



Ensuring quality of research for development

The MELIA system



The CGIAR Research Program on Forests, Trees and Agroforestry (FTA) is an integrated global research initiative that aims to enhance the use, management and governance of forests, agroforestry and tree genetic resources as a way to improve livelihoods and the integrity of the environment. To test methods, approaches, partnerships and engagement strategies, and to seek the most effective means of achieving positive change, the program uses an innovative system to ensure the quality of its research, to monitor, evaluate and assess the outcomes (defined as changes in technical, social and economic behavior) and impact (defined as changes in actual environmental quality and human wellbeing) of its work.



RESEARCH
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What is MELIA?

FTA's innovative and integrated system to ensure quality of research is known as MELIA, which stands for monitoring, evaluation, learning and impact assessment. It aims to:

- Encourage and build an “impact culture” within FTA;
- Ensure that FTA's work is relevant and useful;
- Guide ongoing research to maximize effectiveness;
- Provide a framework to learn from experience;
- Provide evidence that FTA's work is effective in contributing to the expected development outcomes; and
- Contribute to methodology development for evaluating research for development.

The system supports FTA's program-level prioritization and work planning as well as the program's research, engagement and capacity development work throughout the whole research cycle, from project level to program level.

The MELIA team includes monitoring, evaluation and learning specialists based in each of the three CGIAR partner centers, specialists from other partner organizations, and a growing network of external collaborators.

Ensuring quality of research

FTA uses an integrated concept of quality of research for development (QoR4D). It appreciates that scientific credibility is necessary, but that this alone is insufficient for research programs to achieve development outcomes.

The research must also be relevant to intended users, asking and answering questions that will help overcome problems and facilitate and support solutions. It must be perceived as legitimate by all stakeholders so they trust that the process and results of the research have considered and fairly reflect their values and perspectives. It needs to be effective, with appropriate methods and mechanisms to translate knowledge to implementation and use by stakeholders. High-quality research for development has high potential to contribute to significant outcomes and to positive livelihoods, food security and environmental impacts.

FTA uses this integrated QoR4D concept to guide and manage work and performance at all scales, from program to projects. The framework helps focus attention on:

- How research strategies and specific research questions are developed and defined (including who is involved and how relevance is determined);
- How FTA teams and the overall program are organized to ensure all necessary functions are performed so that research translates to intended outcomes and impact;
- Whether and how intended outcomes are being realized; and
- Whether learning systems are in place and working to support ongoing reflection, lesson-learning and improvement. It also encourages an integrated and coherent approach to program and team design.

How does MELIA work?

The MELIA system comprises:

- **A framework for ensuring “quality of research for development”** in its four dimensions within the program, given the mandate of FTA, the function of the different tools developed, and respective duties and responsibilities of the different structures and institutions involved.
- **Program-level theories of change (ToC)** that articulate the hypothesized relationships between FTA’s research, engagement and capacity development and intended results (outcomes and impacts). These are presented in narrative and diagrammatic forms to illustrate and explain how FTA works within “impact pathways”, from outputs (i.e. elements in the sphere of control of the program) to outcomes (in the sphere of influence of the program) in a way that will contribute to positive development impacts (in our sphere of interest).
- Specific, testable ToC at **activity/cluster of activity (CoA) level**, which can be monitored and evaluated using outcome evaluation.
- **A suite of tools and approaches** for foresight modelling and *ex ante* impact assessment, research planning, monitoring progress, program evaluation, outcome evaluation and *ex post* impact assessment.
- **A program information database** that records data on outputs, partnerships, engagement, expected outcomes and associated impacts.

Theory of Change

A theory of change (ToC) is an explicit articulation of the hypothesized relationships between initiative strategies (the intervention) and intended results (outcomes and impacts), presented as a narrative and/or diagram that illustrates and explains the results chain from project-level activities through outputs, outcomes and impact.

FTA MELIA Framework within the CGIAR Results-Based Management Strategy

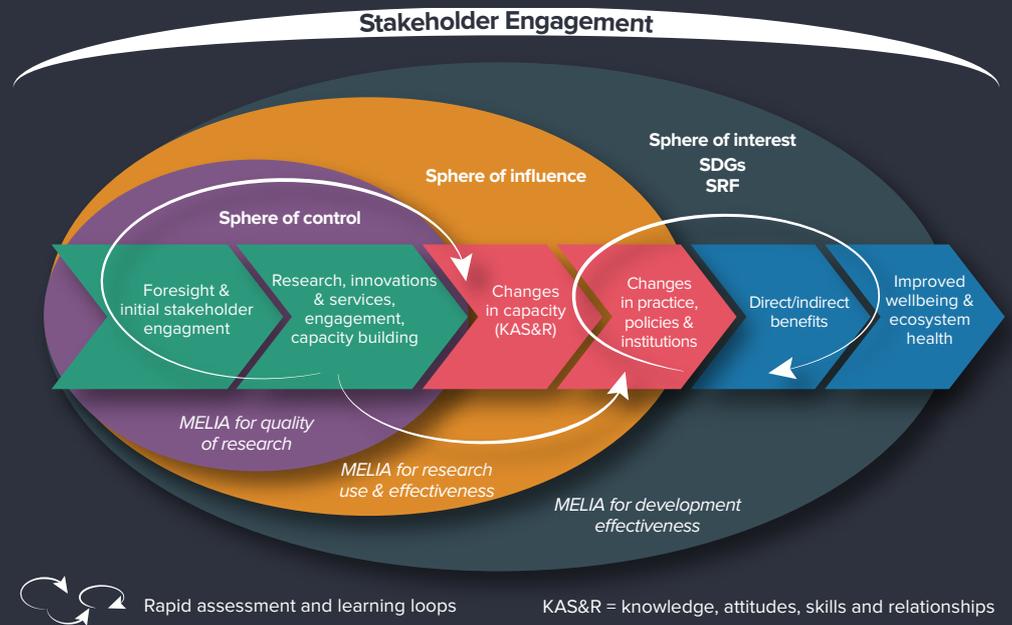


Figure adapted for *Towards a Performance-based Management System for CGIAR Research* (CGIAR, 2016), inspired by *Research Quality Plus* (IDRC, 2016)

Foresight and *ex ante* impact assessment

The identification of relevant, legitimate and potentially most effective research areas provides the basis of FTA's prioritization and work programming. For this, one needs to be able to identify trends, anticipate stakeholders' needs and understand the main challenges and opportunities toward reaching the objectives.

To do so, FTA aims to systematically organize and analyze data about trends, influences, and actual and potential changes. This work feeds into, and uses the results of, foresight and global assessment models such as the CGIAR Research Program on Policies, Institutions, and Markets (PIM) and International Food Policy Research Institute's (IFPRI) IMPACT model and the International Institute for Applied Systems Analysis' (IAASA) Global Biosphere Management Model (GLOBIUM).

MELIA provides support for *ex-ante* impact assessments, which estimate the potential impact of an intervention or set of interventions. This requires clear understanding and articulation of current situations, trends and relationships and of assumptions about responses and interactions.



▷ A forest service head offers training in beekeeping, aimed at diversifying sources of income for farmers in Burkina Faso. Photo by O. Girard/CIFOR



Outcome evaluation

To assess the effectiveness of its research in achieving intended outcomes and impacts, in complement to more classic *ex post* impact assessment, FTA has developed and uses a qualitative theory-based outcome evaluation approach. In addition to answering the question of “did it work?”, such evaluations investigate how and why outcomes occur or do not occur. Outcome evaluations assess whether or not the intended outcomes have been realized and therefore whether or not the ToC is being realized.

The main steps for this work are:

1. Review the theory of change, which explains the intended outcomes/impacts of research project/program and the theoretical mechanisms for those outcomes
2. Identify key intended outcomes and appropriate indicators and/or measures of those outcomes
3. Assemble available monitoring data and conduct document review, key informant interviews, focus group discussions and surveys to collect evidence to test whether intended outcomes have been realized and whether the intervention (research project) has made a contribution to those outcomes
4. Analyze and assess the project theory of change against actual outcomes
5. Consider alternative theories/explanations for outcomes

Evidence that intended outcomes have been achieved is an indicator of success at the project/program scale, and supports the validity of the ToC. A lack of evidence, or evidence of failure to achieve outcomes, triggers deeper examinations to determine the reasons. Intended outcomes may not be achieved due to poor implementation, unforeseen circumstances, or a wrong ToC, all of which help us learn and improve.

Ex post impact assessment

Ex post impact assessment in research refers to the use of specialized methods to estimate changes in selected development parameters and the extent to which these can be attributed to defined research activities, interventions or innovations. Quantitative approaches typically seek to compare a ‘treatment’ group with a ‘control’ or ‘comparison’ group that represents what would have happened if there had been no intervention (i.e. the counterfactual). These approaches can be challenging to apply in the complex, multistakeholder systems in which FTA works, and with the kinds of technical and social interventions FTA provides. MELIA deals with these challenges in three ways.

First, where possible, *ex post* impact assessment is integrated into the research design itself. This involves testing interventions using specific experimental and quasi-experimental designs to scientifically document not only what works but also where it works, for whom, how, and at what cost. The effectiveness and cost-effectiveness of technical interventions and even social interventions can be evaluated, for example, by randomly assigning groups to specific treatment conditions or, at a minimum,

comparing impact-related measures and other data on both the treatment and comparison group, before and after the intervention. Opportunities are generally more limited with unplanned (retrospective) impact assessments, but it is possible to establish plausible comparison groups through, for example, *ex post* village level matching, combined with the reconstruction of baseline data and the application of appropriate econometric modelling approaches.

Second, FTA does *ex post* impact assessment work at appropriate (generally small) scales and/or with a focus on proximal (intermediary) impacts. Impact assessment results can then be used to support and inform scaling up and out processes and provide key inputs into *ex ante* assessments that seek to estimate the impacts of larger scale adoption.

Third, *ex post* impact assessment is integrated with other monitoring and evaluation tools and approaches in an effort to develop a full understanding of change processes, outcomes and the role of FTA research in those processes.

Indicators, monitoring and reporting progress

Monitoring is a key element of FTA’s adaptive, learning-oriented approach from project to program level. In traditional project management, monitoring has focused primarily on tracking project implementation, to determine if planned inputs and outputs have been achieved on schedule, so that action can be taken to correct deficiencies as quickly as possible. The FTA monitoring approach emphasizes outcomes. As a part of the process of developing project and program theories of change, intended outcomes and indicators of those outcomes are identified and monitored.

There is a suite of monitoring tools for use at the project scale that are light, user friendly and time-efficient. They aim to collect a variety of information about the uptake, use, influence and outcomes of project/COA work. These data collection tools are designed to be applied as appropriate by project teams on an ongoing basis throughout the life

of a project and during/after key events (e.g. forums and conferences). Collectively, such data facilitate project reporting, provide real-time feedback on progress and provide a robust evidence base to help demonstrate project achievements.

At program scale, we are interested in larger, collective outcomes over time. These are specified at the sub-IDO level: uptake and use of FTA research and consequent behavior change in terms of improved policy and practice in international governance, national governance, the work of conservation and development organizations, and corporate and individual private sector actions. FTA has a set of indicators of uptake and use by key intended users as defined in the ToCs. A subset of these overlap with, and are counted as part of, the CGIAR-harmonized (sub-IDO) indicators and others are unique to FTA.



Case study 1

CIFOR's Global Comparative Study on reduction of deforestation and forest degradation (GCS-REDD+) program (2009-2015) aimed, with 60 research partner organizations in 15 countries, to identify challenges and provide solutions to inform international and national policies guiding REDD+ and to help improve the design and implementation of subnational REDD+ project implementation. A participatory outcome evaluation asked "How well has the GCS-REDD+ program achieved its goals, and how could it be improved?", with seven subquestions.

It used detailed mixed-methods to collect evidence to test each stage in the ToC. It found that the program used coherent strategies to achieve its intended outcomes: A high level of scientific output (more than 350 publications, from theses and books to journal articles and policy papers) supported effective engagement and communication channels, contributing to the key audiences of the program (international negotiators, national policy makers, forest/land management agencies, REDD+ project implementers) being aware of and using GCS-REDD+ findings.

Through these multiple pathways, the program contributed to the development of more effective, efficient and equitable REDD+ schemes. The participatory evaluation, with its high level of internal reflection, identified opportunities for improved coordination and integration among program subcomponents and for more deliberate and explicit planning for outcomes.

Case study 2

The 2009-2015 Sustainable Wetlands Adaptation and Mitigation Program (SWAMP), a collaborative research program involving CIFOR and the US Department of Agriculture's Forest Service (USFS), with support from the US Agency for International Development (USAID), aimed to inform climate policy and practice at national and global levels. SWAMP research had three objectives: develop tools to quantify greenhouse gas emissions and carbon stocks in tropical wetlands; develop tropical wetlands carbon dynamics modelling tools; and build awareness and capacity in the climate science and policy communities and in natural resource management agencies to better manage wetlands, taking carbon into account.

MELIA used a participatory, theory-based, mixed-methods approach to evaluate whether and how key intended outcomes were achieved. The assessment found that SWAMP research results and recommendations helped raise academic and policy interest in wetlands as carbon reservoirs and were used by key decision-makers in the policy discourse. For example, the UNFCCC has used SWAMP results as one of its main sources of evidence on wetland carbon stocks and fluxes and related management issues.

Knowledge translation was achieved through multiple impact pathways and a variety of mechanisms, including scientific communications and capacity development among national researchers and technical staff, but direct engagement with policy processes, such as the Indonesian National REDD+ strategy, was identified as being particularly important.

▽ Johanny Sawadogo, Head of Provincial Forestry Service, studying the evolution of wooded areas around the village of Sindri, Burkina Faso. Photo by O. Girard/CIFOR



Cover: A man rakes over cacao beans, part of the gathering and fermentation process. Photo by M. del Aguila Guerrero/CIFOR

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA) is the world's largest research for development program to enhance the role of forests, trees and agroforestry in sustainable development and food security and to address climate change. CIFOR leads FTA in partnership with Bioversity International, CATIE, CIRAD, ICRAF, INBAR and TBI.

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