

### Evidences

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#### Study #3479

**Contributing Projects:**

- P795 - 14. Agroecology

**Part I: Public communications**

**Type:** OICR: Outcome Impact Case Report

**Status:** Completed

**Year:** 2019

**Title:** Options by context approach to agronomic innovation profoundly changed International, Government, NGO and private sector policy and practice across 14 countries.

**Short outcome/impact statement:**

FTA produced a paradigm shift in agronomy supporting local innovation across three continents. Diverse and inclusive agroecological options that result, impact food security, farm income and environmental resilience for over 3.769 M people on 2.496 M ha and are part of global initiatives targeting 100 M smallholder farmers.

### **Outcome story for communications use:**

Achieving SDG 2 requires large numbers of smallholder farmers in the tropics to not only improve the performance of their farms but to do so while adapting to global change. Agroecological practices, including incorporating trees in fields and farming landscapes (agroforestry), have multiple benefits in relation to environmental resilience, sustainable intensification, biodiversity conservation, halting and reversing land degradation and increasing household income but are more complex and knowledge intensive than conventional alternatives creating challenges in achieving widespread adoption.

FP2 initiated an analysis of agroforestry adoption that led to the development of a novel 'research in development' (RinD) approach to address fine scale variation in farmer context constraining spread of innovations (1). Prior to this, agronomic research was predominantly based on precise estimates of treatment effect means in controlled trials, which do not take full account of variable characteristics of individual farms. While this approach worked well for industrial agriculture, it is less appropriate for supporting local agroecological innovation amongst smallholder farmers where option by context (OxC) interactions result in highly variable performance of innovations across farms (2). It is estimated that 83% of farms worldwide are 2 ha in size, giving this global relevance.

The OxC approach has been adopted internationally by the UN Committee on World Food Security (CFS), High Level Panel of Experts (HLPE) in the context of agroecological innovations for food system transformation (3) and by the Global Commission on Adaptation (GCA) with respect to agroecological approaches to strengthen climate resilience (4). Both bodies recommend use of an OxC approach, citing the underpinning research.

The application of an OxC approach directly associated with the underpinning research has both led to development of new national and sub-national policies and incentives to promote agroecological options (Vietnam and Peru) and been incorporated in national agroforestry strategies and policy processes (Ethiopia, Rwanda and Uganda). In the private sector, Barry Callebaut, one of the largest buyers of cocoa in the world has adopted an OxC approach in its position on cocoa agroforestry, explicitly derived from the underpinning research (5).

**Links to any communications materials relating to this outcome:** <Not Defined>

### **Part II: CGIAR system level reporting**

**Link to Common Results Reporting Indicator of Policies :** No

**Stage of maturity of change reported:** Stage 2

**Links to the Strategic Results Framework:**

Sub-IDOs:

- Increased livelihood opportunities
- Increased capacity for innovation in partner development organizations and in poor and vulnerable communities

Is this OICR linked to some SRF 2022/2030 target?: Yes

SRF 2022/2030 targets:

- # of more farm households have adopted improved varieties, breeds or trees
- # of hectares degraded land area restored

Description of activity / study: <Not Defined>

**Geographic scope:**

- Global

Comments: <Not Defined>

**Key Contributors:**

Contributing CRPs/Platforms:

- FTA - Forests, Trees and Agroforestry

Contributing Flagships:

- FP2: Enhancing how trees and forests contribute to smallholder livelihoods

Contributing Regional programs: <Not Defined>

Contributing external partners:

- CARE - CARE
- WVI - World Vision International
- IFAD - International Fund for Agricultural Development

**CGIAR innovation(s) or findings that have resulted in this outcome or impact:**

Options by Context (OxC) approach to agronomic innovation (see below)

**Innovations:**

- 1534 - Options by context (OxC) approach to agronomic innovation  
(<https://tinyurl.com/2euqqema>)

**Elaboration of Outcome/Impact Statement:**

Achieving SDG 2 requires large numbers of smallholder farmers in the tropics to not only improve the performance of their farms but to do so while adapting to global change. Agroecological practices, including incorporating trees in fields and farming landscapes (agroforestry), have multiple benefits in relation to environmental resilience, sustainable intensification, biodiversity conservation, halting and reversing land degradation and increasing household income but are more complex and knowledge intensive than conventional alternatives creating challenges in achieving widespread adoption.

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### References cited:

1. Coe R, Sinclair F and Barrios E. 2014. Scaling up agroforestry requires research 'in' rather than 'for' development. *Current Opinion in Environmental Sustainability* 6:73–7.  
<https://doi.org/10.1016/j.cosust.2013.10.013>
2. Sinclair, F.L. & Coe R. 2019. The options by context approach: a paradigm shift in agronomy. *Experimental Agriculture* 55 (SI): 1-13. <https://doi.org/10.1017/S0014479719000139>
3. HLPE 2019. Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. 162 p.  
<http://www.fao.org/3/ca5602en/ca5602en.pdf>
4. GCA, 2019. Adapt Now: A Global Call for Leadership on Climate Resilience.  
<https://gca.org/global-commission-on-adaptation/report-incorporating-elements-from-sinclair-f-wezel-a-mbow-c-robiglio-v-harrison-r-and-chomba-c-2019-the-contribution-of-agroecological-approaches-to-realizing-climate-resilient-agriculture-background-paper-global-commission-on-adaptation-rotterdam-and-washington-dc-46p>
5. Explicit email acknowledgement from Barry Callebaut (contact [f.coccia@cgiar.org](mailto:f.coccia@cgiar.org))

**Quantification:** <Not Defined>

### Gender, Youth, Capacity Development and Climate Change:

**Gender relevance:** 1 - Significant

Main achievements with specific **Gender** relevance: The Options by Context methodology explicitly looks at the performance of different innovations for different people including according to gender.

**Youth relevance:** 1 - Significant

Main achievements with specific **Youth** relevance: The Options by Context methodology explicitly looks at the performance of different innovations for different people including according to age.

**CapDev relevance:** 2 - Principal

Main achievements with specific **CapDev** relevance: The Options by Context methodology facilitates co-learning

**Climate Change relevance:** 1 - Significant

Describe main achievements with specific **Climate Change** relevance: The Options by Context methodology facilitates adaptive innovation to build resilience to effects of climate change

**Other cross-cutting dimensions:** <Not Defined>

**Other cross-cutting dimensions description:** <Not Defined>

**Outcome Impact Case Report link:** [Study #3479](#)

### Contact person:

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