

**FINAL EVENT**

**09.12.21**

13h00-16h00 CET

FTA HIGHLIGHTS OF A DECADE

2011-2021



RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry

10 YEARS OF FTA RESEARCH  
FOR PEOPLE AND THE PLANET

# Monitoring, Evaluation, Learning and Impact Assessment

Brian Belcher



# MELIA Challenges for FTA

- Research-for-Development (R4D) Mandate
- Complex systems, long time lags
- Inter- & Transdisciplinary research approaches
- Co-generated knowledge
- Multiple actors & processes
- Multiple Impact Pathways
- History of technology-centric impact assessment in CGIAR
- Evolving R4D approaches require evolution in how we conceptualize and assess research



## Understanding and evaluating the impact of integrated problem-oriented research programmes: Concepts and considerations

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### Abstract

Researchers and research organizations are under increasing pressure to demonstrate that their work contributes to positive change and helps solve pressing societal challenges. There is a simultaneous trend towards more engaged transdisciplinary research that is complexity-aware and appreciates that change happens through systems transformation, not only through technological innovation. Appropriate evaluation approaches are needed to evidence research impact and generate learning for continual improvement. This is challenging in any research field, but especially for research that crosses disciplinary boundaries and intervenes in complex systems. Moreover, evaluation challenges at the project scale are compounded at the programme scale. The Forest, Trees and Agroforestry (FTA) research programme serves as an example of this evolution in research approach and the resulting evaluation challenges. FTA research is responding to the demand for greater impact with more engaged research following multiple pathways. However, research impact assessment in the CGIAR (Consultative Group on International Agricultural Research) was developed in a technology-centric context where counterfactual approaches of causal inference (experimental and quasi-experimental) predominate. Relying solely on such approaches is inappropriate for evaluating research contributions that target policy and institutional change and systems transformation. Instead, we propose a multifaceted, multi-scale, theory-based evaluation approach. This includes nested project- and programme-scale theories of change (ToCs); research quality assessment; theory-based outcome evaluations to empirically test ToCs and assess policy, institutional, and practice influence; experimental and quasi-experimental impact of FTA-informed 'large n' innovations; *ex ante* impact assessment to estimate potential impacts at scale; and logically and plausibly linking programme-level outcomes to secondary data on development and conservation status.

**Key words:** research evaluation; impact assessment; evaluation tools; theory of change; transdisciplinary research; sustainability science

### 1. Introduction

Researchers and research organizations are under increasing pressure to demonstrate that their research contributes to positive change and helps to solve pressing societal challenges. Appropriate evaluation is therefore needed, not only to evidence research impact, but also to generate learning to improve research design and, ultimately, enhance impact. It is also critically important to demonstrate

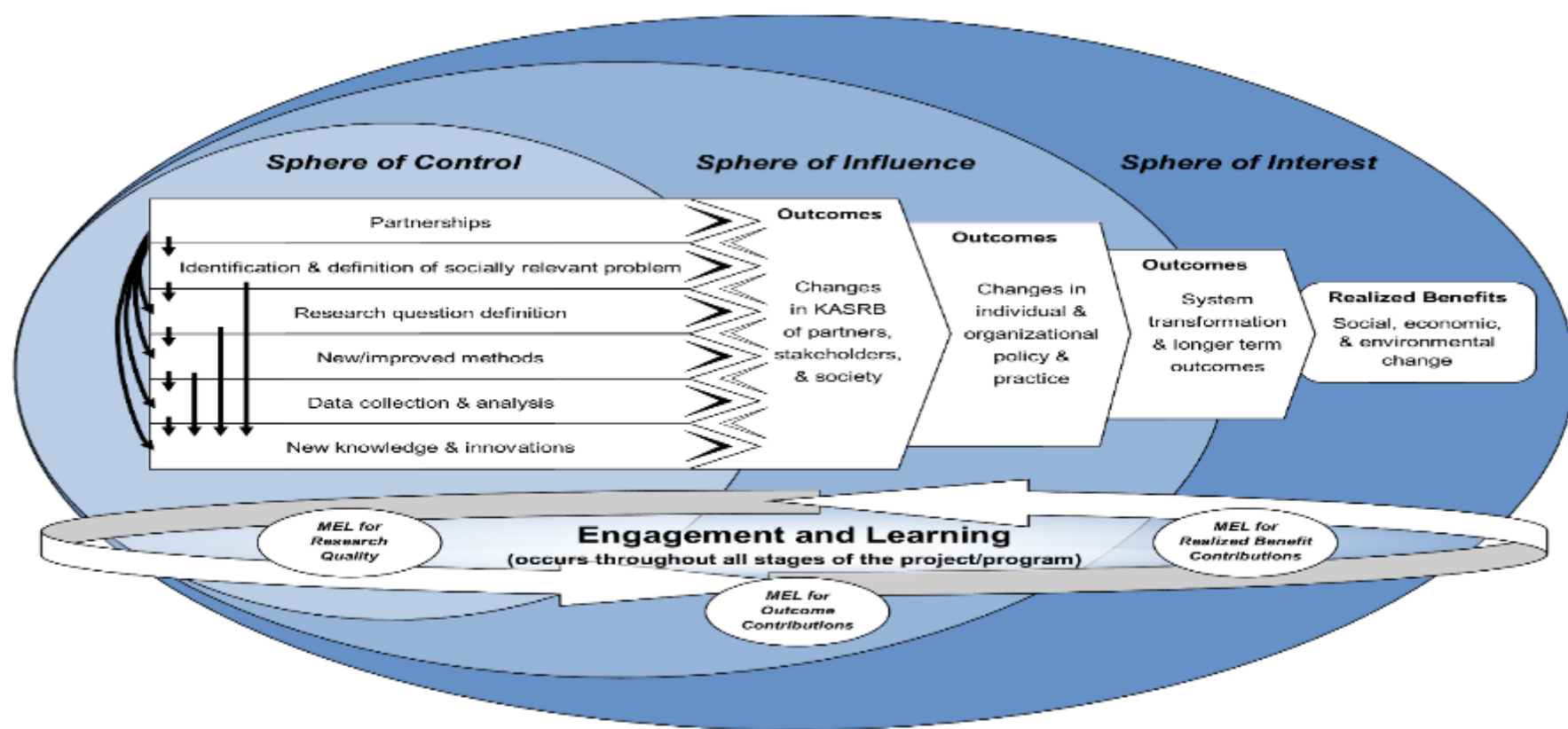
the contribution of research to solving development problems and leverage opportunities to attract, allocate, and optimize investments in research. This is challenging in any research field, but especially for integrated research programmes that cross disciplinary boundaries to intervene in complex systems.

The drive for increased research impact has led to a marked evolution in the way research-for-development (R4D) is understood,

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# Theory of Change

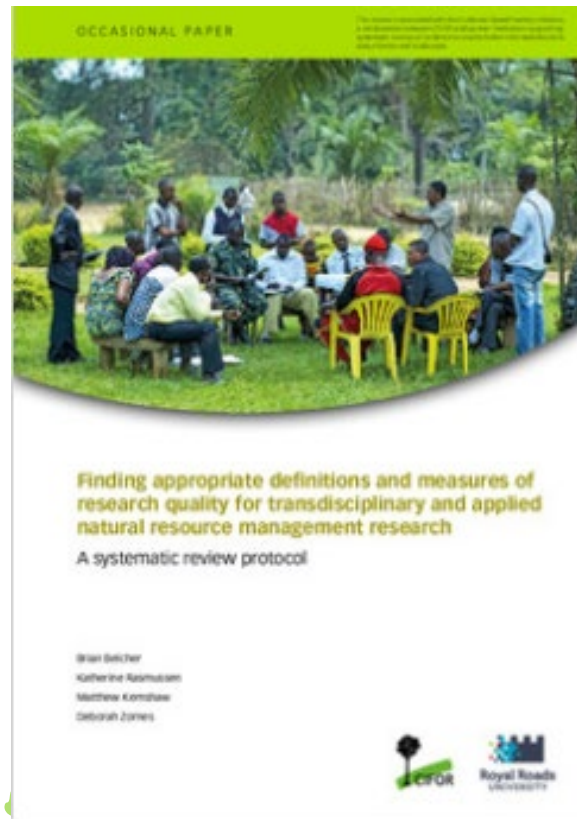


**KASRB** = knowledge, attitudes, skills, relationships, &/or behaviour  
**MEL** = monitoring, evaluation, & learning





# Quality of Research For Development (QoR4D)



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## Defining and assessing research quality in a transdisciplinary context

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Research increasingly seeks both to generate knowledge and to contribute to real-world solutions, with strong emphasis on context and social engagement. As boundaries between disciplines are crossed, and as research engages more with stakeholders in complex systems, traditional academic definitions and criteria of research quality are no longer sufficient. There is a need for a partial evolution of principles and criteria to define and evaluate research quality in a transdisciplinary research (TDR) context. We conducted a systematic review to help answer the questions: What are appropriate principles and criteria for defining and assessing TDR quality? Articles were selected and reviewed seeking arguments for or against expanding definitions of research quality, purposes for research quality evaluation, proposed principles of research quality, proposed criteria for research quality assessment, proposed indicators and measures of research quality, and proposed processes for evaluating TDR. We used the information from the review and our own experience in two research organizations that employ TDR approaches to develop a prototype TDR quality assessment framework, organized as an evaluation rubric. We provide an overview of the review findings and summarize the main aspects of TDR quality identified from four main inter-related research dimensions, including social significance and applicability, credibility, including criteria of integration and reflexivity, added to traditional criteria of academic rigor, including criteria of inclusion and fair representation of stakeholder interests, and effectiveness, with criteria that assess actual or potential contributions to problem solving and social change.

**Keywords:** research impact; transdisciplinary research quality; quality criteria; quality evaluation.

### 1. Introduction

Contemporary research in the social and environmental realms places strong emphasis on achieving 'impact'. Research programs and projects aim to generate new knowledge but also to promote and facilitate the use of that knowledge to enable change, solve problems, and support innovation (Clark and Dickson 2003). Reductionist and purely disciplinary approaches are being augmented or replaced with holistic approaches that recognize the complex nature of problems and that actively engage within complex systems to contribute to change (e.g. Gilmore et al. 1994; Nowotny, Scott and Gibbons 2001; Nowotny, Scott and Gibbons 2003; Klein 2006; Herten and Rasmussen 2006;

Chetwyre, Smith and Wild 2007; Eno-Kjohle and Hanson 2011). Emerging fields such as sustainability science have developed out of a need to address complex and urgent real-world problems (Korten and Talsness 2009). These approaches are inherently applied and transdisciplinary, with explicit goals to contribute to real-world solutions and strong emphasis on context and social engagement (Klein 2006).

While there is an ongoing conceptual and theoretical debate about the nature of the relationship between science and society (e.g. Hassels 2000), no take a more practical starting point based on the authors' experience in two research organizations. The first author has been involved with the Center for International Forestry Research (CIFOR) for almost 20 years. CIFOR, as part

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January 2020

ISDC Brief 1

As CGIAR implements its 2020 reform, the Independent Science for Development Council (ISDC) can play an important role by helping to ensure that CGIAR research is of high quality and has a clear path to impact for development outcomes. The frame of reference described here, a revision of the 2017 Quality of Research for Development Framework (QoR4D), was developed to help the Systems Organization design research strategies and programs, build new project-monitoring systems, and design performance management standards.

### FRAME OF REFERENCE

The QoR4D has four key elements that form the basis for a common frame of reference across the CGIAR:

1. **Relevance** refers to the importance, significance, and usefulness of the research objectives, processes, and findings to the problem context and to society, taking into account CGIAR's comparative advantage. It involves positive, strategic stakeholder engagement along the agricultural research for development (AR4D) continuum, original and socially relevant research aligned to national and regional priorities, the CGIAR Strategy and Results Framework (SRF), and the Sustainable Development Goals (SDGs). It also recognizes the importance of international public goods.
2. **Scientific credibility** requires that research findings be robust and that sources of knowledge be dependable and sound. It includes a clear demonstration that data used are accurate, that the methods used to generate the data are fit for purpose, and that findings are clearly presented and logically interpreted. It recognizes the importance of good scientific practice, such as peer reviews.
3. **Legitimacy** means that the research process is fair and ethical and perceived as such. This feature encompasses the ethical and fair representation of all involved (e.g., funders, research teams, collaborators, policy makers, farmers) and consideration of the interests and perspectives of intended users. It requires transparency, sound management of potential conflicts of interest, recognition of the responsibilities that go with public funding, genuine involvement of partners in co-design, and recognition of partner contributions.
4. **Effectiveness** means that research generates knowledge, products, and services that lead to innovations and provide solutions. It implies that research is designed, implemented, and positioned for use within a dynamic theory of change, with appropriate leadership, capacity development, research skills, and a supportive enabling environment to translate knowledge into action and to help generate desired outcomes.



# Theory-Based Research Evaluation



## Method Article

### A refined method for theory-based evaluation of the societal impacts of research

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#### ABSTRACT

With high and increasing expectations for research to have social and environmental impact, there is a corresponding need for appropriate methods to demonstrate (for accountability) and analyze (for learning) whether and how research projects contribute to change processes. Evaluation is especially challenging for problem-oriented research that employs inter- and transdisciplinary approaches and intervenes in complex systems, where experimental and statistical approaches to causal inference are inappropriate. Instead, theory-based evaluation can be applied to identify and test causal processes. This paper presents a detailed explanation of the Outcome Evaluation approach applied in Belcher et al. (2019). It draws on concepts and approaches used in theory-based program evaluation and the more limited experience of theory-based research evaluation, providing a brief overview of conceptual strengths and limitations of other methods. The paper offers step-by-step guidance on application of the Outcome Evaluation approach, detailing how to: document a theory of change; determine data needs and sources; collect data; manage and analyze data; and present findings. This approach provides a clear conceptual and analytical framework in addition to actor-specific and impact pathway analyses for more precision in the assessment of outcomes.

Specifically, the Outcome Evaluation approach:

- Conceptualizes research within a complex system and explicitly recognizes the role of other actors, context, and external processes;
- Utilizes a detailed actor-centred theory of change (ToC) as the analytical framework; and
- Explicitly tests a set of hypotheses about the relationship between the research process/outputs and outcomes.

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### Cutting forest conversion to policy: a theory-based outcome assessment of a global research programme

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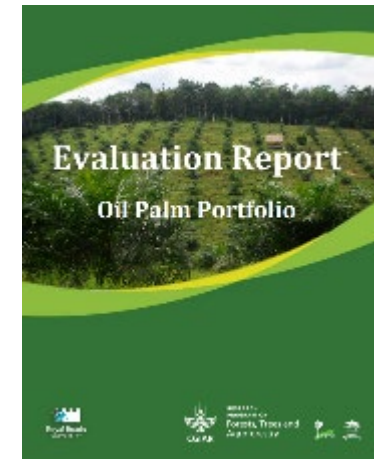
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### Stakeholder perceptions of scientific knowledge in policy processes: A Peruvian case study of forestry policy development

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#### ABSTRACT

With high and increasing expectations for research to have social and environmental impact, there is a corresponding need for appropriate methods to demonstrate (for accountability) and analyze (for learning) whether and how research projects contribute to change processes. Evaluation is especially challenging for problem-oriented research that employs inter- and transdisciplinary approaches and intervenes in complex systems, where experimental and statistical approaches to causal inference are inappropriate. Instead, theory-based evaluation can be applied to identify and test causal processes. This paper presents a detailed explanation of the Outcome Evaluation approach applied in Belcher et al. (2019). It draws on concepts and approaches used in theory-based program evaluation and the more limited experience of theory-based research evaluation, providing a brief overview of conceptual strengths and limitations of other methods. The paper offers step-by-step guidance on application of the Outcome Evaluation approach, detailing how to: document a theory of change; determine data needs and sources; collect data; manage and analyze data; and present findings. This approach provides a clear conceptual and analytical framework in addition to actor-specific and impact pathway analyses for more precision in the assessment of outcomes.

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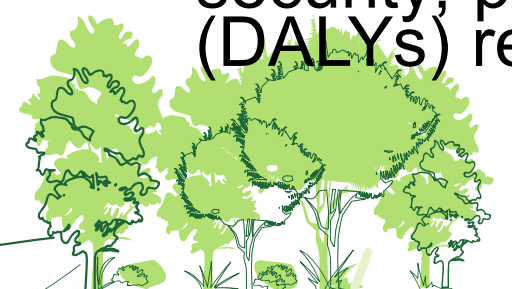
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# Estimating Impacts

1. **Deforestation:** 25.7 million ha to 133.4 million ha of forests under enhanced protection (up to 125.4 Gt CO<sub>2</sub>)
2. **Degraded land:** 1.8 million ha to 34.4 million ha under restoration; 1.4 m to 511.5 m tonnes CO<sub>2</sub> sequestered
3. **Unsustainable Land Use Practices:** 59.5 million ha to 204 million ha better managed via improved policy, monitoring and management practices
4. **Persistent Rural Poverty:** 5.1 million people to 19 million people directly or indirectly aided to reduce vulnerability and exit poverty
5. **Rising Demand for Nutritious Food:** 1.12M to 3.43M people provided with additional means to improve their food and nutritional security; potential to save 2.17 million disability-adjusted life years (DALYs) resulting from deficiencies in dietary iron and vitamin



# Conclusions/Key messages

## 1. Scope to Improve Solutions-Oriented Design and Implementation

- Strengthen strategic focus and coordination (thematic and geographic)
- Use ToC in planning, monitoring, management and evaluation
- Systems analysis and engagement
- Use multiple impact pathways and mechanisms
- Apply QoR4D principles

## 2. Good Progress in Theory-based Research Evaluation

- Need better use of theory
- Clearer, better specified assumptions

## 3. Need Improved Monitoring and Data-Management

- Systematic project documentation
- Linked to MELIA

## 4. Actively Test ToC and Assumptions

Learn from experience what works and what does not work in R4D



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