptation knowledge needs of their partners, key stakeholders, and the Parties under the UNFCCC, (2) activate a broad network of more than 450 organizations to conduct research and collect the relevant information, (3) share the resulting knowledge products with key decision-makers, practitioners, and the public at large, through the Adaptation Knowledge Portal and other available means, and (4) facilitate climate action towards climate adaptation and resilience. These processes are guided by an iterative knowledge-to-action methodology (Figure 1), which enables collaborative identification of knowledge gaps, tailoring of the knowledge products to the needs of users, and information exchange among a broad range of stakeholders. Altogether, this engenders a long-term perspective that supports the implementation of adaptation and resilience action in an inclusive and participatory manner (UNFCCC, 2021).



The work of the NWP is articulated around thematic areas that have been identified by the Parties to the UNFCCC, including, amongst others, forests and grasslands; oceans, coastal areas, and ecosystems; agriculture, and food security. Within these areas, the NWP facilitates knowledge sharing and co-design of actions across a broad network of stakeholders, and fosters partnerships among these stakeholders to address the identified knowledge gaps and catalyze climate change adaptation action (UNFCCC, 2021). Additionally, under the Lima Adaptation Knowledge Initiative (LAKI) – a joint action pledge between the UNFCCC secretariat and United Nations Environment Programme (UNEP) through Global Adaptation Network – priority adaptation knowledge gaps were identified for 7 vulnerable sub-regions[1] in the world and collaborative actions underway to fill these gaps. This work highlighted the important catalytic role of the NWP in identifying, prioritizing, and addressing knowledge barriers through successful partnerships and sound processes of knowledge development and dissemination (UNFCCC, 2018).

[1] Andean, West Asia, Southern Africa, Hindu Kush Himalayan, Indian Ocean Islands, North Africa and the Pacific Small Island Developing States

**Figure 1.** Iterative NWP Knowledge to Action Methodology  
Note: The image shows the stepwise Knowledge-to-Action Methodology used by NWP. Retrieved from UNFCCC (2021)  
([https://unfccc.int/sites/default/files/resource/sbsta2021\\_inf02.pdf](https://unfccc.int/sites/default/files/resource/sbsta2021_inf02.pdf))





## 1.4 About monitoring, evaluation, and learning (MEL)

Monitoring, evaluation, and learning (MEL) broadly refers to a set of processes by which an intervention (action, project, program, or policy) is assessed at different stages of implementation (from ex-ante to ex-post) for different purposes (e.g., evaluation of impact, financial accountability) in a manner that promotes continuous learning (Dinshaw et al., 2014; Smith et al., 2019). In the context of climate change adaptation, MEL processes play a key role as “they provide critical support to the long-term process of learning ‘what works’ in adaptation” (Spearman & McGray, 2011, p. 13). Simultaneously, MEL for adaptation faces unique challenges, including a lack of conceptual clarity surrounding adaptation and resilience (and their relationship with development); heterogeneity in the types of adaptation interventions, as well as the scale of these interventions; accounting for unforeseen outcomes, including negative outcomes (or ‘maladaptation’); shifting (climatic) baselines; and overall uncertainty (Villanueva, 2011).

## 1.5 MEL opportunities and challenges in the context of the NWP

Monitoring and evaluation approaches are integrated into the NWP work to (1) understand baselines in NWP thematic areas and (2) assess progress in closing knowledge gaps to help scale up adaptation action and the impact of NWP’s work (UNFCCC, 2021). As such, MEL is an integral part of the NWP’s knowledge-to-action methodology, which includes ‘Track and Learn’ as part of the stepwise approach (Figure 1). To fulfill these aims, the secretariat solicits feedback from knowledge users in multiple ways, including surveys, dedicated events, learning sessions, and targeted interviews with partners and knowledge users (UNFCCC, 2021). Nonetheless, going forward, the NWP has identified a need to further integrate appropriate MEL approaches, tools, and indicators into their work (UNFCCC, 2021).

## 1.6 About this project

Considering this report’s objective(s), the collaboration between the NWP and its partner Wageningen University & Research was leveraged to form this collaborative project, which set out to answer the following question: *What are the approaches and tools that can inform the formulation and implementation of MEL processes for the NWP to systematically measure the impact of knowledge products on the implementation of adaptation action over time?*

As further highlighted in the methodology below, a stepwise approach was adopted for the research consisting of (1) a review of the existing literature, including peer reviewed and gray literature[2], (2) interviews with experts[3], (3) a comparative assessment of relevant MEL applications, and (4) the refining of a set of recommendations, as informed by the previous steps. The main expected outcomes of this project include a technical report (i.e., the present document), as well as various dissemination materials, such as a brief news article to be adapted into social media format, and a summary of the findings in an easily accessible format, such as a slide deck (Appendix 07).

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[2] Information produced outside of peer-reviewed academic publications, such as government and NGO reports, policy documents, working papers, newspapers, other forms of government documentation, working papers, newsletters, business reports, industry reports, website posts, opinion pieces, and social media posts.

[3] Experts consulted included academic experts researching MEL, as well as practitioners employing MEL in their work.





# 2.0 METHODOLOGY



**The methodology utilized for the curation of this report consisted of four sequential steps: (1) Literature review; (2) Stakeholder engagement: soliciting inputs from experts; (3) Comparative assessment of the MEL approaches; and (4) Providing recommendations. This was an iterative process as insights from all three steps were progressively integrated into each other.**

The initial survey for literature relevant to the objective of this report was conducted through the search of specific keywords, themes, and topics from various organizations within both general and academic search engines. The keywords, thematic topics, and organizations used to inform our research were an amalgamation of broad and specific topics to ensure the information was collected from a diverse, but relevant set of domains. Such search terms and themes include, but are not limited to, the following, some of which were combined to find more specified literature: monitoring, learning, evaluation, progress report(s), climate change, adaptation, mitigation, resilience, framework, guideline(s), tools, approaches, indicators, knowledge products, knowledge management, MELs, capacity building, sustainable development, framework development, co-production (or co-creation), etc. Once the available literature was compiled, a repository was created. This repository includes both academic literature and gray literature.

Based on the guidance of the NWP team, a secondary matrix was created to systematically review the repository's database based on 'relevance', with the highly relevant documents marked in green, the somewhat relevant documents marked in yellow, documents with uncertain relevancy marked in orange, and those determined not relevant in red. This categorization of relevancy within the literature review matrix was based on three major components:

1. **Object:** What does the document contain and address? (i.e., does it contain knowledge products, an intervention, a process, framework, tools, guideline(s), thematic area, etc.)
2. **Status:** Does the document contain applied frameworks/tools/processes/guidelines with reported results, is it a proposed plan for future application, or is it purely theoretical?
3. **Scope:** Do the contents of the document pertain to national, sub-national, regional, local, or other levels of government action/intervention?

Aside from the collection of generic information (i.e., authors, links, published year, publishers, sponsors/partners), the guidance(s) regarding the creation or implementation of MELs, identified barriers and challenges, and in-text recommendations were recorded to further inform a document's relevancy to this report. Other criteria used to review the literature and classify its relevancy included the temporal dimensions, geographical regions, important points/takeaways, context specificity, content (including a description and document objective), domain or thematic areas as defined by the NWP, types of terminology used when referring to MEL, methodologies, variables, indicators, additional details on the theoretical components, specific steps utilized, and the various uses and applications of MEL tools/frameworks/approaches/processes.



## 2.2 Expert Interviews

Based on the outputs of Step 01) Literature Review, relevant academic and target user experts were identified as potential sources of additional information and specialized inputs to further supplement this report's outputs. The experts were categorized by type (academic expert from a researching field, professional expert who applies MELs in their work, or end-user who either applies and implements MELs and/or is affected by the outcomes of MEL and adaptation action) and by their area or domain of expertise. The area and domain of expertise for the experts was defined and informed by the context of relevance as defined in Appendix 01 and by the frameworks reviewed in the first phase.

A standardized set of questions, based on the project objectives, requirements, and scope as directed by the commissioner, was developed (Appendix 02). This was then emailed to each respective expert to obtain further information, either through an in-person interview, a virtual interview conducted via Microsoft Teams, or an email containing their responses to each question, all of which were subject to potential follow-up. For the in-person and virtual interviews, the WUR-research team acted primarily as active listeners, asking the questions as written, taking special care to avoid leading the interviewees towards a specific discussion topic or stance to prevent bias. Certain questions from the base questionnaire were emphasized or prioritized in relation to an expert's preference or expertise during some interviews to highlight their unique experiences and knowledge. Clarifying questions were asked to ensure details, insights, opinions, and experiences were thoroughly addressed and recorded. Follow-up emails were then sent as needed to redirect focus towards research objectives or to extract further detail on subject matter relevant to the literature review, comparative assessment, and recommendation outputs.



## 2.3 Comparative assessment of MEL frameworks

The third step was a comparative assessment of MEL frameworks, tools, approaches, and mechanisms identified by the literature review and expert interviews that were 1) applied in domains involving or related to climate adaptation, and 2) relevant to the work of the NWP in alignment with the objectives of this report. The selection of the specific applications was based on how frequently they were mentioned in the literature review and/or expert interviews, and how comprehensive the available information on said approach was. During the literature review process, trends and core components of the selected applications under certain approaches were identified. These trends manifested in the comparative assessment as a set of overarching categorical approaches: Outcome Mapping, Theory of Change/Theory of Action, and Co-Production. Each of these overall categories was given a general description to summarize its content and framing with the advantages and disadvantages associated with each approach similarly listed and recorded. The applied frameworks or tools selected for the assessment were put into one of the three categories identified according to which approach they most aligned with or utilized. Subsequently, these applications were compared based on their purpose/ context, key features, domain of application, identified target users and boundary partners, features relevant for the measurement of the impact of knowledge products, and challenges faced in application. These criteria were based on an initial set of questions (Appendix 03) which was provided by the NWP commissioner in the initial project description provided to the student team.

## 2.4 Providing recommendations

The findings from the literature review, interviews with experts, and outcomes of the comparative assessment of literature were then integrated into a series of recommendations, each of which directly reference lessons learned and best practices from pre-existing MELs deployed across geographical scales and thematic areas. These recommendations are geared towards climate adaptation action, knowledge production, and their uptake for international organizations and their partners.





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# 3.0 LITERATURE REVIEW

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# 3.1 Definition of Monitoring, Evaluation and Learning (MEL)

Although it is important to stress that there is no universally accepted definition of MEL in the context of climate change adaptation, an overall understanding of the key components of these systems can be extrapolated from the literature (STAP, 2017). More specifically, monitoring refers to a systematic and continuous process of data collection (quantitative and/or qualitative) on the progress of an adaptation intervention for tracking the achievement of its objectives (Dinshaw et al., 2014; Smith et al., 2019; STAP, 2017); evaluation refers to a periodic (ex-ante, ex-post, midterm) assessment of an adaptation intervention, with an emphasis on valuing the intervention based on, amongst others, impact, (cost) efficiency, effectiveness, and sustainability (Christiansen et al., 2016; Dinshaw et al., 2014; Smith et al., 2019; STAP, 2017; Uitto et al., 2017); while learning is often understood to be one of the possible purposes of monitoring and evaluation, which is characterized by the identification of what has worked, and what has not worked in adaptation (Smith et al., 2019; Uitto et al., 2017; Villanueva, 2011). Moreover, reporting, understood as periodic (e.g., annual) stock taking and relaying of information collected through the MEL system, often falls under the scope of MEL (STAP, 2017).

Notably, the terminology that may be used to characterize both the MEL process and related systems also varies, with monitoring, evaluation, and learning (MEL) being only one of the accepted ways to refer to these activities (Agrinatura & FAO, 2019). Other frequently used terms include monitoring and evaluation (M&E) (Spearman & McGray, 2011; Dinshaw et al., 2014); monitoring and reporting (M&R) (CIF, 2018); monitoring, reporting, and evaluation (MRE) (Leitner et al., 2020); measuring, reporting and verification (MRV) (Christiansen et al., 2016); or, more broadly, impact evaluation (Silvestrini, Bellino & Văth, 2015). While elucidating some of the nuances between these different terminologies is beyond the scope of this report, it is important to emphasize that this diversity is often underpinned by different understandings of the overarching purpose of the monitoring and evaluation process, as well as accompanied by substantial heterogeneity in the methods, tools, and approaches that are employed in practice (Christiansen et al., 2016; Uitto et al., 2017).

In the context of this report, it is important to note that the key role of MEL in climate change adaptation has only recently been recognized (STAP, 2017). Over the years, the monitoring and reporting functions (traditionally in the field of development) have been emphasized over evaluation and learning, mainly to fulfill the goal of accountability (Christiansen et al., 2016; STAP, 2017; Villanueva, 2011). Nonetheless, given the ever evolving and highly uncertain nature of climate change adaptation, ongoing learning has been increasingly recognized as a necessary element of the process, thus facilitating the evolution from M&E to MEL (STAP, 2017; Smith et al., 2019; Villanueva, 2011). Indeed, as mentioned by a 2017 report by the Scientific and Technical Advisory Panel (STAP), “adaptation is essentially about an uncharted process of change, and effective change requires us to learn to do things differently, or indeed, often to learn to do different things. Learning in fact underpins adaptation; thus, designing for adaptation requires designing for learning” (STAP, 2017, p. 2). Therefore, this report emphasizes MEL as an integrated and iterative process, where each element contributes to the goal of assessing an adaptation intervention in a manner that supports continuous learning.

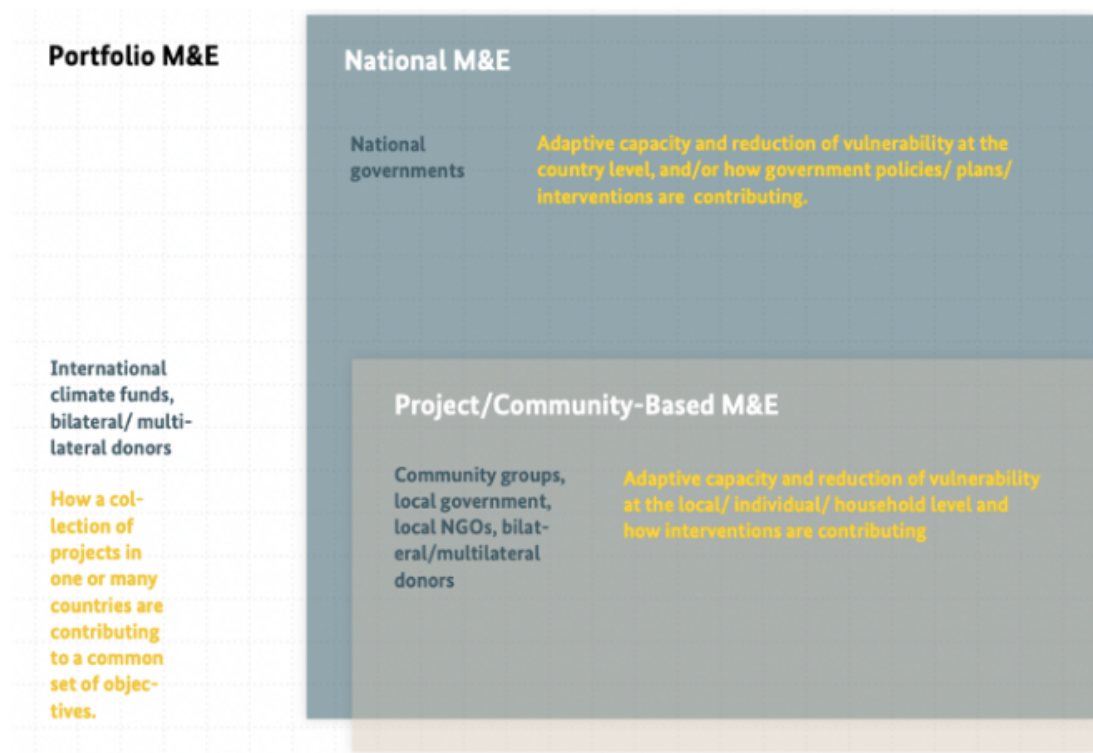


## 3.2 RELEVANCE

Adapting to climate change is a challenge that requires integration across sectors and geographical scales over different spans of time. In this context, it is helpful to distinguish the different levels at which adaptation interventions, and thus related MELs, may be carried out. Overall, three levels of scope are identified in the literature, namely 1) the local level, characterized by project- and community-based adaptation actions, 2) the national level (possibly including lower tiers of government such as districts and regions), at which national adaptation plans and policy are formulated and implemented, and 3) the international or portfolio level, which broadly includes programs or sets of projects implemented at various scales and typically across several countries in the context of an overarching set of goals (McGray, 2011; Price-Kelly et al., 2015). In addition, adaptation actions may be designed and assessed at the sector level, for example in the case of sectors considered especially vulnerable (CIF, 2018). MEL processes at different levels are often linked in different ways and feed information into each other (Figure 2). Relatedly, besides the level of application, it is important to identify the level of aggregation at which the MEL system aims (Price-Kelly et al., 2015). More specifically, MEL systems may aggregate information horizontally (across sectors) and/or vertically (across geographical scales), and not without challenges (Hammill & Dekens, 2014; Price-Kelly et al., 2015).

**Figure 2**

*Levels of M&E of adaptation*



Note: The image shows different levels of monitoring and evaluation (M&E) for climate change adaptation showing 'who does M&E?' in dark blue and 'what is being assessed?' in yellow. Retrieved from Price-Kelly et al. (2015)

([https://www.adaptationcommunity.net/download/uploads/giz2015\\_Developing\\_national\\_adaptation\\_M&E\\_systems\\_-\\_A\\_guidebook.pdf](https://www.adaptationcommunity.net/download/uploads/giz2015_Developing_national_adaptation_M&E_systems_-_A_guidebook.pdf))



The collection and aggregation of information on adaptation interventions through dedicated MEL systems may serve a variety of purposes, underscoring the importance of this process at all levels. Accountability and learning are widely identified as the key goals of the MEL process (Dinshaw et al., 2014; Price-Kelly et al., 2015; Villanueva, 2011). Additionally, related purposes may be served such as assessing the effectiveness, efficiency, and equity of an intervention; comparing interventions with each other; improving the implementation of future (or current interventions), also known as adaptive management (Price-Kelly, 2015; Pringle, 2011).

Generally, MEL systems facilitate the creation of an evidence base in the context of climate change adaptation, which may serve as a basis for learning, an indication of (un)successful adaptation strategies, or an account of how financial resources were invested. At the same time, the rationale of MEL systems and processes may vary across scales. Indeed, at the local level, MEL is characterized by a strong emphasis on participation, inclusion, and local ownership (Spearman & McGray, 2011). In this context, an inclusive MEL process represents an opportunity for community learning and capacity development; in addition, co-defining success in adaptation is helpful for dealing with uncertainty and identifying unexpected outcomes, including negative outcomes, such as maladaptation (Dinshaw et al., 2014; Christiansen et al., 2016). For example, a 2020 study of ecosystem-based adaptation measures implemented in the Peruvian Andes highlights the importance of placing a participatory approach at the center of MEL and building flexibility into the MEL system by means of inclusive tools (Boehm, Sherikar & Tóth, 2020).

While inclusion and participation remain key elements at all levels of MEL, national-level MEL systems are often grounded in different rationales from the project- and community-level MELs. In this context, the implementation of robust MEL frameworks supports governments in planning and decision-making processes by 1) better identifying adaptation needs and policies to reduce vulnerability to climate change, 2) assessing whether they are approaching the main local or regional needs, 3) analyzing whether they are implementing them in the right way in order to have the required effect, 4) recognizing what they can improve and what are the alternatives, and finally, 5) assessing the results of long-term adaptation actions such as the effect of population resilience and adaptation capacity (Government of the Republic of Fiji, 2020; Smith et al., 2019). Crucially, national MEL systems differ widely from each other, in terms of context, processes, resource intensity, scope, and content. For an informative comparative review of different national systems, see the Overview of Monitoring and Evaluating Adaptation at Aggregated Levels: A Comparative Analysis of Ten Systems (Hammill & Dekens, 2014).

Lastly, portfolio-level MELs are increasingly coming to the forefront as the flow of financial resources devoted to climate change increases and the projects move past the pilot phase toward broader integrated efforts (Christiansen, 2016). Like national-level MEL, portfolio-level MEL is challenging because of integration, both horizontal and vertical (Hammill & Dekens, 2014). Comparison across different country contexts adds a layer of complexity. For example, in the case of the MEL system created by Agrinatura and the UN Food and Agriculture Organization (FAO) for assessing the progress of an international program on agricultural innovation, a cross-country comparison was used to test the validity of a common theoretical framework against empirical data collected through country-level MELs (Agrinatura & FAO, 2019). Overall, in the context of donor- or development/ adaptation finance-led interventions, MEL at the portfolio level plays a key role in identifying investment priorities by substantiating an evidence base on the efficiency and (cost) effectiveness of alternative interventions (Dinshaw et al., 2014; Smith et al., 2019).





## 3.3 MAIN FEATURES

Overwhelmingly, the literature agrees that there is no ‘one-size-fits-all’ approach to MEL for adaptation (Klostermann et al., 2018; Smith et al., 2019; Uitto et al., 2017; Pringle, 2011). This is due to both the diversity in levels at which MEL for adaptation may be carried out, as illustrated above, and the fact that climate change adaptation is highly contextually specific (Klostermann et al., 2018). Nonetheless, at aggregate levels (such as national and portfolio level), it is possible to identify common features, or ‘building blocks’ which are rather consistent across MEL systems. Following Price-Kelly et al. (2015), there are four fundamental building blocks, namely 1) the definition of the context of the MEL system, 2) the identification of the content (i.e., adaptation intervention) to be monitored, 3) the design of the operationalization process, and 4) the establishment of strategies to communicate the results, in line with the purpose of the MEL system.

With respect to the policy context, national and portfolio level MEL systems found were framed in terms of national adaptation policy planning, a general interest in monitoring and integrating elements of adaptation into existing MEL structures, and/or in reference to (regional or international) programs and their objectives (Hammill & Dekens, 2014). Here, the documents clarified the main purposes served by their MEL system by certain factors, some of which included, but are not limited to, accountability, learning, and knowledge management (Dinshaw et al., 2014; Hammill & Dekens, 2014). Most of the applications and studies defined their context in part by identifying the level at which MEL takes place, and the scale at which information needs to be aggregated (e.g., across sectors or geographical scales) (Price-Kelly et al., 2015; Hammill & Dekens, 2014). The organizations responsible for carrying out MEL, and the relevant stakeholders were then relatively easily identified when deemed necessary. Much of the literature emphasized that establishing a common understanding of the adaptation context amongst these parties in the early phases of their MEL framework and/or project design and planning processes is crucial to an effective and efficient operation (Price-Kelly et al., 2015).

The second element found in the literature to be considered in the design of MEL frameworks is the identification of the content, or object to be monitored. For most applications, this entailed establishing whether the MEL system is focused on monitoring processes, such as capacity development and the advancement of policies, plans and/or interventions, or outcomes, meaning the changes resulting from a project action or specific intervention (Price-Kelly et al., 2015). Typically, these two approaches are combined into a hybridized MEL system (Hammill & Dekens, 2014; Price-Kelly et al., 2015). It is important to note that focus can be dictated by the type of adaptation intervention that is being monitored. Spearman and McGray (2011) distinguish between three types of adaptation interventions based on whether the intervention aims to contribute to 1) the development or reinforcement of adaptive capacity, 2) on-the-ground adaptation actions, or 3) sustained development in a changing climate. As such, a focus on process might be important for the first type of contribution, while an MEL system primarily focused on outcomes is most important in the latter two contribution types, and this can be observed throughout the literature reviewed. Based on how the focus is defined, the appropriate indicators and data sources were then subsequently identified to best suit project objectives and contexts (Price-Kelly et al., 2015).



Some of literature reviewed distinguishes different types of empirical data, some inputs being classified as outcome indicators, such as “Disaster early warning system is in place and effectively communicates to the public”, and others being classified as process indicators, such as “Provincial disaster management strategies and plans reflect the influence of the climate change adaptation initiative” (Bours et al., 2014b, p. 6; McGinn & Pringle, 2014). However, another subset of the papers and reports reviewed noted that not all MEL systems benefit from relying solely on indicators, and this it is important to capture relevant narratives to support the interpretation of results (EEA, 2020). Most of the literature discussing this differentiation between data and narrative found solutions by utilizing both quantitative and qualitative data collecting methodologies and processes, keeping in mind resource-intensiveness and the availability of pre-existing data (EEA, 2020; Price-Kelly et al., 2015).

For operationalizing the MEL system, specific institutional arrangements were often put in place, commonly observed in the form of a lead organization that delegated responsibilities between individuals or sub-organizations throughout the scales at which the MEL and adaptive was applied (Price-Kelly et al., 2015). Many of the reports and papers paid close attention to the resources, both financial and human, that the implementation of their MEL and adaptive processes utilized, and many of the MEL systems varied from relatively simple to significantly resource-intensive (Hammill & Dekens, 2014; Price-Kelly et al., 2015). This is in part determined by the type of processes that are put in place, such as iterative and/or participatory processes involving broad networks of stakeholders, some of which may be more time-consuming and resource intensive than others regardless of how and where they are applied (Hammill & Dekens, 2014).

Lastly, the literature review found that the communication of results is a key element of MEL systems, especially in those where the learning component is emphasized (Price-Kelly et al., 2015). Many of the papers and reports reviewed found that determining the frequency and timing of outputs, which may for example coincide with a policy cycle, and the format of the knowledge products created to communicate impacts, results, or progress have important implications for knowledge production, dissemination, and uptake (Price-Kelly et al., 2015). The majority of the literature reviewed determined how knowledge products were created and distributed by first identifying their audience type and needs, most commonly through direct stakeholder engagement, and referencing back to their project objective and MEL purpose (Price-Kelly et al., 2015).





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# 4.0 STAKEHOLDER ENGAGEMENT: INPUT FROM EXPERTS

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Five experts were interviewed (Appendix 01), with two conducted in-person, and the rest conducted virtually. Each interview addressed the set questionnaire (Appendix 02) developed for this phase of the report's development. The length, detail, and depth of response from each interviewee varied from question to question, though this was largely dependent on their area of expertise and experience. Occasionally, some interviewees would share details or examples from their own experience to provide further context to their responses, as well as providing to suggestions beyond the scope of the interview questions to the student team for improvements to the project (i.e., feedback on project details, context, or sharing additional resources, guidance for content to further research, etc.). These responses were compiled and divided into the themes discussed and addressed, the insights of are summarized accordingly in Box 1 and Box 2.

### **Box 1**

#### *Use of MEL frameworks at present*

**Applicability of MEL frameworks to encompass diverse areas** - Interviewed experts emphasized their engagement with and knowledge of MEL frameworks employed in a diverse range of areas and topics - climate adaptation, climate resilience, development of knowledge in climate change, climate negotiation, capacity building, integrated water resource management, climate change vulnerability, and development.

**Importance of considering intersectionality in climate adaptation focused MELs** - One expert shared insights from their experience in using Outcome Mapping-based approaches for MEL in climate adaptation, climate justice, and broader development-related intersectional issues (such as human health, with special reference to sexual and reproductive rights). Another expert highlighted the importance of incorporating intersectionality in project, program, and MEL framework design to ensure vulnerable groups are not overlooked or dismissed.

**Further inquiry into potentially relevant approaches and tools** - Two experts suggested looking at Outcome Harvesting, and they provided the student team with resources on applied frameworks that utilized outcome mapping approaches. Some experts shared resources that led to further inquiry into co-productive focused approaches and the challenges faced by MEL processes.

**Shift towards learning** - A few experts highlighted that there has been a shift in the development and application of MEL frameworks towards more learning-oriented approaches and outputs



## Box 2

### *MEL indicators and evaluation criteria*

**Diversity in indicators due to the variety of requirements/objectives** - Three experts mentioned that due to the diverse requirements and objectives of different MEL frameworks, the evaluation criteria and indicators differ widely. The use of different indicators and evaluation criteria can differ according to the prevailing political background, the availability of funds, and the use of more advanced MEL frameworks, with advanced indicators/evaluation criteria requiring more funding. This lead to the question and discussion of not just adhering to a pre-set collection of criteria, but going to a more utilization-based selection of evaluation criteria.

**Importance of using different criteria in different contexts** - Every expert agreed that it is important to consider and incorporate stakeholder opinions on which indicators and evaluation criteria should be included in the MEL, and that the planning and deployment of an intervention should be informed by the religious beliefs, social norms, and cultural values of the people and region they are deployed within.

One expert mentioned that ‘evidence of change due to actions taken’ could be an interesting evaluation indicator since many climate change adaptations are long-term processes. Relative importance given to evidence of change due to actions versus the number of actions taken, however, depends on the political reality in the associated geographical region on different scales.

Efficiency may be an applicable evaluation criterion in tracking incremental changes, but in the context of transformational change, it is less effective. Politically, however, efficiency in funding utilization can play a key role.

Another expert mentioned that the evaluation over longer time periods is essential while trying and capturing impacts beyond project cycles, and effectiveness and efficiency become important for “monitoring efficiently”. Participatory actions can be very efficient in certain thematic areas. Rather than focusing on effectiveness, one expert highly recommended the consideration of “proven effectiveness”. Furthermore, another expert suggested that the ‘effectiveness’ marks a greater importance than the number of actions taken.

**Key features of indicators** - Indicators should be flexible/adaptive to account for changes in priority, feasibility, etc. Composite indicators may not be accessible for all, so their use should be carefully considered. Cost-effectiveness & additional resources needed are key for selecting indicators – simplifying the process is often required at higher levels.

One expert stated that quantitative and qualitative indicators should not be viewed as a dichotomy but critically considered and specified to the context. Qualitative and quantitative indicators should have the ability of cross-reference each other and to not be reliant on one part of the system but treated more holistically. The use of “SMART” indicators (S: Specific, M: Measurable, A: Attainable, R: Realistic, T: Time bound) was recommended.

Indicators should also be formulated to take intersectional issues, such as equity considerations, into account. This includes having indicators linked to ‘impact’ that address gender-based issues, income disparities, etc. in context of climate resilience-building initiatives.

It was suggested that paying special attention to the evaluability of these indicators is necessary, especially when considering assumptions and risks. Indicators should be a part of the MEL framework with a clearly identified pathway mixing together and incorporating inputs, processes, outputs, and outcome indicators as necessary.

One expert mentioned that certain frameworks such as “transformational change” prefer signals instead of indicators, since some strict indicators are not easy to define. Furthermore, it can be mentioned that efficiency is not always the best measure because of the context-specificity of different projects.





# 5.0 COMPARATIVE ASSESSMENT OF MELS



A variety of MEL processes, frameworks and tools have emerged in the last few decades to track the impacts of intervention activities within climate adaptation, vulnerability assessment, capacity building and sustainable development domains, to name a few (Christiansen et al., 2016; Dinshaw et al., 2014; Smith et al., 2019). The MEL processes reviewed in this report have been applied in several different geographical and thematic contexts, levels of governance, and spatial planning scales. Several frameworks, tools, and processes are structured to retain a degree of flexibility and adaptability to ensure they remain applicable to project context or scope, ensuring there are iterations for continuous improvement and integration with other tools and pre-existing tracking processes (IDRC, 2012; IUCN, 2021b; Leborgne et al., 2011; Visman et al., 2016; Werners et al., 2022).

The reviewed frameworks, tools, and approaches were grouped into the following categories based on their overall approach:

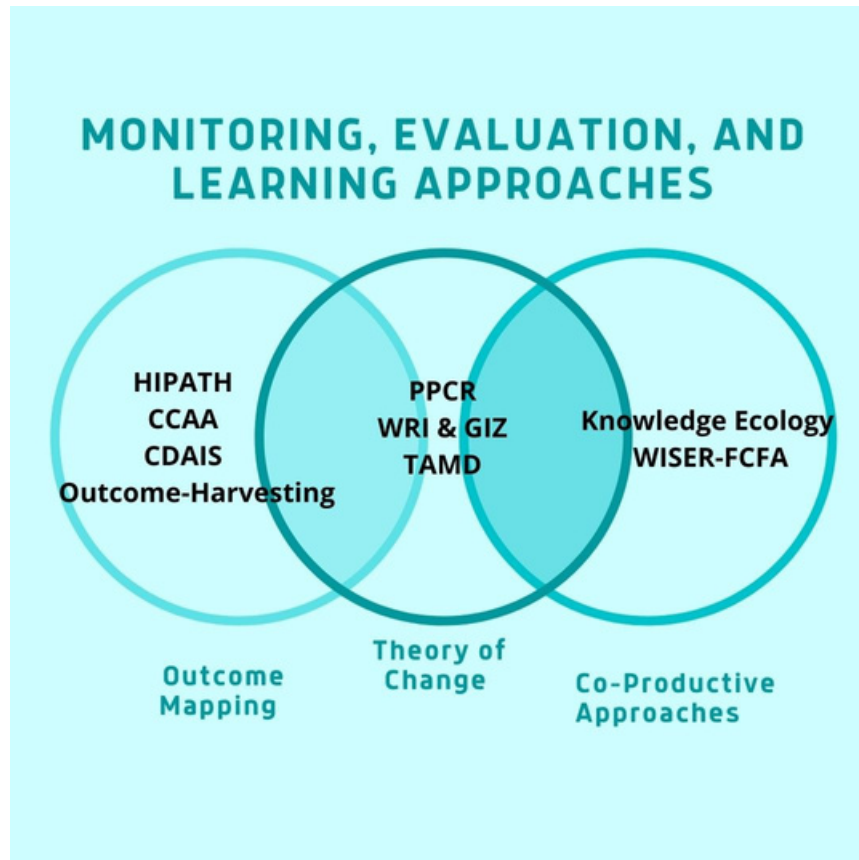
1. **Outcome Mapping**
2. **Theory of Change (and related approaches)**
3. **Co-production-oriented approaches**

This categorization was created following the literature review as certain core features pertaining to each of these three overarching approaches were observed within different MEL plans and applications. It should be noted however that while this assessment operates with a strict differentiation between these three approaches, these are not the only approaches that exist for MEL, and how they are used in practice is much more interconnected (Figure 3) with frameworks being modified to incorporate components from more than one approach as needed so they are best suited to operate within their respective project or program context. An overview of each of these approaches, their purpose, key features, and specific applications (case studies) is given in Table 1.

**Table 1**  
*Categorization of MEL approaches*

|                              | <b>Outcome Mapping</b>  | <b>Theory of Change</b>  | <b>Co-production-oriented approaches</b>  |
|------------------------------|---|--|---|
| <b>Purpose</b>               | Tracking changes in the behavior of the project's or programme's boundary partners  | To outline the pathway(s) through which change will be achieved from input → output → outcome → impact   | Embedded MEL framework to support co-creation and dissemination of knowledge products with relevant actors/stakeholders/end-users   |
| <b>Main features</b>         | <ul style="list-style-type: none"> <li>- Contribution-focused (does not assume causality)</li> <li>- Iterative</li> <li>- Participatory</li> <li>- Captures non-linear changes</li> </ul> | <ul style="list-style-type: none"> <li>- Stakeholder consultation and engagement</li> <li>- Establishing logical relationships between 'steps'</li> <li>- Flexible, adaptive, and iterative</li> </ul> | <ul style="list-style-type: none"> <li>- Participatory from the design stage of MEL</li> <li>- Iterative and flexible</li> <li>- Follows the co-production OR learning cycle</li> </ul> |
| <b>Applications reviewed</b> | HI-PATH<br>CCAA<br>CDAIS<br>Outcome Harvesting<br>SRJS  | PPCR<br>TAMD<br>WRI & GIZ  | WISER-FCFA<br>Knowledge Ecology   |





**Figure 3 .** Venn diagram highlighting the overlap (in practice) in the approaches differentiated in this section

## 5.1 Outcome Mapping

Outcome mapping (OM) is an approach to planning, monitoring and evaluation that focuses on the changes - in behavior, relationships, activities or actions of the 'boundary partners' (people, groups and organizations) with whom a project or program works. Clarifying initial intentions aids in planning knowledge interventions while clarifying ongoing and emerging intentions can be useful when implementing and monitoring, and in evaluations (Smutylo, 2005). The steps in outcome mapping are shown in figure 4.

Overall, some key features of OM are:

- **Focus on contribution, not attribution:** Identifying boundary partners and measuring results within their sphere of influence, to assess the contribution to outcomes.
- **Focus on outcomes, not impact:** Links implementation of actual measures to outcomes, well suited to the complex and long-term nature of knowledge-to-action programs, where different outcomes are not easily separated (CDKN, 2018).
- **Focus on behavioral change:** See development/adaptation results as changes in behavior (OM, & OH, 2021). For example, at subnational or national levels, this could mean aggregated changes in the decision-making of certain groups, or changes in policy/funding decisions.
- **'Progress marker(s)' milestones:** Evaluate progress towards outcomes as a graduated series of behavioral changes (CDKN, 2018) facilitating comparison and learning while retaining the relevant contextual details of each case.
- **Captures non-linear change:** Allows tracking of uptake of knowledge products, assimilation and finally leading to behavioral change (e.g., improved policies), which often could be non-linear (Dinshaw et al, 2014).
- **Reflexive Learning:** Flexible approach facilitates reflexive learning of implementers and users of MEL frameworks, and allows for mid-course corrections (Pasanen et al., 2018).





**Figure 4.** The three stages and twelve steps of outcome mapping

Note: Description of the three main stages of OM, with a total of 12 sub-steps, based on IDRC methodology. Depending on whether OM is integrated in the project from the beginning or applied retrospectively at a later stage, not all the above steps need to be applied. Retrieved from Smutylo (2005) ([https://www.outcomemapping.ca/download/csette\\_en\\_ILAC\\_Brief07\\_mapping.pdf](https://www.outcomemapping.ca/download/csette_en_ILAC_Brief07_mapping.pdf))

The advantages and disadvantages emerge in more detail from the analysis of specific applications (case studies). Below, the frameworks HI-PATH, CCAA, CDAIS are reviewed, and outcome harvesting (an approach affiliated to OM is introduced).

## 5.1.1 HI-PATH

The HI-PATH project aimed to map the outcomes of co-creation of climate-resilient development pathways for the upscaling of livelihood innovations under the HI-AWARE (Himalayan Adaptation, Water & Resilience) in the Hindu-Kush Himalayan region (Werners et al., 2022) An OM-based framework was used for M&E to influence relevant climate resilient adaptation planning and policy processes, for interventions for long-term sustainable up-scaling and out-scaling (Sparkes et al., 2021). Since the project built on the work already done under the HI-AWARE intervention, outcome mapping was applied retrospectively, using a flexible blended methodology; not all steps of OM were applied. Steps applied partially included the identification of boundary partners, outcome challenges, strategies, progress markers, organizational practices. Steps applied more comprehensively included monitoring of strategies and outcomes (e.g., through journals), and evaluation (Sparkes et al., 2021).



Different approaches were used to identify boundary partners, depending on the context of different regions - for example, an interest and influence matrix, or a checklist of criteria to identify the study site location followed by selection of boundary partners (Sparkes et al., 2021). All places included communities and local governments, with more emphasis on boundary partners directly affected by the HI-AWARE interventions. The indicators ('progress markers') were qualitative and focused behavioral change among key actors, and tried to assess 'impact' beyond the project cycle. To identify desired results, steps followed were defining monitoring required to upscale livelihood innovations in context of climate-resilient development; and co-creating climate resilient development pathways that upscale / out-scale the learnings within policy and practice (Werners et al., 2022).

## 5.1.2 CCAA

This framework was proposed to monitor the progress of an International Development Research Centre-Department for International Development IDRC-DFID program that ran between 2006-2012, called Climate Change Adaptation in Africa (CCAA). The program was targeted at developing the capacity of African researchers, organizations, and communities to foster climate change adaptation solutions that would benefit vulnerable populations. The key strategies for capacity development were: (1) participatory action research (PAR); (2) communication and networking; and (3) education and training (IDRC, 2012). For the monitoring and evaluation of the program, an M&E system was set up which relied on OM as the main approach. The goals of M&E were accountability, learning, capacity building (IDRC, 2007). The framework was applied at three levels: program level, project level, and beneficiaries' level (i.e., the level of the projects' own boundary partners). Four categories of boundary partners were recognized, namely "researchers, policymakers, capacity developers, and representatives of at-risk groups" (IDRC, 2007, p. 21). These were the target users of the M&E framework, in addition to the internationally administered Programme Management Unit (PMU), which collected, compiled, and communicated information to the funders and the public.

In practice, a participatory OM process was embedded in the different program levels, which allowed for organizational learning, leading to increased capacity for M&E. Results of the program were identified in terms of, amongst others, number of institutions engaged, number of knowledge products developed including peer-reviewed publications, and number of media hits and visitors of the program's webpage. Overall, OM was deemed to be a valid approach which allowed for flexibility, multi-level monitoring, participation (e.g., through collaborative setting of progress markers), and learning.



## 5.1.3 CDAIS

This framework was used to measure the progress of the joint Agrinatura and UN Food and Agriculture Organization (FAO) program Capacity Development for Agricultural Innovation Systems (CDAIS), whose goal was to promote efficient and sustainable 'agricultural innovation systems'. The program was piloted in eight countries, namely Angola, Bangladesh, Burkina Faso, Ethiopia, Guatemala, Honduras, Lao PDR and Rwanda (Agrinatura & FAO, 2019). Notably, this framework was not focused on climate adaptation but rather on capacity development for agricultural innovation. The MEL system in CDAIS had the objective to support project implementation while creating an evidence base for the changes made by the project. This was carried out at two levels: innovation niche partnership (local) and agricultural innovation system level (national); and across three dimensions: individual, organizational, and systemic. At the innovation niche partnership level participatory OM with progress markers was used as the main approach.

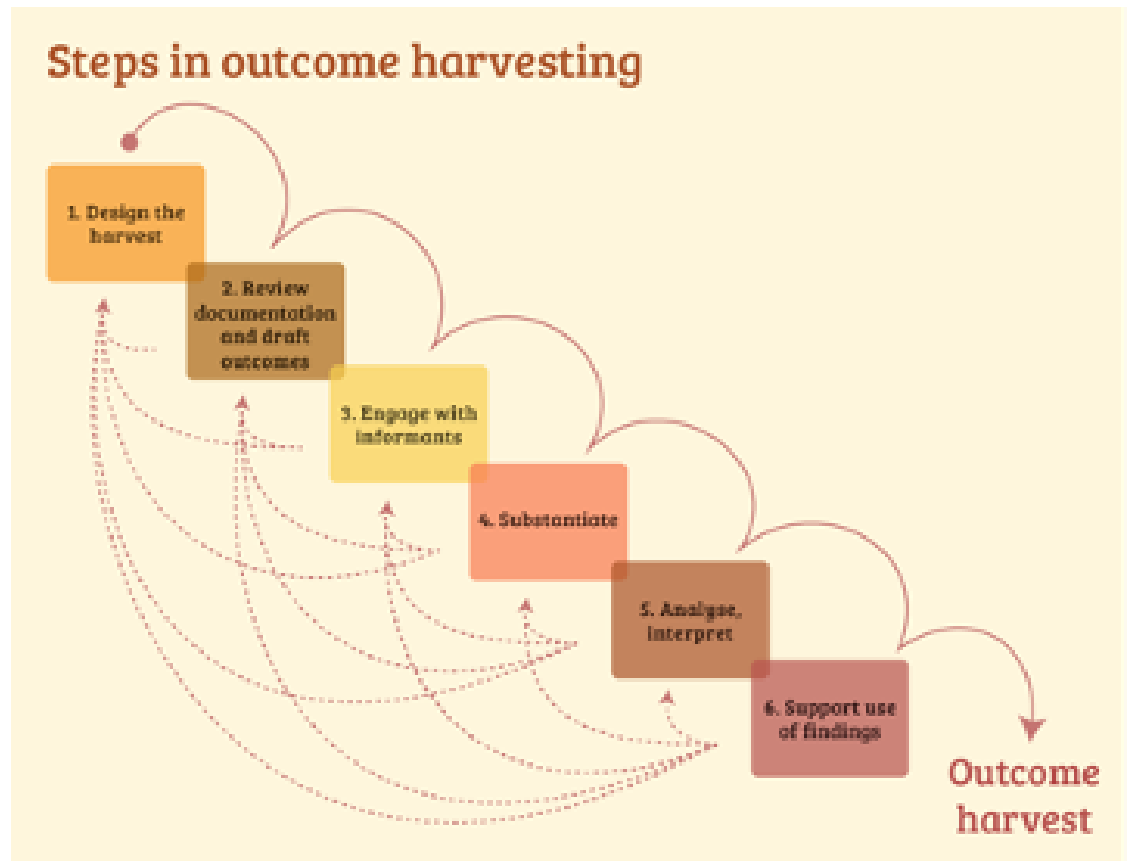
Different tools were used in different contexts and phases of the project, including (enriched) innovation timelines (i.e., a participatory method for reflecting on a network process and uncovering next steps, enriched by written stories of important learning moments, victories and failures); network analysis (i.e., the identification of innovation actors that form the network and the interactions between them, possibly augmented by a network map which is progressively updated); progress marker identification (i.e., collaboratively and iteratively identifying the progress markers for the desired results). Moreover, at the niche partnership level, the MEL system was embedded into the experiential learning cycle, composed of 1) concrete experience, 2) reflective observation of the experience, and 3) experimentation (Agrinatura & FAO, 2019). At both levels, outcomes were assessed, and a country-wide analysis was performed (facilitated by country MEL teams) as well as a cross-country analysis (facilitated by global MEL team). Results were aggregated across scales in an ex-post impact pathway (Agrinatura & FAO, 2019).





### 5.1.4 Outcome Harvesting – SRJS

Outcome Harvesting (OH) is a M&E framework based on the Outcome Mapping approach, but does not consider planning or design steps (OM & OH 2021). OH is based on collecting information on outcomes already achieved. An open, participatory process is used to identify and describe observed changes, regardless of any planned results then working backward to determine whether and how a project or intervention contributed to the change[4] (Wilson-Grau and Britt, 2012), the steps are described in Figure 5.



**Figure 5.** Steps in outcome harvesting

Note: The six steps of OH. Retrieved from

[https://www.betterevaluation.org/en/plan/approach/outcome\\_harvesting](https://www.betterevaluation.org/en/plan/approach/outcome_harvesting)

The SRJS program, undertaken by the International Union for the Conservation of Nature, National Committee of the Netherlands (IUCN-NL) and the World Wildlife Fund for Nature Netherlands (WWF-NL), used OH as an M&E tool to assess behavioral changes in societal actors (IUCN, 2021a). The program’s goal was to develop joint solutions to build capacities needed to critically engage with business, financial institutions and governments, and also effectively lobby for green and inclusive policies and practices (IUCN, 2021b), in domains of ecosystem-based international public goods (IPGs)-water provision, food security, climate resilience and biodiversity. Leveraging OH’s flexibility, the study drew data and insights at subnational, national, regional & global levels), with outcomes focused mainly on regions of Africa, Asia and South America, and to a smaller extent Europe, and the international level (IUCN, 2021a).

[4] Outcomes can be changes in behavior of social actors influenced directly or indirectly, thus OH can be effective when outcomes are the main focus of MEL processes, rather than activities, especially in complex contexts such as assessing impact of knowledge sharing in climate adaptation or resilience building. It has the benefits of being able to assess unintended results, having verifiable outcomes, and having an accessible approach making it easy to engage key actors included in the process (Wilson-Grau and Britt, 2012).



## 5.1.5 Comparative analysis of OM applications

Table 2 presents a comparison of the reviewed applications in terms of 1) the purpose/context of the specific application, 2) the key features identified, 3) the features relevant for the measurement of impact of knowledge products and 4) the challenges encountered in the application of these frameworks (if applicable).

|  | <i>HI-PATH</i>  | <i>CCAA</i>   | <i>CDAIS</i>  | <i>OH - SRJS</i>   |
|--|---|---|---|--|
| <b>Purpose/<br/>Context</b>                            | M&E for upscaling of livelihood innovations of HI-AWARE project to influence climate resilient development and policy                             | M&E of capacity development for climate change adaptation in Africa   | Portfolio-level MEL framework for agricultural innovation system intervention   | Portfolio level M&E of capacity building for conservation of ecosystem-based IPGs - water provision, food security, climate resilience, and biodiversity |
| <b>Organization(s)<br/>responsible for<br/>the MEL</b> | IDRC-FCDO, BCAS, ICIMOD, NICE-NUST, PARC, TERI, WUR, UNU-EHS  | IDRC, DFID  | Agrinatura, FAO   | IUCN-NL, WWF-NL, MoFA-NL   |
| <b>Domain(s)</b>                                       | Climate adaptation, climate resilient development   | climate adaptation, capacity development  | Capacity development for agricultural innovation  | conservation, climate resilience   |
| <b>Boundary<br/>partner(s)/<br/>Target user(s)</b>     | local governments, communities  | policymakers, capacity developers, and representatives of at-risk groups  | points, niche partnership stakeholders (e.g., policy makers, donors, industries, input suppliers, banks, etc.), global MEL team   | financial institutions, businesses   |
| <b>Key features</b>                                    | OM-based results of innovations at local level used to co-create climate-resilient development pathways to upscale learnings into policy/practice | Monitoring of results at three levels (program, project, beneficiaries) by use of a participatory OM embedded in each level | Monitoring of results at two levels (niche partnership, innovation system) and three dimensions (individual, organizational, systemic); OM applied at niche partnership level through collaborative setting of progress markers | Tracking of distribution of outcomes across time, geographic scale, actors, each IPGs, conservation domains, sectors, and institutional measures         |



|   |   |   |  |  |
|---|---|---|--|--|
| <b>Features relevant for knowledge products</b> | Co-created qualitative 'progress markers' to track behavioral change outcomes   | Tracking of results with ad-hoc process indicators (e.g., number of peer reviewed publications) | Embedding of MEL system into the experiential learning cycle                                   | Explicitly defining behavioral change outcomes using Dialogue & Dissent (DD) <sup>5</sup> indicators for measurable impact   |
| <b>Challenges</b>                               | Difficulty in selecting boundary partners, especially when upscaling to national/subnational level. Difficulty in getting representative data due to gender norms in region | OM not conducive to comprehensive M&E framework, progress markers highly qualitative            | Perception of value of OM approach among stakeholders<br>Inconsistency and reliability of data | Reporting bias due to variation in data from different locations, or boundary partners focusing on some outcomes over others |

With respect to features relevant for the measurement of impact of knowledge products, progress markers and indicators of behavioral change outcomes were identified in the HI-PATH (Sparkes et al., 2021) and OH-SRJS (IUCN, 2021b) frameworks, which can be adapted for tracking the impact of knowledge products. Nonetheless, it is important to consider that it may be challenging to determine the contribution of a specific knowledge product to observed behavioral changes in stakeholders. In this context, reliance on collaborative processes, and narrative evidence, characteristic of OM and OH approaches, may help link changes in behavior to uptake in knowledge, especially when the M&E process is embedded in the learning cycle, as in the case of CDAIS (Agrinatura and FAO, 2019). Another possibility is to identify ad-hoc metrics about the knowledge outputs (e.g., peer-reviewed publications) and their reach (e.g., number of visits to a web portal), as exemplified by the CCAA framework.

Getting reliable, consistent and representative data is a common challenge identified - due to erratic use of tools (Agrinatura and FAO, 2019), existing norms hindering collection (Sparkes et al., 2021) reporting bias due to data collected from different locations (IUCN, 2021b). For instance, in the OH-SRJS case, the data was collected only on positive changes, i.e., impact of any negative outcomes was not considered (IUCN, 2021b). In the context of boundary partners, which partners are selected influences what is considered important to monitor/evaluate (IUCN, 2021b), while resource limitations for engagement can lead to exclusion of vulnerable groups. Further, OM may not offer a comprehensive M&E framework due to qualitative progress markers (IDRC, 2012).

[5] Information on DD indicators used in the SRJS programme evaluation is in Appendix . For further details, see IUCN, 2021b, pages 8 and 11.





## 5.2 THEORY OF CHANGE/THEORY OF ACTION

### 5.2 Theory Of Change

While each application of this approach can be further specified and divided in order to achieve the fulfillment of project goals, the Theory of Change (ToC) approach (also referred to as Theory of Action) is a process of planning, outlining, and visualizing the pathway through which action and change will be achieved (see Figure 6. In other words, it is the long-term thinking behind how a particular intervention or set of interventions will achieve their desired result: change (African Union Commission & AU Department for Social Affairs, 2020; Chemonics International & TANGO International, 2019; STDF et al., 2020).

Overall, some key features of ToC are:

- Operating and planning for the actualization of long-term goals, outcomes, or impacts: While the ToC can be applied to short-term projects, it was designed specifically for long-term projects (African Union Commission & AU Department for Social Affairs, 2020; Bours et al., 2014c; Brooks et al., 2014; Chemonics International & TANGO International, 2019; CIF, 2012, 2018; Spearman & McGray, 2011; STDF et al., 2020)
- Defining success through what change(s) are observed: Rather than defining a project or program's success by how much action is being taken, or how effective/efficient it is (though these are still important factors to consider), ToC defines success in relation to how much changes within the subject system as a result of a specific project, program, or intervention action (African Union Commission & AU Department for Social Affairs, 2020; Chemonics International & TANGO International, 2019; STDF et al., 2020).
- Prioritizing flexibility and adaptability: The Theory of Change Approach operates under the assumption that an MEL framework should be a living mechanism for planning, monitoring, evaluation, learning and reporting (African Union Commission & AU Department for Social Affairs, 2020; Bours et al., 2014c; Chemonics International & TANGO International, 2019; STDF et al., 2020). This is particularly useful when dealing with uncertainty.
- Stakeholder engagement and consultation: The ToC encourages consulting stakeholders when identifying and defining long-term goals, desired outcomes, gaps in institutional capacity, monitoring/evaluation indicators and criteria, etc. Some applications of ToC involve holding conferences and educational workshops with representatives from all stakeholders impacted by the project/program present (African Union Commission & AU Department for Social Affairs, 2020; Bours et al., 2014c; Chemonics International & TANGO International, 2019; STDF et al., 2020).
- Operational definitions for outputs, outcomes, and impacts: **Outputs** are products or services that result directly from completing activities (such as people trained, national labor migration policy frameworks distributed, or technical support provided to RECs). **Outcomes** are changes that can be attributed to the completion of outputs and may occur immediately or a period of time after the intervention (such as changes in behavior, skills, attitudes, systems, services, etc.). **Impacts** are the broadest or highest order type of results to which an intervention can reasonably be said to contribute (African Union Commission & AU Department for Social Affairs, 2020; Bours et al., 2014c).



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The Logic Model for an applied framework or intervention is then composed of the interconnected results chains (which are the interconnected results) and can be used to determine whether or not a certain intervention is the logical course of action to be taken when considering the specific contexts of that case. In order to assess the effects and impacts of these outcomes, at least one indicator of success is assigned to each individual outcome at every level or phase of action. (African Union) An intervention is deemed 'logical' under this model if, at that level (i.e., short-term, phase 1, intermediate, etc.), a given activity or set of activities are completed and the related or desired outputs are achieved, meaning that the outcome was deemed successful. At the second level, the relationship between the achieved output and the achieved outcomes must be checked. If there is a causal relationship between the outputs and outcomes, then the third level of logical analysis must check whether or not the given outcomes or set of outcomes achieved contribute to the overall aim or goal of the intervention action. As shown in Figure 6 (Logic Model Pyramid), each outcome, or phase of outcomes, contributes to the stepwise realization of the desired long-term goal (African Union Commission & AU Department for Social Affairs, 2020).



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# 5 THEORY OF CHANGE

Steps of Development

01

## IDENTIFY A LONG TERM GOAL

Depending on the scale of application, this could be a project and/or programme goal

02

## CONDUCT "BACKWARDS MAPPING" TO IDENTIFY THE PRECONDITIONS AND OUTCOMES NECESSARY TO ACHIEVE THAT GOAL.

Backwards Mapping is used to refer to the process of linking desired results to action

03

## IDENTIFY THE INTERVENTIONS THAT THE INITIATIVE WILL PERFORM TO CREATE THESE OUTCOMES. IN OTHER WORDS, THIS IS COMPLETING THE RESULTS CHAIN AND LOGIC MODEL

04

## DEVELOP/IDENTIFY INDICATORS OF SUCCESS FOR EACH OUTCOME THAT WILL BE USED TO ASSESS THE PERFORMANCE OF THE INTERVENTIONS.

- this step includes defining the project's definition of success
- these indicators include monitoring and evaluation indicators

05

## WRITE A NARRATIVE AND ACTION PLAN THAT CAN BE USED TO SUMMARIZE THE VARIOUS MOVING PARTS IN THE TOC.

## VISUALIZATION OPTIONS

- Is presented as a diagram with narrative text.
- The diagram is flexible and doesn't have a particular format—it can include cyclical processes, feedback loops, one box could lead to multiple other boxes, different shapes could be used, etc.

## GENERAL FEATURES

- Gives the big picture, including issues related to the environment or context that you can't control.
- Shows all the different pathways that might lead to change, even if those pathways are not related to your program.
- Describes how and why you think change happens.
- Could be used to complete the sentence "if we do X, then Y will change because..."
- Describes why you think one box will lead to another box (e.g., if you think increased knowledge will lead to behavior change, is that an assumption or do you have evidence to show it is the case?)

The combination of a Theory of Chain approach with the Logic Model allows for the systemic outlining and mapping of the causal linkages and chronological flow between an intervention action and its short-term, intermediate, and long-term outcomes (this is sometimes also referred to as an outcome pathway).

The process for developing and creating a ToC can be summarized in 5 steps (Figure 7). It typically begins with the question "What is the desired long-term goal or outcome?" followed by "What conditions (financial, social, political, cultural, physical, institutional, etc.) must be in place for this goal to be achieved?" Depending on whether or not these conditions can be met pre-intervention, these conditions can also be classified as outcomes within the ToC pathway that must be achieved before the next phase of actions can be taken (Bours et al., 2014c; Chemonics International & TANGO International, 2019).

Of the various applied frameworks, tools, mechanisms, case studies and other approaches found during the literature review, three were reviewed more in depth, namely the Climate Investment Funds' (CIF) PPCR Monitoring and Reporting Toolkit; the Six-step approach proposed by Spearman and McGray (2011) of the World Resource Institute (WRI); and the Tracking Adaptation and Measuring Development (TAMD) framework by the International Institute for Environment and Development (IIED).

**Figure 7.** Five steps of the Theory of Change



## 5.2.1 PPCR

The Climate Investment Funds' (CIF) Pilot Program for Climate Resilience (PPCR) Monitoring and Reporting (M&R) Toolkit was created in 2018 following a validation process attended by pilot and donor countries, regional organizations, and multilateral development banks (MDBs). The purpose of this framework is to monitor the performance of PPCR investments in countries, with a focus on ensuring progress and results in advancing climate change resilience, while fostering learning and accountability. To achieve this, country-ownership, participation, use of mixed quantitative and qualitative methods, and learning-by-doing are set as the guiding principles of the PPCR M&R Toolkit (CIF, 2018). Crucially, the PPCR M&R Toolkit offers an example of a portfolio-level framework, which is designed to enable monitoring and reporting at different scales, including at the level of projects, sectors, countries, and the global level (CIF, 2018). Although the applicability to the measurement of impact of knowledge products is not direct, it exemplifies some important features of MEL frameworks, including the use of mixed methods, the aggregation of information across scales, and the use of a participatory approach throughout design and implementation.

The PPCR Results Framework constitutes the base of the M&R Toolkit, as it links the inputs (resources provided in addition to official development assistance); project-/ program-level activities (e.g., infrastructure, capacity); project-/ program-level outputs and outcomes (e.g., improved information management and climate data); country-level outcomes (e.g., strengthened adaptive capacity); up to final outcomes at the national and global levels, over longer time horizons (i.e., 10-15 years and 15-20 years respectively) (CIF, 2012). In each PPCR country, the framework is operationalized through five core indicators,[6] namely (1) "degree of integration of climate change in national, including sector, planning;" (2) "evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience;" (3) "quality and extent to which climate responsive instruments/investment models are developed and tested;" (4) "extent to which vulnerable households, communities, businesses, and public-sector services use improved PPCR-supported tools, instruments, strategies, and activities to respond to climate variability or climate change;" and (5) "number of people supported by PPCR to cope with the effects of climate change." (CIF, 2018, p. 13). For each of these indicators, both quantitative and qualitative evidence is collected, and scores are assigned through collaborative annual workshops involving the national focal points and the identified relevant stakeholders.[7]

[6] The core indicators were determined over time and on the basis of user feedback as a way of streamlining the PPCR results framework (CIF, 2018).

[7] Including, amongst others, government, civil society, indigenous peoples, private sector, and academia (CIF, 2018).



## 5.2.2 WRI & GIZ Six-step Framework

In 2011, the World Resource Institute (WRI) in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) developed a practical six-step framework for the generation of M&E systems capable of tracking the progress of climate change adaptation initiatives in developing countries. Notably, this framework is flexible and general in nature, to accommodate monitoring and evaluation of three types of adaptation interventions, namely (1) community-based initiatives, (2) program- and project-based efforts, and (3) national level policy initiatives (Spearman & McGray, 2011).

The following steps constitute the WRI & GIZ framework:

1. Description of the adaptation context, including by means climate vulnerability and climate risk assessment
2. Identification of the contribution to adaptation by specifying whether the intervention is aimed at increasing adaptive capacity, concretely implementing adaptation actions, or sustaining development in a changing climate
3. Creation of an adaptation hypothesis for each expected outcome by linking the outcomes back to the relevant relevant risks and vulnerabilities that the intervention intends to address in a testable statement
4. Creation of an adaptation theory of change which illustrates the links between the intervention's activities and expected results, and clarifies the assumptions made about these links
5. Choice of indicators and setting of baselines depending on the adaptation dimension (i.e., adaptive capacity, adaptation action, sustained development) is addressed by the intervention
6. Use of the adaptation M&E system according to three key principles, namely facilitating and including learning, incorporating results-based management practices, and maintaining flexibility in the face of uncertainty.





### 5.2.3 TAMMD

The Tracking Adaptation and Measuring Development (TAMMD) framework was developed to be flexible, capable of being used and adapted to local, regional, sub-national, and national levels of application. It is predominantly used by national governments, but it has been adapted for some local governments and NGO projects/programs. The TAMMD is a twin-track framework that applies both ToC and logframe approaches into practice. In the first track, it assesses institutional climate risk management (CRM), and in Track 2, it measures adaptation and development performances. To date, the TAMMD framework has been applied in Cambodia, Ethiopia, Kenya, Mozambique, Nepal, and Pakistan. In each of the countries, the processes and framework were modified according to national context and capacity (Brooks et al., 2014).

This is carried out in an iterative six-step process:

1. Defining the scope and purpose of the M&E system, which includes defining the level of application, specifying spatial and time scales, identifying relevant populations and systems, and assessing relevant climate hazards.
2. Defining a theory of change by establishing the causal links between inputs, outputs, and outcomes, up to impacts along the two tracks (e.g., from improved CRM to adaptation, or from adaptation to improved development outcomes) in a participatory manner that is mindful of inequalities and power dynamics.
3. Defining and constructing indicators by drawing from different sets of metrics, including CRM indicators (i.e., indicators on the extent and quality of institutional processes and mechanisms for addressing climate risks); resilience-type indicators (i.e., context-specific indicators of resilience, vulnerability, and adaptive capacity); wellbeing indicators (i.e., costs in terms of assets, livelihoods as a result of climate-related shocks); climate indicators (i.e., indicators or indices to track trends and variations in climate hazards).
4. Measuring indicators at regular intervals, either through participatory processes or by using secondary sources. Notably, resilience indicators are most suited to be measured in a participative manner, as this allows for the identification of unexpected results (i.e., maladaptation). This step also includes the construction of baselines.
5. Analyzing and interpreting results, by means of (in order of resource-intensiveness) analysis of stakeholder and beneficiary narratives and testimonies, randomized control trials (RCTs), difference-in-difference approaches. It is crucial that wellbeing indicators are contextualized with climate data for identifying climate adaptation effects and impacts. Different evaluation criteria may be used, including effectiveness, sustainability, efficiency, and whether the intervention might lead to maladaptation in the long-term.
6. Fostering learning by means of an iterative revision process, which might be participatory in nature (e.g., through consultative sessions with stakeholders).



## 5.2.4 Comparative Analysis of ToC applications

Table 3 presents a comparison of the reviewed applications in terms of (1) the purpose/ context of the specific application; (2) the key features identified; (3) the features relevant for the measurement of impact of knowledge products; and (4) the challenges encountered in the application of these frameworks (if applicable).

**Table 3**

*Comparative assessment of Theory of Change /Theory of Action frameworks*

|   | <b>PPCCR M&amp;R Toolkit</b>  | <b>WRI &amp; GIZ Six-step Framework</b>  | <b>TAMD</b>   |
|---|---|--|---|
| <b>Purpose/ Context</b>                         | M&R system to track the performance of PPCR investments in countries, with a focus on ensuring progress and results in advancing climate change resilience, while fostering learning and accountability | Flexible, practical guide for designing adaptation M&E systems in a development context  | Twin-track framework (Track 1: climate risk management; Track 2: adaptation and development) developed primarily for use at the national level  |
| <b>Key features</b>                             | Relies on principles of country ownership, participation, use of mix methods; the Toolkit is operationalized through five core indicators streamlined on the basis of the PPCR Results Framework        | Three core principles: (1) manage for results, (2) design for learning, (3) maintain flexibility in the face of uncertainty; M&E operationalized through adaptation theory of change and adaptation hypothesis | Iterative process characterized by six steps, focused on defining an adaptation theory of change and identifying indicators of different types (CRM, resilience, wellbeing, climate indicators) |
| <b>Organization(s) responsible for the MEL</b>  | CIF   | WRI, GIZ   | IIED  |
| <b>Domain(s)</b>                                | Climate resilience and adaptation investment  | Climate adaptation in a development context  | Climate risk management, adaptation, and development  |
| <b>Boundary Partner(s)/Target User(s)</b>       | PPCR country focal points, nationally identified stakeholders, MDBs, CIF Administrative unit  | international organizations, national governments, NGOs, communities (depending on level of application)   | National government, local governments, local communities (depending on level of application)   |
| <b>Features relevant for knowledge products</b> | Triangulation of data, including quantitative and qualitative (narrative-based) data  | Assessment of knowledge dissemination for the purpose of increasing adaptive capacity based on functions approach (process indicators) or asset approach (outcome indicators)                                  | Pathway approach tracking (knowledge) interventions' contribution to climate risk management, and adaptation/ development   |



| Challenges | Data availability and data rigor (addressed through triangulation)<br>Definition of resilience-type indicators | Tensions in M&E systems: <ul style="list-style-type: none"> <li>- learning/ accountability</li> <li>- process/ outcome</li> <li>- practical/ conceptual</li> <li>- bottom-up/ top-down</li> </ul> | Main challenges in conducting M&E for adaptation: <ul style="list-style-type: none"> <li>- long timescales</li> <li>- attribution of outcomes</li> <li>- shifting baselines</li> <li>- contextualizing adaptation outcomes</li> </ul> |
|------------|--|---|---|
|------------|--|---|---|

For assessing the impact of knowledge products, ToC-based approaches offer guidance with respect to the conceptualization of the linkages between knowledge outputs and the desired outcome (improved adaptation action). These linkages may be substantiated by qualitative or quantitative data, but an important insight offered by the PPCR M&R Toolkit is that in order to ensure data rigor and quality, triangulation between the data sources is needed (CIF, 2018). With respect to the types of metrics that may be used to collect such data, the WRI & GIZ framework recommends selecting indicators based on (1) institutional functions (such as the development of institutional capacity to perform certain function or set of functions, also known as a “functions approach” to adaptive capacity that primarily looks at qualitative and process oriented indicators); and (2) assets (the amount and type of resources – social cultural, political, financial, environmental, technological – that provide a foundation for taking adaptation action) (Spearman & McGray, 2011).

In terms of key challenges identified by the different frameworks, the difficulty in defining appropriate resilience indicators is highlighted by both the CIF and WRI (CIF, 2018; Spearman & McGray, 2011). In addition, Spearman and McGray (2011) identify some of the key tensions characterizing the M&E process for adaptation, including between the purposes of learning and accountability; the focus on processes or outcomes; and reconciling top-down and bottom-up approaches. The TAMD framework, on the other hand, focuses on four key challenges (see Table 3) that may be more or less relevant depending on the national context in which it is applied (Brooks et al., 2014).



## 5.3 Co-Production-oriented approaches

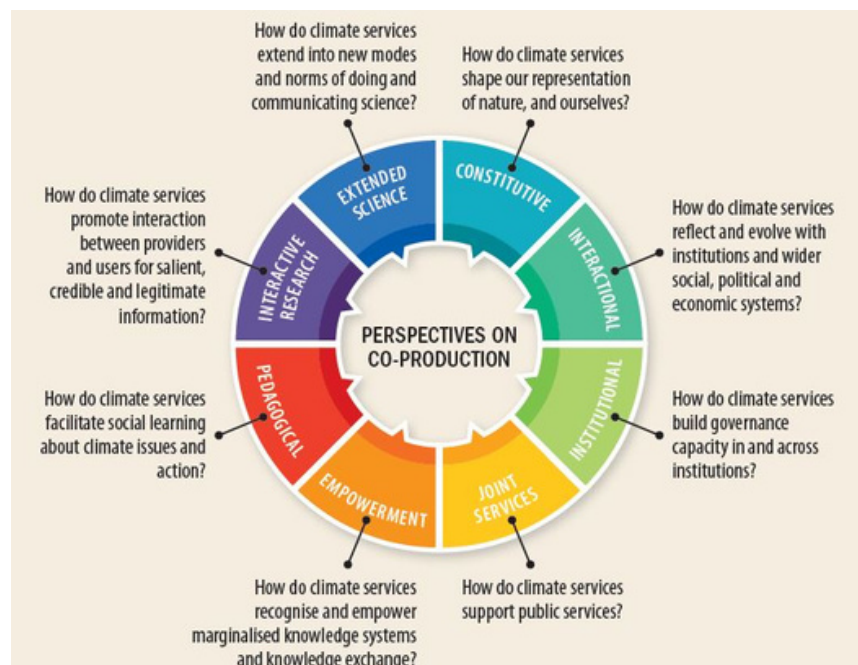
Co-production presents a way to create & disseminate knowledge products through an inclusive, collaborative and flexible process, for improved usability and uptake leading to learning and/or action (FCFA, 2020). While Outcome Mapping and Theory of Change based approaches are participatory, the participation is focused on collaborating with relevant stakeholders in implementing the various activities of the MEL process, or for feedback on the knowledge products for assessing the effectiveness of the applied MEL framework and making refinements or improvements. On the other hand, co-production-oriented approaches focus on deep collaboration with relevant actors/stakeholders/end-users in creating and disseminating the knowledge products, and the MEL framework is often embedded in the co-production process.

### 5.3.1 WISER-FCFA framework

The WISER MEL framework was applied in Kenya for tracking the development of decentralized Climate Information Services (CIS), to demonstrate the benefits and build support for the increased investment which the development of these services requires (Visman et al., 2016). The WISER project itself is based on ‘immersive’ (emergent, iterative & flexible) co-production of knowledge products (Carter et al., 2019), with MEL embedded in the co-production process. This specific MEL framework is focused on reviewing the metrics/criteria for determining success and impact of decision-relevant CIS (Visman et al., 2016) at the community, sub-national & national level in Kenya. The MEL evaluates both the process and outcomes of investments in climate services co-production, so that scientific excellence can be monitored alongside development impact.

The development and application of this framework evaluates the metrics for measuring the impact of co-production in climate services and the principles – including inclusivity, diversity and ensuring value for all partners in the process – on which these are based. This framework is based on WISER’s broader MEL process (WISER, 2017) and promotes uptake and use of climate information by decision-driven and user-oriented process, allows for ongoing dialogue and innovation in an adaptive and iterative manner, with activities and information produced are tailored to context and decision (as visible in Figure 8).





**Figure 8.** Perspectives of co-production

Note: The questions in the co-production process of the project that the MEL seeks to address. Retrieved from Carter et al. (2019)

## 5.3.2 Knowledge Ecology

The knowledge ecology approach conceptualizes M&E of knowledge-based initiatives for development as a process of collective inquiry. Knowledge ecology refers to the various, interrelated knowledge cultures represented in the development process, including individual knowledge, community knowledge, specialized knowledge, organizational knowledge, and holistic knowledge. The operationalization of this concept relies on embedding M&E processes in each stage of the learning process which typically characterizes knowledge-based initiatives: (1) clarifying ideals, (2) determining the facts, (3) brainstorming their collective ideas and (4) putting them into practice (Leborgne et al., 2011).

The knowledge ecology M&E framework thus introduces a parallel inquiry which serves M&E purposes. The first step is characterized by answering the question ‘ideally, what should be the purpose of this M&E’, with consideration to the key stakeholders, and purpose of the process. The second step, clarifying facts, looks into which factors influencing the M&E (both positive and negative) should be taken into account, in other words the baseline situation and the resources available. The third step aims to bring out the key ideas about the processes and information that should be captured about the knowledge initiative, through collaborative approaches such as brainstorming sessions. This step also clarifies the importance of recognizing that different sets of data will be collected, according with the specific knowledge cultures, and that these should be analyzed and synthesized in a way that highlights differences and similarities among stakeholders. Finally, the last step is concerned with the operationalization of the M&E, whereby practical and technical (capacity) issues are considered, as well as strategies for capturing unexpected outcomes and communicating the results. Crucially, the process is posited as iterative, and thus a new cycle follows from the completion of M&E, which relies on the insights highlighted through the previous cycle (Leborgne et al., 2011).



### 5.3.3 Comparative analysis of applications of co-production oriented approaches

Table 4 presents a comparison of the reviewed applications in terms of (1) the purpose/ context of the specific application; (2) the key features identified; (3) the features relevant for the measurement of impact of knowledge products; and (4) the challenges encountered in the application of these frameworks (if applicable).

**Table 4**

*Comparative assessment of Co-production Oriented frameworks*

|  | <b>WISER-FCFA framework</b>   | <b>Knowledge Ecology</b>  |
|--|---|---|
| <b>Purpose/ Context</b>                            | MEL framework to support development of decentralized Climate Information Services (CIS) for improved decision making across different levels in Africa   | A guiding framework for M&E of knowledge-based development initiatives  |
| <b>Key features</b>                                | a monthly reporting template at county level for monitoring<br>Integration of monitoring of CIS within existing complementary initiatives   | M&E as a 4-step collective learning cycle   |
| <b>Organization(s) responsible for the MEL</b>     | KMD, Met Office UK, CARE  | Information and Knowledge Management (IKM) Research Programme   |
| <b>Domain(s)</b>                                   | Climate information services  | Knowledge management for development  |
| <b>Boundary partner(s)/Target users identified</b> | KMD, National to local level meteorological departments   | Practitioners in the field of development, focused on knowledge-based initiatives   |
| <b>Features relevant for knowledge products</b>    | Support for reflexive learning by project partner review meetings<br>Iterative, looped learning support through strengthening CCOFs and feedback mechanisms<br>Social learning through a range of resources for national and wider-level scale up | MEL system which parallels and is integrated into every step of the collective learning (which for the NWP is guided by the knowledge-to-action methodology), to tackle complexity presented by multiple actors and competing agendas, and plural foundation of knowledge |
| <b>Challenges</b>                                  | Difficulty in embedding roles, responsibilities and capacities at national and county level meteorological offices for operationalizing MEL<br>Need for increased staffing at county level meteorological offices                                 | Focus is on comprehensive knowledge initiatives for development - applicability to climate change adaptation, and the diffusion of knowledge products may be limited<br>Power relations may hinder the collaborative integration of different knowledges                  |



In the context of impact measurement of knowledge products, both co-production-oriented approaches offer insight into key processes that may facilitate this task. From the knowledge ecology approach – similarly to CDAIS, an example of outcome mapping – a key takeaway is the importance of embedding the MEL process into the learning cycle, and rely on an iterative approach (Leborgne et al., 2011). Similarly, an iterative learning process is posited by the WISER-FCFA framework, which in addition emphasizes the importance of reflexive and social learning and operationalizes this through different actions, in the context of climate information services (Visman et al., 2016).

In relation to challenges, the WISER-FCFA Framework highlights more practical challenges, including the difficulty in defining roles and responsibilities for MEL processes, such as within existing national to local level departments, and shortage of staff and capacities (Visman et al., 2016). The WISER-FCFA framework also in a sense fosters double and triple loop learning, by involving actors across the board throughout the process. While double and triple loop learning approaches are not specifically addressed in the paper, further information is included on the same in Appendix 06. On the other hand, the knowledge ecology approach points to issues of power dynamics in collective learning which may hinder the appreciation of different knowledges that contribute to the co-creation process (Leborgne, 2011).



## 5.4 Overall comparison of MEL approaches

Clearly, the different approaches to MEL have both advantages and disadvantages, and their applicability to the measurement of impact of knowledge products varies. These are summarized in Table 5.

**Table 5.** Comparative assessment of key pros and cons of MEL approaches

|  | Pros  | Cons   |
|--|---|--|
| <b>Outcome Mapping</b>                   | <ul style="list-style-type: none"> <li>- ability to capture non-linearity</li> <li>- facilitates reflexive learning and mid-course improvements</li> <li>- actor-centered design assigns clear responsibility of changes</li> <li>- has markers for early outcomes</li> </ul>   | <ul style="list-style-type: none"> <li>- highly qualitative, and data-intensive indicators</li> <li>- pathways not defined explicitly, difficult to find causal links</li> <li>- slow uptake due to lack of familiarity with approach</li> <li>- linguistic challenges in translating terminology</li> </ul>   |
| <b>Theory of Change</b>                  | <ul style="list-style-type: none"> <li>- useful for long-term projects</li> <li>- its flexibility and adaptability means can operate in systems impacted by higher degrees of uncertainty</li> <li>- actor-centered design and collaboration throughout the process</li> <li>- Focused on the results and impacts to ensure the project or program is effective</li> <li>- clearly linked and identified relationships between actions, outputs, outcomes, and impacts</li> </ul>             | <ul style="list-style-type: none"> <li>- not heavily defined or structured, components such as indicator and outcome identification can take longer depending on the stakeholder consultation process</li> <li>- stakeholder engagement can be very complex and time intensive</li> <li>- does not directly address or include the production of knowledge outputs/products (outside of internal progress reports)</li> <li>- no pre-established guidance on how to establish baselines</li> </ul> |
| <b>Co-production-oriented approaches</b> | <ul style="list-style-type: none"> <li>- additional relational and learning benefits due to immersive co-production of MEL</li> <li>- early identification of initial 'impact' in terms of changes in decision-making due to joint development of MEL frameworks</li> <li>- co-creation leading to sense of ownership, making MEL activities self-sustaining beyond project cycles</li> <li>- improved co-production process due iterative process informed by a 'reflection' step</li> </ul> | <ul style="list-style-type: none"> <li>- mainstreaming capacities and responsibilities for MEL within national and decentralized planning and budgeting systems can be difficult</li> <li>- sustained engagement with stakeholders whilst ensuring fair representation requires significant resources</li> </ul>   |



# 6.0 MAIN CHALLENGES





## **6.0 Main Challenges**

Main challenges for addressing and accomplishing MEL for adaptation to climate change were recognized both in the literature review and by the experts during their interviews. These have been grouped into six sub-sections as follows and include insights from the comparative assessment.

### **6.1 Stakeholder engagement**

Considering time limitations for political engagement, the lack of policy windows, and, in certain instances, “the fluid institutional environment caused by a national decentralization policy” (Butler et al., 2016, p. 1), institutionalizing stakeholder engagement during planning processes can be very challenging. This was recognized by the Nusa Tenggara Barat Province government in Indonesia during the co-management planning process for adaptation pathways-based development (Butler et al., 2016).

Moreover, the multi-stakeholder context of adaptation, characterized by different perspectives and capacities may pose challenges. In this context, during stakeholder engagement and participation some limitations are likely to arise; mainly, due to common and opposite discursive frames, needs, preferences, processes and capabilities. Aspects that can lead to these limitations during stakeholder engagement are: 1) the diversity of actors and their involvement in different geographic areas and sectors, and 2) differentiated responsibility and contribution from actors to adaptation outputs and outcomes (African Union Commission & AU Department for Social Affairs, 2020; Klostermann et al., 2018; Starling, 2010).

In addition, identifying actors and developing a strategy for effective interaction of stakeholders on different levels and across scales generates challenges for assessing, tracking and developing MEL. Specifically, for measuring and tracking actions, miscommunication between levels of governments is an issue. At lower levels, communication is easier, local users are involved in design and implementation. However, when up-scaling to higher levels, focusing too much on accounting or policy-making needs may undermine effective measurements, losing resolution on what is measured. Context specificity of climate adaptation is difficult to transfer well across scales. In addition, there can also be language barriers for the participation of representatives of key groups during processes of co-production of knowledge (insight from experts).



## **6.2 Limited resources**

Several studies report challenges they faced related to the lack of time, data, resources (social, financial and technical) and capacity (African Union Commission & AU Department for Social Affairs, 2020; Commonwealth, 2020; Government of the Republic of Fiji, 2020; STAP, 2017; Starling, 2010; STDF et al., 2020). For instance, in the case of the Department of Agriculture, Water and the Environment of Australia, they reported insufficient financial resources for accomplishing the MEL framework under "The Drought Resilience Funding Plan 2020-2024" (Commonwealth, 2020). Several reports also cited limitations in identifying legitimate indicators and data-sources that met quality, reliability, availability requirements and metrics for adaptation and resilience (African Union Commission & AU Department for Social Affairs, 2020; Commonwealth, 2020; Government of the Republic of Fiji, 2020; STDF et al., 2020, insight from experts). Furthermore, the inability to define strict indicators, the necessity of obtaining technical expertise and maintaining the balance between qualitative and quantitative data, and capacity building can be challenging (insight from experts).

Hence for an MEL framework in a specific thematic area(s), the quantitative or qualitative assessment processes used, the operational definitions of monitoring and evaluation criteria, and the desired outputs, outcomes, and impacts, all should be informed by the context and capacity of the region or program it is applied by (Klostermann et al., 2018; STAP, 2017).



### ***6.3 Uncertainty of climate change, shifting baseline and targets in the future***

There are multiple challenges in the step of defining and establishing a baseline in MEL frameworks. Understanding and assessment of climate change and climate variability dynamics has uncertainty associated with respect to the magnitude, frequency of impacts and changes in the hydrometeorology system at different levels (Klostermann et al., 2018; Mills-Knapp et al., 2019; Smith & Anderson, 2014). In addition, the projection of results and effects during time of adaptation interventions is challenging because of: (1) uncertainty of climate change impacts per se and its effect on adaptation activities; (2) assumptions made for the expected results (outputs/outcomes) of policies and actions, their implementation, effectiveness and success over time (Commonwealth, 2020; Dinshaw et al., 2014; Fisher et al., 2015; Mills-Knapp et al., 2019; Smith & Anderson, 2014; STAP, 2017); (3) the dynamic nature and complexity of adaptation processes that affects MEL operation (Bours et al., 2014a; Mills-Knapp et al., 2019); (4) definition of “success” that can change over time with MEL development (Dinshaw et al., 2014; Fisher et al., 2015; Mills-Knapp et al., 2019).

This highlights the need for developing MEL frameworks with feedback procedures and flexible objectives over time, considering shifting baselines (Dinshaw et al., 2014; Fisher et al., 2015). However, establishing a baseline should be done preferably at the initial phase of the project; hence, for scalability of baselines, it is difficult to make indicators at higher levels. In defining a baseline, at the local level it is doable (still highly diverse dependent on context, hence a deliberative and an iterative process), with a certain level of added uncertainty at the regional level. On the other hand, on a national level, integrating them with the stipulations in supra-national governance and treaties, can be difficult. Additionally, obtaining data is crucial, but utilization and the level of flexibility of these baselines should be considered. Baseline surveys, while beneficial in either qualitative /quantitative or a mixed form, can be exhausting and time consuming (insight from experts). In addition, shifting baselines and unfolding climate change leads also to challenges for attribution and evaluation (STAP, 2017).



## 6.4 Assessing attribution

Attribution “seeks to identify the factors, in addition to adaptation policies, measures and actions, which may shape adaptation outcomes” (Klostermann et al., 2018, p. 191). However, the complexity of geographic intrinsic conditions, unpredictable contextual aspects and the non-linear relationship between social, political, economic and environmental dimensions that affects population vulnerability and its adaptation capacity, generates a challenge for assessing attribution. Added to this is the uncertainty for attributing clear results due to diversity of stakeholders that are liable for their contribution, funding, lead, or support for the implementation of adaptation strategies - all that can be correlated (Government of the Republic of Fiji, 2020; Klostermann et al., 2018; Mills-Knapp et al., 2019; Smith & Anderson, 2014; STAP, 2017; Starling, 2010; STDF et al., 2020).

Added to this challenge, there are the limitations for addressing synergies and trade-off between adaptation goals at different planning scales and sectorial actions, policies and methodologies (Government of the Republic of Fiji, 2020). Establishing causality and attribution of observed changes to interventions undertaken can be difficult. Further, aggregation of results/disaggregation is a challenge due to not one organization being responsible for M&E outputs. Additionally, the chain of responsibility for data collection and data rigor if not clearly defined at early stages, create challenges in the MEL process (insight from experts).

Defining the system boundaries, feedback loops, monitoring variables, time period can be challenging with reference to climate adaptation. Though disaggregation of actions is possible, depending upon the available resources and funds of the organization, time bound constraints do occur in the context of national and regional level projects. Difficulties associated with scale of action are prominent at these scales where frequent actions are harder within the given time frame. There is a key issue of engaging with monitoring of trade-offs and ensuring the effectiveness of adaptive actions. Perspective specificity also influences in defining the priorities of MEL frameworks, who are exactly benefitting and who are losing out. This leads to the challenge of addressing power dynamics prevalent in the associated stakeholders of the project (insight from experts).



## **6.5 Long time horizons**

Another challenge for conducting MEL frameworks is the need for extending the iterative process for longer periods of time not only due to the uncertainty and long-term nature of climate change, but also because of adaptation outputs manifest over long-time horizons (Dinshaw et al., 2014; Fisher et al., 2015; Government of the Republic of Fiji, 2020; STAP, 2017). Also, looking at how adaptation builds resilience and how robust it is over time can be difficult (insight from experts). This highlights the challenge for defining “success” of adaptation interventions as well as assessing short and mid-term measures advance (Dinshaw et al., 2014; Fisher et al., 2015).

In addition, adaptation results are limited to time programs and projects execution and funding which is a challenge for MEL conduction over a long time but also for integrating the lessons learned and contribution or leaning farther off a project's terms (Smith & Anderson, 2014; STAP, 2017).

## **6.6 Learning**

Tracking learning from monitoring and evaluation processes at project level can generate challenges for implementing changes in targets of measures and methodologies for their conduction. In this way, there are risks for: (1) successfully achieving the inclusion of changes during MEL process; (2) Deliberating the main focus of the project and data collection for assessing indicators (Commonwealth, 2020). Further, feeding of information/data available at different scales into the decision making is not clearly visible when there are no clearly defined actions/responsibilities for translating into ‘learning’ (insight from experts).

Moreover, evaluation of knowledge is harder than the evaluation of adaptation, leading to difficulties in tracking the impact of knowledge. This will further affect the type of the knowledge product produced (insight from experts).

Methodologies, practical concepts and knowledge evolution in MEL approaches for climate change adaptation as well as application inconsistencies generate limitations for its procedure and for those who are conducting it (Mills-Knapp et al., 2019). Additionally, capacity building with respect to knowledge exchange is crucial. Knowledge exchange and learning should happen at the same time for effective tracking (insight from experts).

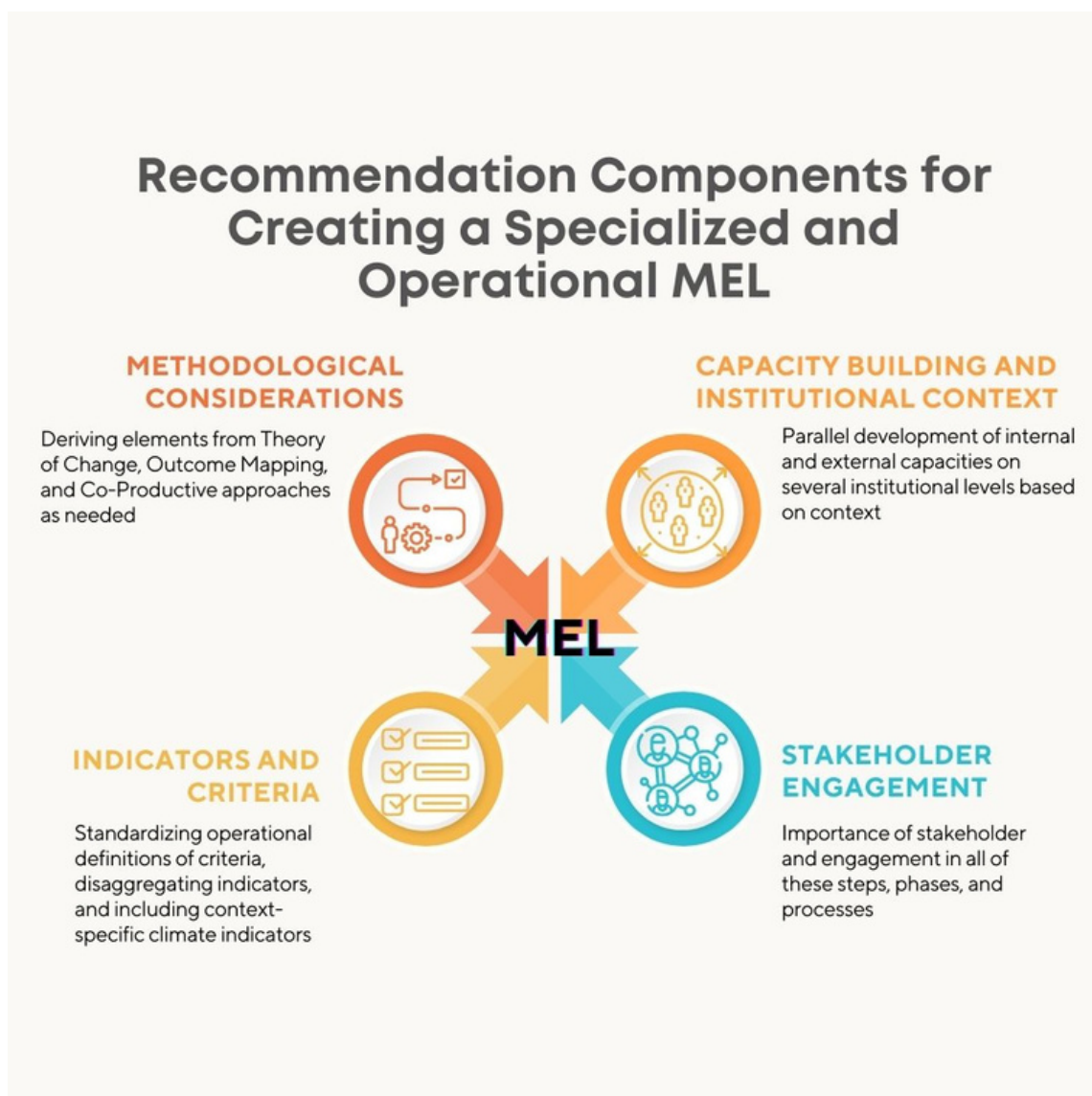


An aerial photograph of a lush green valley with terraced rice fields. The terraces are filled with water, reflecting the sky, and are surrounded by dense tropical forest. The terraces are arranged in a series of steps down the hillside, with some areas showing young rice seedlings. The overall scene is vibrant and verdant, with various shades of green dominating the landscape. Power lines are visible in the upper portion of the image.

# 7.0 RECOMMENDATIONS



In this section, the main recommendations are summarized based on the lessons learned and key takeaways from the literature review, comparative assessment, and the expert interviews (Figure 9). This is further supplemented with a collection of additional resources for future consideration in the development and deployment of MELs (Appendix 05).

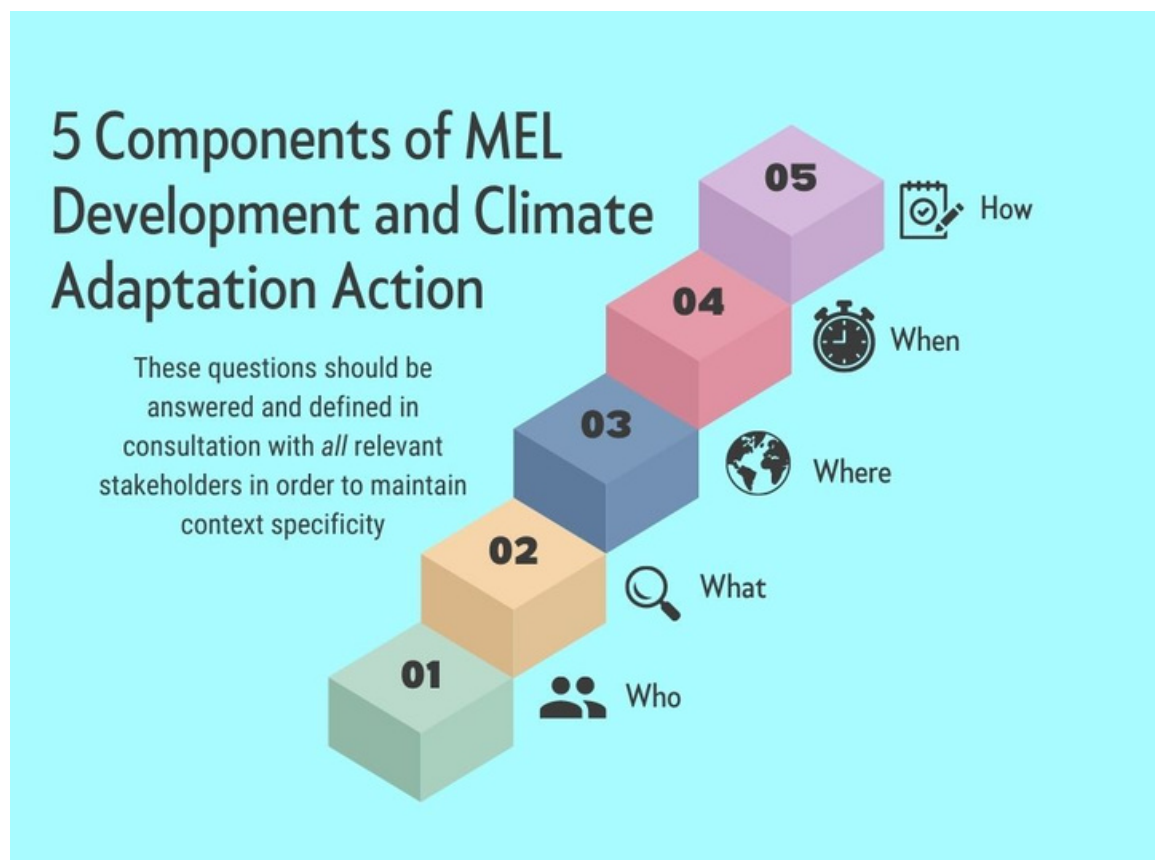


**Figure 9.** Recommendation components for creating a specialized and operational MEL



## 7.1 Methodological Considerations

There is no 'one-size-fits-all' framework or approach for MEL, so drawing elements from ToC, OM, and Co-Productive approaches and applications is recommended for the development of a specialized and operational MEL (Klostermann et al., 2018; Smith et al., 2019; Uitto et al., 2017; Pringle, 2011). If an organization or target user has yet to develop or employ the use of any MELs in their work, then they have yet to address and define their objective/purpose, how they want to quantify and evaluate the outcomes and results of their efforts (Figure 10). This allows them the freedom to develop a specialized MEL that can incorporate the relevant frameworks, processes, guidelines, and tools from more than one approach and application as needed to best suit their goals and operation. However, regardless of the methodology or methodologies used and developed by a target- or end-user, their MEL must include the use of scientifically approved data collection and analysis practices (for both qualitative and quantitative data), ensuring their operations are unbiased, independent, and transparent so the credibility of their knowledge products and results cannot be called into question (Klostermann et al., 2018).



**Figure 10.** The five Components of MEL Development and Climate Adaptation Action



The Theory of Change is best suited to monitor, evaluate, and actualize adaptation pathways and development activities (Butler et al., 2016). For some projects, simply measuring success based on the number of projects active in a specific region, sector, or thematic area regardless of how effective they are, may be sufficient for certain stakeholders. However, many projects have shifted their approach to define and measure success based on a metric or degree of 'change' through the Theory of Change approach. This has been found to be much more effective when evaluating the impacts of climate adaptation actions since 'change' as a criterion is both general enough and specific enough (when defined by project context) to assess impacts and maintain framework flexibility. The ToC's ability to quantify and assess the degree or amount of change in relation to the types of direct and indirect impacts observed as a result of the actions taken, activities conducted, and interventions used, in any given context makes it well suited for inter-organization, -project, or -program comparison and analysis, regardless of the region, scope, and thematic area focused on.

Research focusing on climate adaptation through adaptive co-management pathways[8] (this area of work would fall under the community-based adaptation thematic area of the NWP and their partner's work) conducted in Indonesia found that the Theory of Change is best suited to monitor, evaluate, and actualize these adaptation pathways and development activities. While traditionally deployed on national scales, this study found it was still applicable for work conducted in rural communities in part because of its flexible structure, its inclusion of stakeholder voices in the development, planning, and reviewing phases, and its ability to enable the co-development of policy while implementing and improving adaptation actions taken (Butler et al., 2016).

The European Union's Global Climate Change Alliance (GCCA) initiative also recommends the ToC approach to structure the order of a project and the pathway from inputs to impacts as it provides a "non-linear way" to consider what changes are happening while identifying the "underlying dynamics and assumptions" about the how and why these changes are happening (Smith & Anderson, 2014, p. 3). This aspect of the ToC, and its ability to strengthen "dialogue and cooperation on climate change" between and within developed and developing nations, further exemplifies why it should be included in cross-sectional and transboundary MELs (Smith & Anderson, 2014, p. 3).

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[8] Adaptive co-management is the "manifestation of adaptive governance tailored to the stewardship of complex social-ecological systems" through iterative learning processes, knowledge generation, problem solving, power-sharing, and negotiated decision-making. It requires multi-stakeholder collaboration in order to match the ecological scales and dynamics of the system. Under this system, adaptive capacity is defined as the potential for actors to respond and create changes within said system (Butler et.al., 2016, page 2).



In Australia, the Future Drought Fund (FDF) utilizes ToC to strengthen drought preparedness and resilience for farm businesses and rural, regional, and remote communities. Despite this project encompassing a large variety of thematic areas (agriculture, disaster risk reduction, community-based adaptation, and water resources), the use of ToC and logic modeling allows for nationalized, evidence-based understanding of changes in drought resilience on economic, environmental, and social scales (Commonwealth, 2020).

Outcome Mapping approaches, especially those utilized within the CCAA framework, is recommended as a model of reference for MELs already developed that will focus on the improvement of developing nations' capacities for climate adaptation action and research. The CCAA framework and program was developed to address a variety of thematic areas relevant to the climate adaptation action, including agriculture, health, energy, disaster risk reduction, water resources, coastal areas, ecosystem-based adaptation, and rural or urban community-based adaptation actions and interventions. It was also developed in such a way that it can be applied to the program, project, and boundary partners' (or beneficiaries) levels simultaneously, which international organizations should strive to incorporate in their MELs so they can conduct cross-sectional and transboundary comparative evaluations between projects (IDRC & DFID, 2007, 2012).

Co-Productive approaches and methodologies are best suited to address identifying knowledge gaps, and creating and disseminating knowledge products in an inclusive, collaborative, and flexible process to improve the use and uptake of knowledge that led to effective action. The WISER-FCFA framework is a good reference when designing an MEL that can take climate data and action to turn it into knowledge products. It is deployed in a variety of different contexts and thematic areas, each of which can serve as a useful resource for reference and guidance when comprehensively analyzed.



## 7.2 Indicators and Criteria

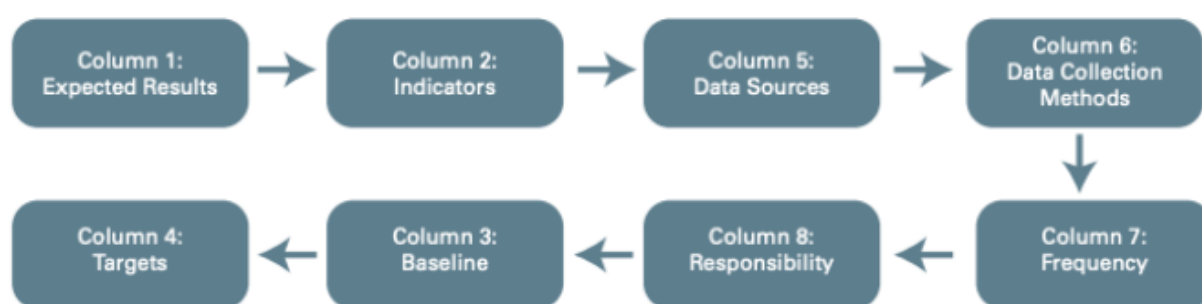
For this section, indicators are defined as signals, facts, or units of measure that illustrate change in relation to a planned result (African Union Commission & AU Department for Social Affairs, 2020). Indicators must always be neutral: they should not specify the direction of change desired, nor should they include a target (see Figure 11). MEL frameworks can be designed to incorporate both quantitative and qualitative indicators, each of which has the unit of measurement, unit of analysis, and context identified, listed, and defined (African Union Commission & AU Department for Social Affairs, 2020).

- Quantitative indicators provide the numerical data (“number of,” “frequency of,” “percent of,” or “average of”) and
- Qualitative indicators provide data about perceptions, attitudes, or judgments (“type of,” “extent to which,” “level of,” or “quality of”)

Because program outcomes, results, and impacts can differ across categories of people, place, and other such variables, it is recommended to break down or disaggregate the indicators to provide more information about the who or where said information comes from and how it was collected (African Union). Examples of such disaggregation could include breaking down the results by categories of sex, age, location, income level, role, or other such characteristics relevant to what is being measured, evaluated, or assessed. This is where benchmarking is sometimes required in order to define the criteria used to determine the standard for assessing an indicator and rating levels to categorize the degree of change, performance, type of impact, etc (African Union, TAMD). For example, indicators formulated in terms like “quality of,” or “degree of,” or “extent of,” need a benchmarking scale such as “high, moderate, low,” with criteria to define each rating (see Figures 11 and 12).

**Figure 11**

*Order to complete the Performance Measurement Framework*



Note: this graph shows the order in which PMF is best completed. Retrieved from African Union Commission & AU Department for Social Affairs (2020) ([https://au.int/sites/default/files/documents/39733-doc-jlmp\\_mel\\_framework\\_eng\\_2\\_dec\\_6a.pdf](https://au.int/sites/default/files/documents/39733-doc-jlmp_mel_framework_eng_2_dec_6a.pdf))





**Figure 12**  
*Performance Measurement Framework Template*

| Expected Results        | Indicators | Baseline | Targets | Data Sources | Data Collection Methods | Frequency | Responsibility |
|-------------------------|------------|----------|---------|--------------|-------------------------|-----------|----------------|
| Ultimate Outcome/Impact |            |          |         |              |                         |           |                |
| Intermediate Outcomes   |            |          |         |              |                         |           |                |
| Immediate Outcomes      |            |          |         |              |                         |           |                |
| Outputs                 |            |          |         |              |                         |           |                |

Note: This image depicts a sample of JLMP MEL framework indicators. Retrieved from African Union Commission & AU Department for Social Affairs (2020) ([https://au.int/sites/default/files/documents/39733-doc-jlmp\\_mel\\_framework\\_eng\\_2\\_dec\\_6a.pdf](https://au.int/sites/default/files/documents/39733-doc-jlmp_mel_framework_eng_2_dec_6a.pdf))

One major takeaway from this research is the importance of standardizing the operational definitions of certain key criteria across all levels of action. Each project and organization may add additional criteria when designing their MELs, but criteria such as success, effectiveness (specifically proven effectiveness), efficiency, relevance, coherence, equity, impact (positive and negative), equity, and fairness must be included (African Union Commission & AU Department for Social Affairs, 2020). The process for identifying and defining these terms should be done through stakeholder consultation, making sure to keep the who, what, where, when, and how questions of consideration in mind during discussions. By allowing project actors to select their own indicators (i.e. thematic area, regional, environmental, economic, financial, social, political, cultural, technical, and climatic indicators/factors) their MEL will be applied within, context specificity is ensured and uncertainty is minimized. See Appendix 4 for reference on how one program defined these criteria.

When designing an MEL specifically for climate adaptation, mitigation, or resiliency projects and interventions, it is that climate change indicators for M&E are included (Brooks et al., 2014). Incorporating climate change indicators (climate hazard indicators, relevant to the thematic area and environmental context (scope, region, etc.) of the intervention can help minimize uncertainty and establish a baseline for benchmarking and assessment. For example, an adaptation intervention geared towards drought resiliency in Indonesia would not use the same climate indicators in their MEL as an intervention geared towards afforestation in Siberia, though there could be some overlap. See Resources for Future Consideration chapter.

Stakeholder engagement for indicator identification, especially from actors operating at the more regional, local, and community levels, can be particularly useful since they may already have a knowledge product(s) in the forms of pre-existing climate change research or adaptation action, academic, local, or indigenous knowledges that can be used to streamline this process and ensure context specificity. Stakeholder inclusion within an MEL framework and adaptive action plan can ensure a more seamless implementation of the MEL framework in tracking, assessing, and learning, and continuity of desired adaptation measures (policies and actions) in the region.



## 7.3 Capacity Building and Institutional Context

The institutional context of where a climate adaptation intervention is deployed is a crucial element to consider when developing an action plan and MEL framework. For this section of recommendations, *institutional context* is defined as the amalgamation of the stakeholders involved (actively and passively), scope (regional, local, community, national, sub-national, international, etc.) it is applied within, the political, social, and financial, factors, and institutional processes or capacities that impact the who, where, when, why, and how a project or program is planned or actualized. It should be noted that society as a whole, and academic factors such as technical feasibility are included in this definition.

The Theory of Change and Outcome Mapping approaches both include components in their frameworks that can simultaneously map out and assess the internal and external capacities actors have to carry out adaptation actions and actualize project goals. It is incredibly important to assess the institutional capacity (both internally and externally) when planning climate adaptation actions.

- **External capacity:** the capacity of the institutions operating as a separate body from the organization/community/ program/project conducting an adaptation action (i.e. the financial capacity a government has to fund climate adaptation interventions, the capacity of a community to adopt an intervention practice, etc.)
- **Internal Capacity:** the institutional capacity within the organization/community/program/project conducting an adaptation action (i.e the capacity of the framework itself to properly monitor and evaluate, or an organizations' capacity to effectively manage its projects and meet budget requirements)

If a program designs an intervention they do not have the ability to manage in the long-term, or design an intervention without considering its long-term sustainability where it is used, then resources are not being effectively used and the intervention cannot be deemed successful. Understanding institutional capacity and identifying institutional failures and gaps in knowledge has large implications on how successful, effective, efficient, and sustainable a climate intervention or program might be, which is why the use of ToC and OM to identify these pathways is highly recommended. The parallel development of the MEL's capacity to track and assess with institutional capacity development (for addressing climate hazards, adaptive capacity, resiliency, vulnerability, etc.) further enhances the adaptability and resiliency of the organization and intervention action; having a solid institutional foundation is the key to the long-term sustainability and longevity of climate adaptation action.





# 8.0 LIMITATIONS



## 8.0 Limitations

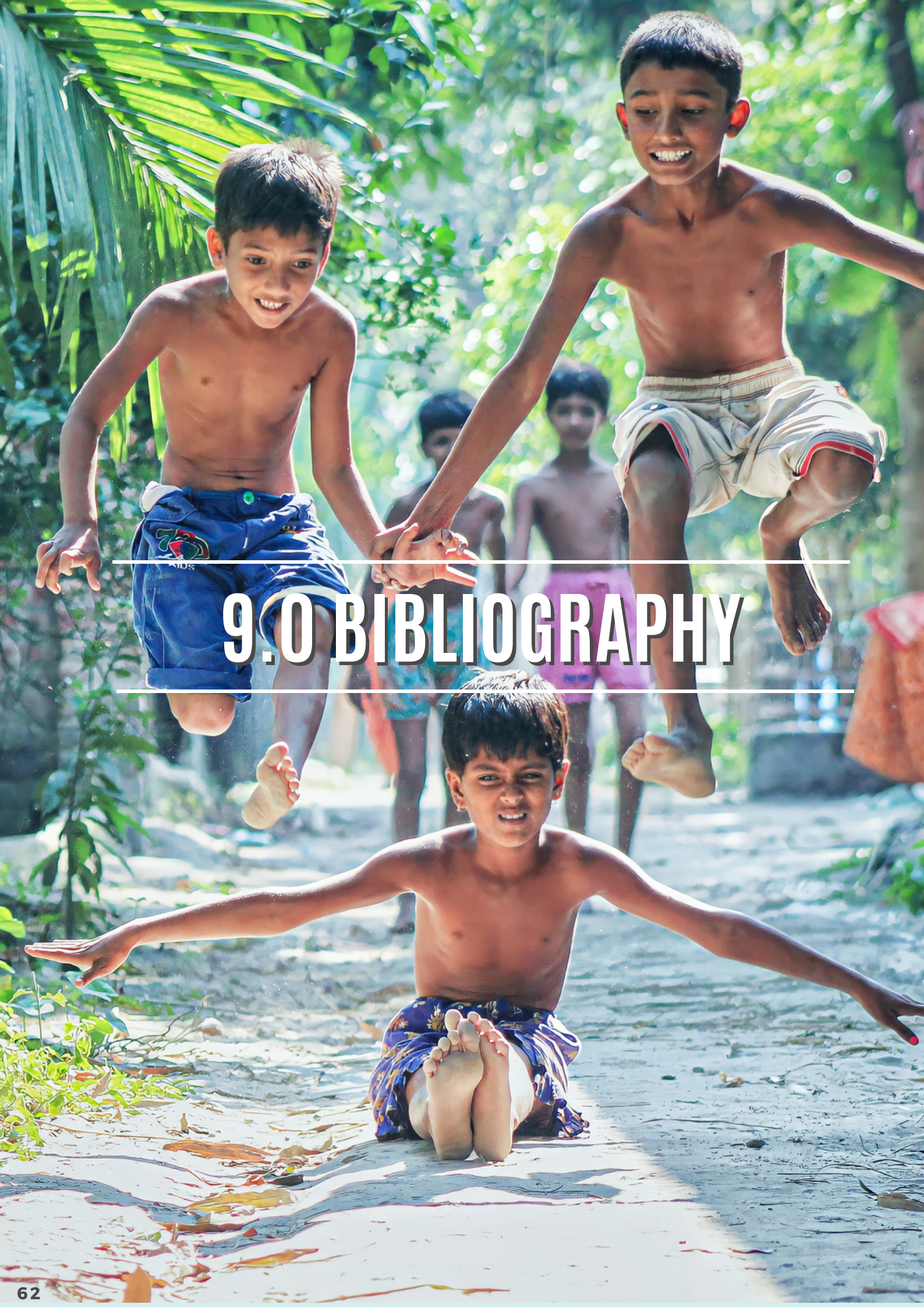
Limitations of the project can be broadly discussed under the major steps of the utilized methodology. For literature review to address the challenge of covering a broad scope, and diverse set of thematic areas and geographical regions in limited time a 'snowball' method was used to identify relevant literature. Once an important publication was found, the literature cited in that publication was scanned in search of other relevant literature. This while streamlining the search of literature, could have possibly led to missing out on some domains. Furthermore, the broad definition of the selection criteria for literature, as well as the use of Google as the main search engine (due to the extensive inclusion of gray literature) while maintaining traceability perhaps limit the replicability of the study. At times, the applicability of literature was hard to define due to use of terminology other than MEL, as well as the inclusion of disparate thematic areas, other than climate change adaptation. Finally, due to time constraints, publications were often read and analyzed by one or two members of the group, possibly leading to inter-coder bias affecting the inclusion and highlighting of certain information.

With respect to stakeholder engagement, it was planned to interview 13 experts researching and/or working with MEL frameworks in different contexts. However, due to time constraints five experts were interviewed, four of which were primarily researchers with experience in application of MELs, target users and stakeholders from other domains (governments, policymaking, etc.) were not interviewed, due to the prevailing time constraints, inability of selecting target users/target users not being approachable on a short notice. Inability to have a fair distribution of different perspectives can be considered as a limitation; continuous contact with NWP team minimized this issue to a certain extent, as they have knowledge of the requirements and perspective of target users.

MEL frameworks in the context of climate change and adaptation have been widely applied, in different thematic areas in different geographical regions. Therefore, drawing elements from these diverse MEL frameworks itself is a limitation. Furthermore, certain MEL frameworks already have been applied in areas not relevant to climate change but in other areas such as education and human health. Though some elements from these frameworks are applicable in developing a MEL framework, under this project, these were not considered. Partially defined selection criteria for tools, approaches and frameworks can be considered as another repetitive limitation throughout the project.

Lastly, there is a high degree of ambiguity and uncertainty on how applicable the arbitrary recommended framework would be in practice, especially given the lack of highly specified context factors that were considered during the comparative assessment. Furthermore, extrapolating components from vastly different applications to suit a different field of focus is incredibly theoretical, thus limiting the amount of evidence to back up how effective such actions and methodologies might be. Future research is encouraged to look further into the application of our recommendations in specific thematic areas and intervention actions.





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# 10. APPENDICES



## ***Appendix 01: List of Experts Interviewed***

| Name                                | Comments on the Expertise   | Contact Info  |
|-------------------------------------|---|---|
| Wout Sommerauer                     | Supervisor<br>for our project, his PhD work involves working with MELs (Pathways design and appraisal<br>for a high-quality climate resilient living environment; part of the CASTOR project)   | wout.sommerauer@wur.nl  |
| Edward Sparkes                      | Works in climate change adaptation, focused on climate resilient development, vulnerability & pathways (Risk Management & Adaptive Planning (VARMAP) at United Nations University; experience with MELs, worked on UN's HI-PATH project | sparkes@ehs.edu.nl  |
| Arjuna Srinidhi                     | Worked<br>on recommendations for M&E & economic valuation, in climate adaptation contexts (mostly India); currently working on climate resilience assessment framework. Colleague of Wout's & Ted's, works at WUR                       | arjuna.srinidhi@wur.nl  |
| Kaia Ambrose                        | M+E<br>specialist working in international development contexts, a lot of experience with outcome mapping   | kaia_ambrose@yahoo.ca   |
| Representatives from the World Bank | Neha Sharma is Senior Evaluation and Learning Specialist at CIF. Loreta Rufo is a Climate Change Specialist for the PPCR. Dr. Xianfu Lu is Senior Strategist and Outreach Specialist at CIF.  | Loreta Rufo<br>lrufo@worldbank.org<br><br>Neha Sharma<br>nsharma10@worldbank.org<br><br>Xianfu Lu<br>xlu3@worldbank.org |

## ***Appendix 02: Expert Interview Questions***

Please answer these questions according to your expertise and experience. If you feel you would rather only partially address these questions, also due to time constraints, please feel free to share partial answers.

1. How often have you encountered monitoring, evaluation (and learning) i.e. MEL frameworks or tools (or similar) in the context of climate adaptation/resilience/capacity building, or sustainable development, in your work? Can you provide us a list of projects you've participated in that have used MEL methodologies/frameworks/tools and what scale they were applied in (regional, national, or subnational)?
2. What are the main hurdles or challenges that commonly come up for users at the regional, national, and subnational governance levels? What do you think are the main challenges in measuring/tracking the actions taken and their impacts? [Focus specifically on end users]
3. What evaluation criteria have you seen utilized and which do you view as most important to consider (both academically, and politically)
  - a. Effectiveness
  - b. Efficiency
  - c. Number of Actions Taken
  - d. Evidence of Change due to Actions taken
  - e. Other: (please specify)
4. What can you say has and/or hasn't worked in the application, use, and/or production of MELs and why? (good and/or bad practices, success and/or failure stories, experience with policy uptake and application of, do's and don't's, etc.) Could you make some recommendations of tools/approaches to prioritize or avoid?
5. We have identified potential challenges that are relevant to our work. Can you address the following points and provide your opinion (i.e. difficulty, importance, utility, observations, overcoming, etc.) on them?:
  - a. Defining and establishing a baseline
  - b. Linking uptake of knowledge products (by actors/users) to improved adaptation
  - c. Some good indicators that are often used in MEL frameworks
  - d. Some features of good indicators
  - e. Acknowledging uncertainty, analyzing and communicating it



## ***Appendix 02: Expert Interview Questions (continued)***

1. What would you say regards to co-creation of knowledge products (i.e. stakeholder engagement)
  - a. In which stages is it most important (design, testing, evaluation, dissemination)
  - b. Main challenges in this (eg. language barrier)
  - c. What can be done to address challenges, AND
  - d. Specifically, how an MEL framework may be used to ensure this and have an optimal level of engagement for each stage
  - e. Dealing with expectations of stakeholders
1. How flexible should the approach/mechanism be - how should we balance standardized approach (to have comparability), and accounting for context specificity?
1. Is the overall approach (of using MEL frameworks) for tracking impact of knowledge products on climate adaptation missing something? OR Does it have any limitations?
1. Can you further elaborate on following questions on the impact of knowledge products, in the context of projects you worked on?
  - a. How were the end users identified & incorporated into MEL design process
  - b. who is actually doing the tracking of impact, whether it was one organization or many organizations
  - c. How would it work in case of multiple organizations
  - d. Was it an iterative process or not

### ***Appendix 03: Initial questions provided by the NWP for the comparison of MEL frameworks, tools, and approaches***

1. How does the MEL framework used identify the desired result of the climate change adaptation practice?
2. How does the MEL framework used identify the temporal dimensions of the climate change adaptation practice?
3. How does the MEL framework used identify the spatial dimensions of the climate change adaptation practice?
4. How are important/relevant stakeholders identified and included within this framework/tool/methodology?
5. What are the relevant features of this framework/tool/methodology regarding the uptake of knowledge?
6. How has the MEL framework facilitated scaling up and partnerships for the particular practice, if others were to emulate them?



## Appendix 04: Evaluation criteria for the JLMP

| Criterion       | Definition   | Potential Key Evaluation Questions  |
|-----------------|--|---|
| Relevance       | Extent to which the intervention is aligned with the needs, priorities, and policies of target groups, donors, partners, and other stakeholders  | <ul style="list-style-type: none"> <li>To what extent are the priorities and objectives of the JLMP still valid?</li> <li>To what extent do JLMP outputs and outcomes meet the needs of beneficiaries, RECs, national governments, donor partners and other stakeholders?</li> <li>Are JLMP programme activities and results aligned with global and regional labour migration objectives?</li> </ul> |
| Coherence       | The extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa. Includes internal coherence and external coherence.                           | <ul style="list-style-type: none"> <li>Are JLMP efforts complementary to others across the continent?</li> <li>Are JLMP initiatives harmonised and coordinated with others?</li> <li>To what extent are the interventions adding value while avoiding duplication of effort?</li> </ul>   |
| Effectiveness   | The extent to which an aid activity attains its objectives.  | <ul style="list-style-type: none"> <li>To what extent has JLMP achieved planned outputs and made progress towards the outcomes defined in the results framework?</li> <li>Has the JLMP produced any unexpected or negative results?</li> </ul>  |
| Efficiency      | Cost effectiveness of outputs in relation to the inputs, usually in comparison to other possible approaches.   | <ul style="list-style-type: none"> <li>How cost effective has the JLMP's outputs been?</li> <li>Were objectives achieved on time?</li> <li>Was the JLMP implemented in the most efficient way compared to alternatives?</li> </ul>  |
| Impact          | Positive and negative changes in higher order social, economic, environmental, or other development indicators linked to a development intervention, directly or indirectly, intended or unintended. | <ul style="list-style-type: none"> <li>To what extent has JLMP contributed to improving labour migration management in Africa?</li> <li>How many migrant workers and their families, RECs, social partners have benefited as a result of JLMP interventions?</li> </ul>   |
| Sustainability  | How likely are intervention benefits to continue after donor funding has been withdrawn? Projects need to be environmentally as well as financially sustainable.                                     | <ul style="list-style-type: none"> <li>How sustainable are the capacity and other improvements associated with JLMP?</li> <li>What measures are in place to ensure the environmental, social, and financial sustainability of these results?</li> </ul>   |
| Gender equality | Extent to which gender equality and equity considerations are integrated across an intervention.   | <ul style="list-style-type: none"> <li>To what extent have JLMP's activities and outputs ensured meaningful participation and benefit of both men and women equally?</li> <li>To what extent have JLMP's activities addressed barriers to women's access to and control over decision-making, resources, and benefits?</li> </ul>   |

Note: this image shows examples of evaluation questions. Retrieved from African Union Commission & AU Department for Social Affairs (2020) ([https://au.int/sites/default/files/documents/39733-doc-jlmp\\_mel\\_framework\\_eng\\_2\\_dec\\_6a.pdf](https://au.int/sites/default/files/documents/39733-doc-jlmp_mel_framework_eng_2_dec_6a.pdf))

## **Appendix 05: Relevant Resources for further reference**

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## Appendix 06: Note on double and triple-loop learning

As highlighted by Taylor et al. (2022), MEL approaches that are overly focused on narrow accountability criteria can often prioritize efficiency over effectiveness and equity, leading to a focus on single-loop learning (i.e., whether the plan was implemented well) over double-and triple-loop learning (reflecting on whether the design was appropriate in the first place). Assessment of effectiveness is further challenging due to definitions of success in adaptation, and according to whose perspective, as highlighted earlier in the paper. Standard MELs can also de-emphasize consideration of the differences in power relations and how they affect knowledge production and learning. MELs can remain focused on implementers showing they did their jobs well within the confines of a project's boundaries, and that the opportunities for more systematic (double and triple loop) learning about effectiveness and equity are deprioritized. This is often compounded at the institutional level if there is no mechanism to assess, reflect on and use project learning to inform approaches going forward (Taylor et al., 2022). While all organizations do learn; what is learned, based on what information and whose criteria of success, depends on which stakeholders' voices are heard and given priority. Hence, accountability to beneficiaries and effectively fostering double and triple-loop learning – both must be constructed through specific institutional practices. Below are some resources for further insights on double and triple-loop learning, and how institutional changes can foster the same.

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# Review and Comparative Assessment of Monitoring, Evaluation and Learning (MEL) frameworks:

Developing recommendations for monitoring and evaluating actions for target knowledge  
users to scale up adaptation action in countries

**Nairobi Work Programme | UNFCCC**  
UN Climate Change and Universities Partnership Programme  
Wageningen University & Research (WUR)





01

## About this project

Purpose  
Target audience  
Goal  
Methodology

02

## Body of knowledge

Definition  
Main features  
Relevance  
Challenges  
Insights from stakeholders

03

## Comparative Assessment

Approaches  
Applications  
Relevant features for uptake of knowledge

04

## Recommendations

Key features & lessons learned



# Presentation Outline

MEL frameworks





# 01. About this project





# Review and Comparative Assessment of MEL Framework

Identifying relevant MEL frameworks and tools that could be applied to systematically measure the impact of, amongst others, NWP knowledge products on the implementation and scaling up of adaptation action

## Goal

This project aimed to contribute towards the development of an effective systematic MEL framework to measure the impact of knowledge products on the implementation of adaptation action at different scales, over time

## Purpose

WHAT

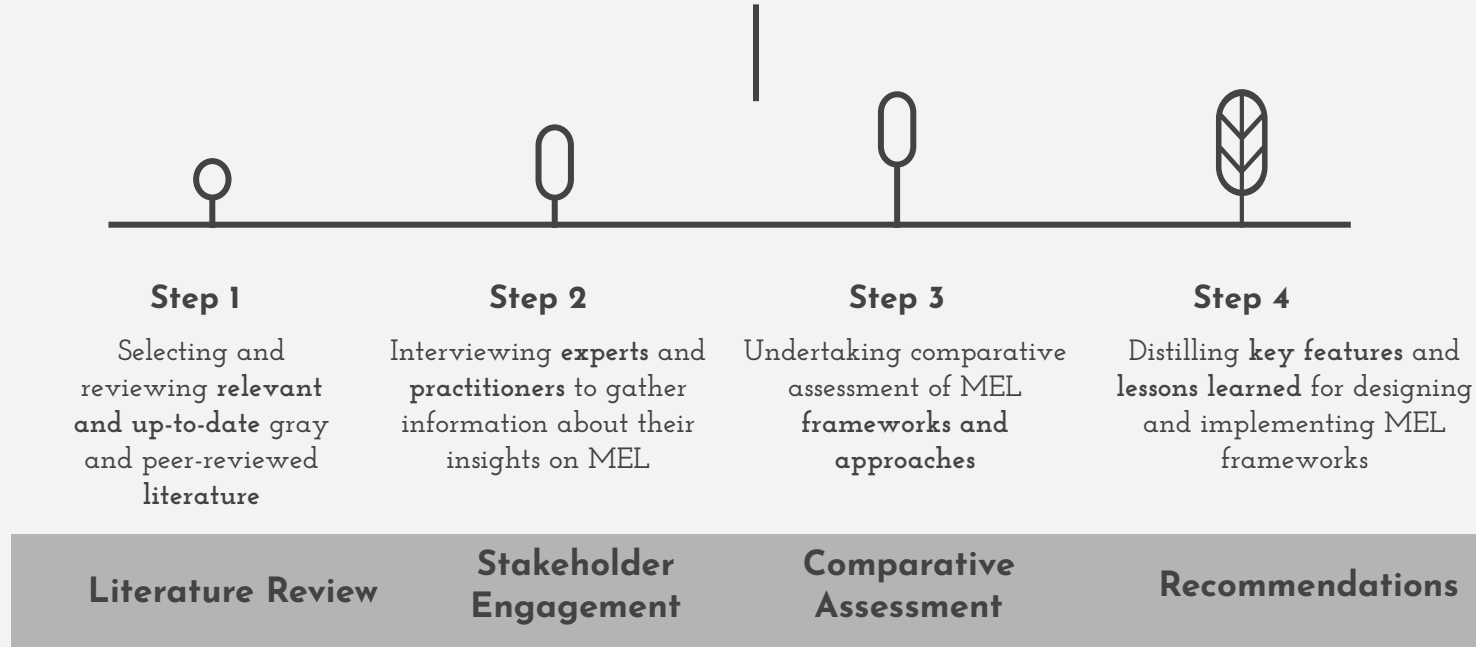
WHO

WHY

Practitioners working in the field of climate change adaptation

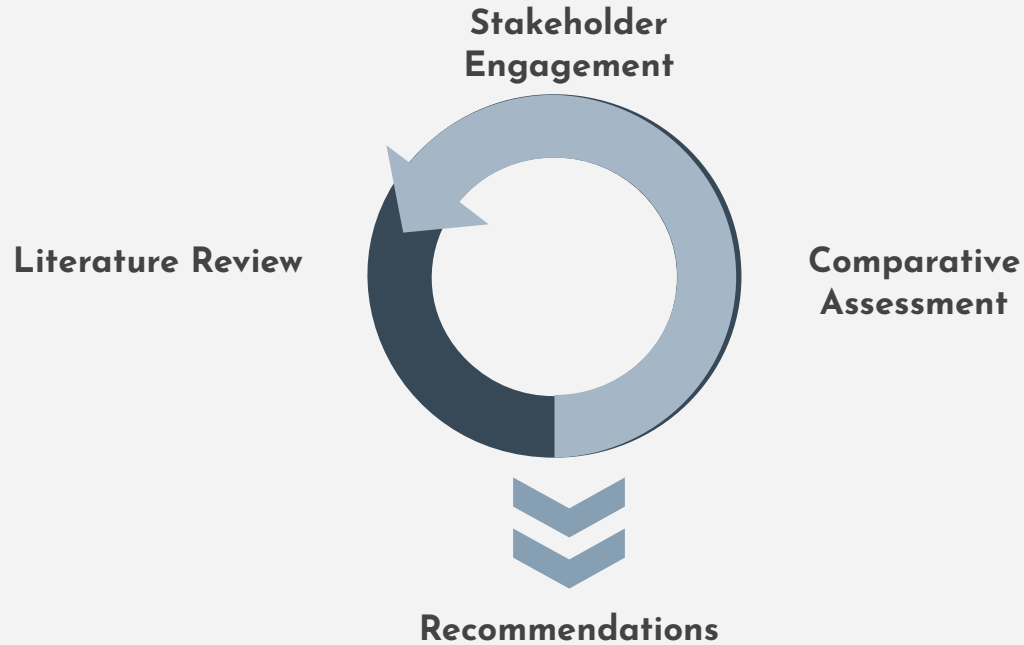
## Target audience

# Methodology





# The Process



## 02. Body of knowledge





# MEL Definition



There is **no universally accepted** definition [32]

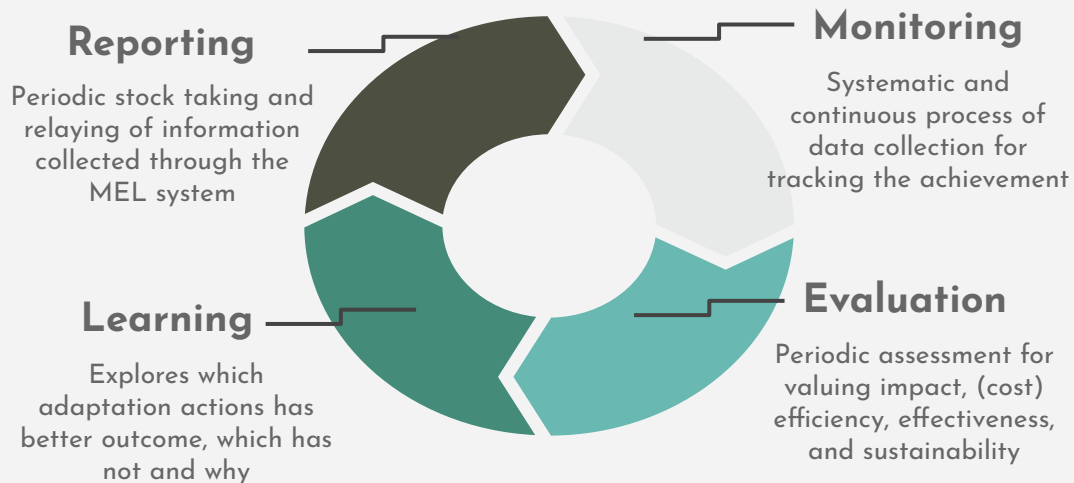


Terminology for **MEL process** and **related systems varies** [2]



There is no **'one-size-fits-all'** [19, 25, 28, 35]

MEL refers to a **set of processes** by which an **intervention is assessed** at different stages of implementation, for different purposes, in a manner that promotes continuous learning [10, 28]



[9, 10, 28, 32, 35, 36]

# MEL

## Relevance

- Integration **across sectors, geographical scales**, and through time
- **Participation, inclusion** and community learning
- Supporting governments in planning and **decision-making processes**
- Identifying **investment priorities** at portfolio-level

[2, 9, 10, 15, 25, 28, 31, 43]

## Main Features

- **Definition** of the **context** of the MEL system
- Identification of the **content to be monitored**
- Design of the **operationalization process**
- Establishment of **strategies to communicate the results**, in line with the **purpose** of the MEL system.

[3, 10, 19, 25, 28, 35, 43]

## Challenges

- Stakeholder **engagement**
- Limited **resources** (time, data, financial and technical)
- **Uncertainty** of climate change, shifting baseline and targets in the future
- Assessing **attribution**
- MEL frameworks over **long time horizons**
- Tracking **learning**
- Connecting MEL **across scales**  
[1, 3, 4, 6, 8, 10, 11, 12, 15, 17, 18, 19, 21, 22, 27, 32, 33, 34]

**02. Body of knowledge**



# Insights from Stakeholders



## Use of MEL

- Covering diverse areas
- Intersectionality
- Recommendations of frameworks or tools
- Shift towards learning

## Indicators & Criteria

- Differ widely
- Importance based on context
- Key features
- Efficiency (transformational change vs policy)
- "SMART"/Flexible/Adaptive indicators

## MEL challenges

- Development & Application
- Interaction/ communication across scales
- Measuring & tracking
- Capacity building

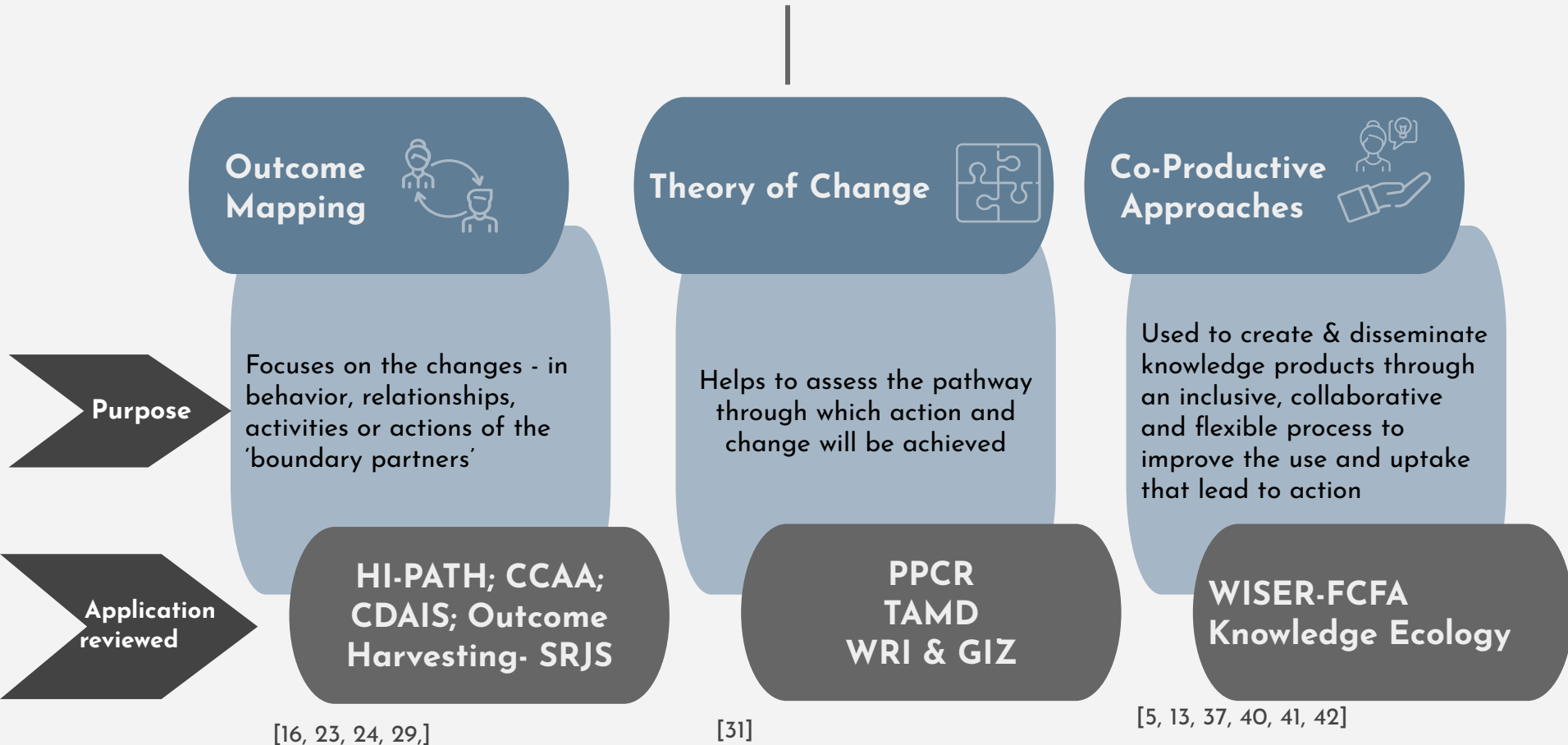


# 03. Comparative Assessment






# MEL Approaches




# Outcome Mapping

|  | <b>HI-PATH<br/>Project</b> [30,38]   | <b>CCAA</b><br>[17,18]  | <b>CDAIS</b><br>[2,31]   | <b>OH - SRJS</b><br>[14,39]   |
|---|--|---|--|---|
| <b>Purpose/<br/>Context</b>   | upscaling of livelihood innovations to influence resilient development and policy          | capacity development for climate change adaptation in Africa                    | For agricultural innovation system intervention  | capacity building for conservation of ecosystem-based IPGs                                    |
| <b>Features<br/>relevant for<br/>knowledge<br/>products</b>                       | co-create climate-resilient development pathways to upscale learnings into policy/practice | Participatory OM use at three embedded levels (program, project, beneficiaries) | At two levels (niche partnership, innovation system) through collaborative setting of progress markers | Tracking of distribution of outcomes across time, scales and actors                           |
| <b>Challenges</b>   | Selecting boundary partners<br>Getting representative data due to gender norms in region   | Not conducive to comprehensive M&E framework - highly qualitative indicators    | -Perception of value among stakeholders<br>-Inconsistency and reliability of data                      | Reporting bias:<br>-Variation in data<br>-Boundary partners' selective focus on some outcomes |



# Theory of Change/ Theory of Action

|  <b>Purpose/ Context</b> | <b>PPCCR M&amp;R Toolkit</b><br>[7,26]   | <b>WRI &amp; GIZ Six-step Framework</b> [31]  | <b>TAMD</b><br>[28]   |
|---|--|---|---|
| <b>Features relevant for knowledge products</b>   | <p>To track the performance of PPCR investments in countries, with a focus on ensuring progress and results in advancing climate change resilience, while fostering learning and accountability</p>                        | <p>Flexible, practical guide for designing adaptation M&amp;E systems in a development context</p>  | <p>Twin-track framework (Track 1: climate risk management; Track 2: adaptation and development) developed primarily for use at the national level</p>   |
| <b>Challenges</b>   | <p>Triangulation of data, including quantitative and qualitative (narrative-based) data</p> <p>Data availability and data rigor (addressed through triangulation), as well as definition of resilience-type indicators</p> | <p>Assessment of knowledge dissemination for the purpose of increasing adaptive capacity based on functions approach (process indicators) or asset approach (outcome indicators)</p> <p>Tensions in M&amp;E systems:</p> <ul style="list-style-type: none"> <li>• learning/ accountability</li> <li>• process/ outcome</li> <li>• practical/ conceptual</li> <li>• bottom-up/ top-down</li> </ul> | <p>Pathway approach tracking (knowledge) interventions' contribution to climate risk management, and adaptation/ development</p> <p>Main challenges in conducting M&amp;E for adaptation:</p> <ul style="list-style-type: none"> <li>• long timescales</li> <li>• attribution of outcomes</li> <li>• shifting baselines</li> <li>• contextualizing adaptation outcomes</li> </ul> |

# Co-Productive Approaches



## WISER-FCFA framework

[5, 13, 37, 40, 41, 42]

## Knowledge Ecology

[20]

### Purpose

MEL framework to support development of decentralized Climate Information Services (CIS) for improved decision making across different levels in Africa

A guiding framework for M&E of knowledge-based development initiatives

### Features relevant for knowledge products

Support for reflexive learning by project partner review meetings  
Iterative, looped learning support through strengthening CCOFs and feedback mechanisms  
Social learning through a range of resources for national and wider-level scale up

Creating a MEL system which parallels and is integrated into every step of the collective learning (which in the case of the NWP is guided by the knowledge-to-action methodology) may help appreciate the complexity presented by the multiple actors and competing agendas, and take into account the plural foundation of knowledge

### Challenges

Difficulty in embedding roles, responsibilities and capacities at national and county level meteorological offices for operationalizing MEL  
Need for increased staffing at county level meteorological offices

The focus of this framework is on comprehensive knowledge initiatives such as knowledge management for development, thus the applicability to climate change adaptation, and the diffusion of knowledge products may be limited; moreover, power relations may hinder the collaborative integration of different knowledges





# Overall comparison of MEL approaches

## Outcome Mapping

## Theory of Change/ Theory of Action

## Co-Productive Approaches

### Pros

- Capture non-linearity
- Facilitates reflexive learning
- Assigns clear responsibility of changes
- Markers for early outcomes
- Flexibility and adaptability - can operate in systems impacted by higher degrees of uncertainty
- Focused on the results and impacts - clearly linked and identified relationships between actions, outputs, outcomes, and impacts
- Early identification of initial 'impact' in terms of changes in decision-making due to joint development of MEL frameworks
- Co-creation leading to sense of ownership, making MEL activities self-sustaining beyond project cycles

### Cons

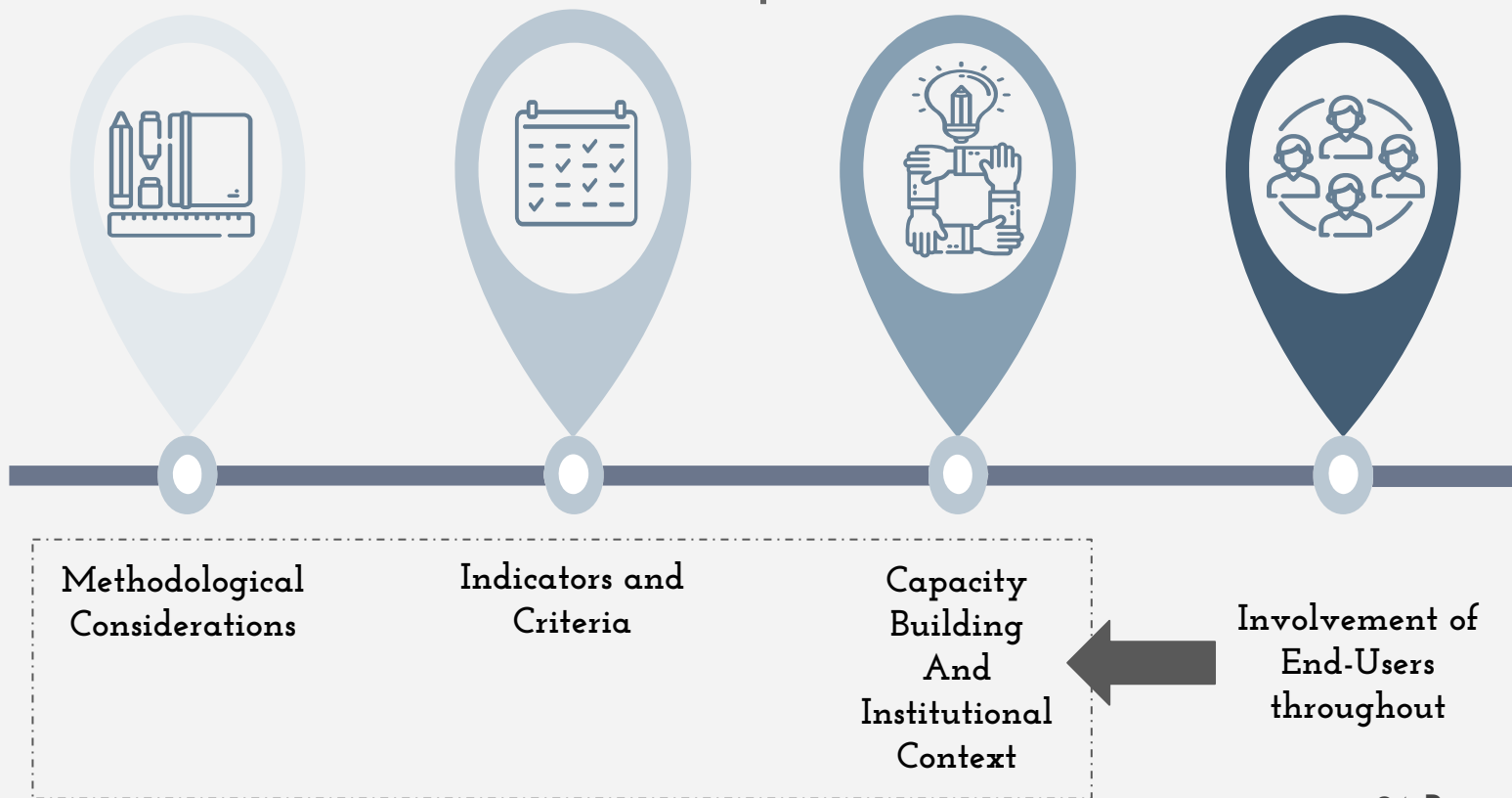
- Qualitative, and data-intensive indicators
- Pathways not defined explicitly
- Difficult to find causal links
- Slow uptake due to lack of familiarity
- Challenges in translating terminology
- Not heavily structured
- Not address directly production of knowledge outputs/products (outside of internal progress reports)
- No pre-established guidance on how to establish baselines
- Mainstreaming capacities and responsibilities for MEL within national and decentralized planning and budgeting systems can be difficult
- Sustained engagement with stakeholders whilst ensuring fair representation requires significant resources

04.

# Recommendations







# Methodological Considerations



Drawing elements from ToC, OM, and Co-Productive approaches and applications to create a specialized MEL

There is no '**one-size-fits-all**' [19, 25, 28, 35]

- Must include the use of **scientifically approved** data collection and analysis practices, ensuring their operations are **unbiased, independent, and transparent** so the credibility of their knowledge products and results cannot be called into question [19]
- **Theory of Change** is best suited to monitor, evaluate, and actualize these adaptation pathways and development activities [4].
- The **CCAA** framework, a sub-application of OM, is recommended as a **model of reference** for MELs developed that will focus on the improvement of **developing nations' capacities** for climate adaptation action and research.



# Methodological Considerations



Drawing elements from ToC, OM, and Co-Productive approaches and applications to create a specialized MEL



Context Specificity

There is no '**one-size-fits-all**' [19, 25, 28, 35]

- The **types of practices, processes, tools, and frameworks** that would be best suited for use by international organizations and target users engaging in climate adaptation actions are **largely dependent on a variety of contextual factors**
- Questions to ask: **What, Where, When, Why, Who** (by who and from whom), and **How**
- **Stakeholder consultations and conferences** in the preliminary phases of MEL development and review
- **Mapping out and assessing institutional capacity** when planning climate adaptation action(s)
  - Using: Outcome Mapping + Results + Based Management + Results Chain and Logic Model

# Methodological Considerations



Drawing elements from ToC, OM, and Co-Productive approaches and applications to create a specialized MEL



Context Specificity



'Change' as an indicator of success

There is no '**one-size-fits-all**' [19, 25, 28, 35]

- The **ToC's ability** to quantify and assess the **degree or amount of change** in relation to the types of direct and indirect **impacts observed** as a result of the **actions taken**, activities conducted, and interventions used, in any given context makes it well **suited for inter-organization, -project, or -program comparison and analysis**, regardless of the region, scope, and thematic area focused on.
- **Degree of Change** as a criteria allows for framework **flexibility and adaptability**



# Indicators and Criteria



Standardizing operational definitions of key criteria

- **Key criteria examples:** success/successful, effectiveness, efficiency, relevance, coherence, equity, impact (positive and negative), equality, fairness

# Indicators and Criteria



Standardizing operational definitions of key criteria



Climatic indicators and other context specific indicators

- **Key criteria examples:** success/successful, effectiveness, efficiency, relevance, coherence, equity, impact (positive and negative), equality, fairness
- Incorporating **climate indicators**<sup>1</sup> helps minimize uncertainty, establish a baseline, and adapt to shifting baseline conditions

<sup>1</sup>“Climate indicators should represent the hazards that are most relevant to the adaptation context being assessed, at scales representative of the processes that lead from the occurrence of a hazard to the adverse consequences that adaptation actions are intended to address. The most commonly used and cited indicators of climatic conditions - average or extreme temperature, average daily rainfall, total annual or seasonal rainfall -” [44, page 35]



# Indicators and Criteria



Standardizing operational definitions of key criteria



Climatic indicators and other context specific indicators



Stakeholder involvement

- **Key criteria examples:** success/successful, effectiveness, efficiency, relevance, coherence, equity, impact (positive and negative), equality, fairness
- Incorporating **climate indicators**<sup>1</sup> helps minimize uncertainty, establish a baseline, and adapt to shifting baseline conditions
- Stakeholders can be consulted to **provide context specific factors and indicators** to be used for both monitoring and evaluation

<sup>1</sup>“Climate indicators should represent the hazards that are most relevant to the adaptation context being assessed, at scales representative of the processes that lead from the occurrence of a hazard to the adverse consequences that adaptation actions are intended to address. The most commonly used and cited indicators of climatic conditions - average or extreme temperature, average daily rainfall, total annual or seasonal rainfall -” [44, page 35]

# Capacity Building and Institutional Context



## External and Internal Capacities

- ***Institutional context:*** the amalgamation of the stakeholders involved, scope (regional, local, community, national, sub-national, international, etc.) it is applied within and the political processes, social, financial, and institutional capacities that impact the where, when, why, and how a project or program is planned and actualized.
  - It should also be stated that society as a whole is also considered an institution in this section.
- **External capacity:** the capacity of the institutions operating as a separate body from the organization/program/project conducting and activity.
- **Internal Capacity:** the institutional capacity within the organization/community/program/project conducting an adaptation action



# Capacity Building and Institutional Context



External and Internal Capacities



Identifying Institutional failings and capacity gaps

- MEL Frameworks are able to **identify gaps in institutional capacity** that may affect how successful or efficient a climate intervention or program deployment might be **(ToC, OM)**
- A **common institutional failure** is the **lack of knowledge production and accessibility** → can be addressed through Co-Productive methodologies, critical thinking development workshops, translating and re-imagining technical information for downstream dissemination, conferences, etc.

# Capacity Building and Institutional Context



External and Internal Capacities



Identifying Institutional failings and capacity gaps



Prioritizing capacity development and institutional improvement

- **Parallel development of the MEL's capacity** to monitor and evaluate with institutional developments to enhance climate adaptability and resilience → **long-term sustainability**



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# Thank You!

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