

MIT D-Lab | CITE: Evaluating capacity development for local innovation

# Identifying common outcomes of CCB programs: key informant interviews with practitioners

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## Project Overview

Increasingly, global development actors are prioritizing approaches aimed at strengthening the capacity of local communities to develop their own solutions to the development challenges they face; in other words, to innovate locally. As interventions aimed at strengthening local innovation capacity become more popular, a need has emerged for reliable methods of assessing changes in local innovation capacity at the individual level, group level, and the level of local systems. The MIT D-Lab | CITE research project, “Designing an evaluation methodology to assess capacity development for local innovation,” is addressing this need through the development of an integrated evaluation framework, methodology, and research protocols that can be used to assess changes in local innovation capacity at the grassroots level, across diverse project contexts.

## Report Summary

This report shares the results of stakeholder interviews conducted in the research scoping phase with MIT D-Lab staff and partners to learn from their experience implementing and evaluating Creative Capacity Building (CCB) programs. CCB is an approach to strengthening the innovation capacity of individuals, teams, and local communities that was developed at MIT D-Lab in 2007. Since its initial implementation in refugee camps in Northern Uganda, CCB has been used in diverse development and humanitarian settings around the world (for more on CCB, see Budzyna, 2021).<sup>1</sup> As an initial step in scoping an evaluation framework for assessing changes in local innovation capacity, the research team was interested in identifying outcomes that have been observed by implementers of CCB across diverse implementation sites and contexts.

To that end, the research team conducted 12 key informant interviews between September and December, 2019. The interviews focused on identifying outcome areas that long-time implementers of CCB had observed, whether or not these had been confirmed through prior monitoring or evaluation. This report summarizes the results of these interviews, focusing on the reported outcomes and the causal factors that interviewees identified as contributing to these results. The information from these interviews will be used along with findings from other sources to inform the development of an evaluation framework with cross-context applicability.

1. Budzyna, L. 2021. Unearthing a Theory of Change for Creative Capacity Building. Comprehensive Initiative on Technology Evaluation. Cambridge, MA: MIT D-Lab.

# RESEARCH METHODS

## Interviewee selection

During the first quarter of the project (September to December, 2019), the research team engaged project-level stakeholders from within D-Lab's staff to collaboratively identify potential key informants to participate in the interviews. The research team prioritized identifying interviewees who met at least one of the following criteria: 1) they had direct experience implementing CCB trainings and CCB-related programming over a period of several years, with more years of experience prioritized; 2) they had experience conducting monitoring and/or evaluation of CCB programs, including in-person site visits; 3) they were familiar with a range of different examples of CCB implementation across diverse geographies (this last criterion applied predominantly to MIT D-Lab staff).

This engagement process generated a list of 43 potential interviewees from 14 countries across the Americas, Africa, and Southern Europe, all of whom had been involved in implementing CCB or CCB-inspired programs. From this list, based on the breadth of experience and depth of involvement in specific programs, the team selected 17 potential interviewees, out of which 12 were available to participate in interviews (see Table 1 below). Most of the key informants held one or more of the following roles:

- **Implementer:** in charge of implementing the CCB program or project;
- **Instructor:** creates and teaches specific CCB curriculum within a CCB program;
- **Evaluator:** a person at the implementing organization or at D-Lab who conducts M&E on CCB activities, usually consisting of an immediate post-training survey.

Table 1. Key informant interviews with CCB implementers and project stakeholders

Stakeholder Name	Affiliation and Location	Role <sup>2</sup>
Amy Smith	MIT D-Lab, USA	CCB co-creator, implementer, instructor, and evaluator
Kofi Taha	MIT D-Lab, USA	CCB co-creator, instructor, and evaluator
Libby McDonald	MIT D-Lab, USA	CCB implementer
Laura Budzyna	MIT D-Lab, USA	CCB evaluator
Bernard Kiwia	Twende, Tanzania	IDIN Innovation Center partner, CCB implementer and instructor
Omar Crespo Cardona	Link 4, Guatemala	CCB implementer and instructor
Benji Moncivaiz	MIT D-Lab, USA	CCB instructor
Ta Corrales	MIT D-Lab, USA/ OAXIN, Mexico	CCB implementer, instructor, and evaluator
Debbie Tien	Twende, Tanzania	IDIN Innovation Center partner, CCB implementer and evaluator
Thabiso Blak Mashaba	These Hands, Botswana	IDIN Innovation Center partner, CCB implementer and instructor
Amen Tebele	Kulika, Uganda	CCB implementer and instructor
Alex Freese	Diversa, Colombia	IDIN Innovation Center partner and CCB implementer

2. These roles were held by interviewees at the time of the interviews, which took place in Fall 2019.

## Interview approach

Interviews were semi-structured, conversational interviews conducted both in person and over the phone. A standard interview guide was used for the interviews, which lasted 45 to 60 minutes. Interviews were recorded and interview notes were produced.

## Data analysis approach

The data from interviews was coded using a combination of codes generated from pre-existing conceptual categories (etic codes), and from the language and experience of interviewees (emic codes). The data coding and analysis focused on two dimensions: 1) the outcomes interviewees reported having observed in their experiences of implementing and/or evaluating CCB, and 2) the factors that interviewees felt contributed to bringing about these outcomes.

### **Outcomes:**

Outcomes were coded using two sets of codes. The first relates to the type of outcome, where “immediate outcomes” refers to outcomes occurring immediately following the CCB program’s implementation, “intermediate outcomes” refers to outcomes occurring in the period following the program’s implementation, and “primary outcomes,” are defined as outcomes that relate to the primary objectives of the CCB program. The second layer of categorization relates to the level at which the outcome was experienced, whether that be at the level of individuals, groups (including teams), or the community in which they live.

### **Contributing factors:**

Interviewees also discussed the specific factors that, from their perspective, contributed to these outcomes. Based on existing theory and literature in realist evaluation (see Pawson, 2013), contributing factors were identified at the level of codes using the following categories:

- 1. PARTICIPANT FACTORS:** These are contributing factors having to do with some aspect of the program participants. These factors can be either fixed (having to do with pre-existing attributes that cannot be influenced by the program) or flexible, referring to factors that can be influenced by participation in the program.
- 2. PROGRAM FACTORS:** Factors pertaining to the CCB program itself.
- 3. EXTERNAL FACTORS:** Factors having to do with the local context in which the program was being implemented.

# INTERVIEW RESULTS

## Reported outcomes

The interviews led to the identification of 26 types of outcomes that participants associated with CCB. The specific outcomes reported and the outcome categories we developed to group them together (e.g. outcome-level codes) were not solicited from the interviewees through prompts or close-ended lists from which to choose; rather, they were mentioned by interviewees in response to the following open-ended question:

*In the time since the CCB program has ended, what have been the most significant and exciting changes you have observed for participants and their communities?*

Immediate, post-workshop outcomes mentioned by three or more interviewees included changed mindsets and enhanced self-confidence at the individual level. Intermediate outcomes, which were observed in the time following the workshop that were mentioned by three or more participants included: participants changing their approach to their daily activities (at the individual level); improved social relations at the group level; and the creation of new projects at the community level. Primary outcomes identified by three or more interviewees included income generation for program participants at the individual level, and improved gender relations at the group/team level.

In the three tables that follow, we report all outcomes shared by interviewees, organized by the outcome level, e.g. individual, group, or community-level outcomes. Outcomes in bold were mentioned by three or more interviewees.

Outcome category	Sub-outcomes: examples	Outcome type
Enhanced self-confidence	<ul style="list-style-type: none"> <li>• Feeling confident and empowered</li> <li>• Improved confidence in using tools and making things</li> <li>• more confidence in trying new things and failing</li> <li>• More willing to take risks</li> <li>• Changes in the way waste pickers think about themselves- they realized that they could be agents of change</li> <li>• More confident to question things</li> <li>• Feeling empowered to solve their own problems</li> </ul>	<b>Immediate</b>
Changed mindset	<ul style="list-style-type: none"> <li>• Appreciation for local materials, increased resourcefulness</li> <li>• Generation of innovative ideas/projects</li> <li>• More appreciation for teamwork and collaboration</li> <li>• Students are more interested in working in the development sector</li> <li>• More open to using and adopting technology</li> <li>• Changed participant's perceptions of others</li> </ul>	<b>Immediate</b>
Strengthened sense of belonging	<ul style="list-style-type: none"> <li>• Participants feel a sense of belonging to the community of innovators</li> </ul>	<b>Immediate</b>
More creative	<ul style="list-style-type: none"> <li>• Generation of innovative ideas/projects</li> <li>• More creative in how people approach daily activities</li> </ul>	<b>Immediate</b>
Improved analytical skills	<ul style="list-style-type: none"> <li>• Starts to question things more</li> <li>• Improved critical thinking skills and ability to provide critical feedback on products and solutions</li> </ul>	<b>Immediate</b>
Improved technical skills	<ul style="list-style-type: none"> <li>• Improved skills in making technology</li> <li>• New skills in prototyping</li> <li>• Improved building skills</li> </ul>	<b>Immediate</b>
New or enhanced knowledge	<ul style="list-style-type: none"> <li>• Knowledge of design/design process</li> </ul>	<b>Immediate</b>
Enhanced motivation	<ul style="list-style-type: none"> <li>• Become a CCB champion</li> <li>• More interested in working in the development sector</li> <li>• People were really happy- they enjoyed the trainings</li> </ul>	<b>Immediate</b>

**Table 3. Reported outcomes: individual level external changes**

Outcome category	Sub-outcomes: examples	Outcome type
Changed approach to daily activities	<ul style="list-style-type: none"> <li>Increased capacity to solve own problems</li> <li>People apply CCB skills to other parts of their lives</li> <li>Having tools and technologies that make daily tasks easier/less labor-intensive</li> </ul>	<b>Immediate</b>
Prototypes offer benefits	<ul style="list-style-type: none"> <li>Prototype development that had the potential to help them move up the value chain</li> <li>People see an immediate benefit in the things they make</li> </ul>	<b>Immediate</b>
Involvement in CCB activities	<ul style="list-style-type: none"> <li>Accreditation/validation in CCB</li> </ul>	<b>Intermediate</b>
New career opportunities	<ul style="list-style-type: none"> <li>Kicked off some trainer's careers</li> <li>It produces leaders – who go on to lead the innovation centers.</li> <li>Student participants go on to become Diversa employees and continue to conduct CCBs.</li> </ul>	<b>Intermediate</b>
Financial independence for women	<ul style="list-style-type: none"> <li>Women established savings groups using the money they had earned by selling their technologies and used the savings group funds to buy necessary things</li> </ul>	<b>Primary</b>
Income generation	<i>No example given</i>	<b>Primary</b>

## Group level outcomes

At the level of groups, which includes families, teams formed during the CCB, as well as existing groups in the local community, interviewees reported the outcomes in Table 4, below. Outcomes mentioned by three or more interviewees included improved social relations within and between local groups and improvements in local gender relations, having to do with shifting perceptions of women's capabilities to use tools, to generate creative solutions to local problems, and to contribute to teamwork and problem-solving.

**Table 4. Reported outcomes: group level**

Outcome category	Sub-outcomes: examples	Outcome type
Shared learning between participants	<ul style="list-style-type: none"> <li>Shared learning and improved communication among the participants</li> </ul>	<b>Immediate</b>
Changed perception of others	<i>No example given</i>	<b>Immediate</b>
Improved social relations	<ul style="list-style-type: none"> <li>Improved social relations</li> <li>Increased collaborations among participants and/or local orgs that has led to the creation of various projects.</li> <li>Improved collaborative spirit to work together</li> <li>Strengthened relationships between communities – solidarity was built, they still work together</li> <li>Improved communication between participants</li> </ul>	<b>Intermediate</b>
Improved gender relations/roles	<ul style="list-style-type: none"> <li>Better gender roles</li> <li>Gender roles more balanced and collaborative</li> <li>Women feel empowered after realizing they can work with tools, make machines, etc.</li> </ul>	<b>Primary</b>

## Community level outcomes

At the level of local communities, interviewees reported the outcomes listed in Table 5. These are outcomes that have resulted primarily from the efforts and actions of individuals and teams who participated in the CCB events, but which are now impacting a larger number of people beyond the immediate participants in those events. This category includes outcomes such as the creation of new local projects, the creation of technologies that have moved beyond prototypes and are now available in local markets, and changes to the local culture to make it more supportive and welcoming of innovation, a “maker” culture, the use of local materials to solve local problems, and trying out new ways of doing things.

Table 5. Reported outcomes: community level		
Outcome category	Sub-outcomes: examples	Outcome type
Creation of new projects	<ul style="list-style-type: none"> <li>The creation of new community projects as a result of increased collaborations among participants and/or local organizations.</li> </ul>	Intermediate
Creation of technologies	<ul style="list-style-type: none"> <li>Access to better products, services, etc. in the community (e.g. coffee pressing machine, fish cutting knives, bicycle powered machines, etc.)</li> </ul>	Intermediate
Improved dissemination of technologies	<i>No example given</i>	Intermediate
Increased maker-space culture	<ul style="list-style-type: none"> <li>Some schools are starting their own maker spaces</li> </ul>	Intermediate
Creation of businesses	<i>No example given</i>	Intermediate
Increased community engagement	<ul style="list-style-type: none"> <li>Using innovation as a problem-solving tool</li> </ul>	Intermediate
More support and interest in CCB	<ul style="list-style-type: none"> <li>Donors interested in supporting CCB</li> </ul>	Intermediate
Better ag/crop outputs	<ul style="list-style-type: none"> <li>Better crop/ ag outputs resulted from the use of ag techs created during CCBs</li> </ul>	Primary

## Reported contributing factors

In addition to asking interviewees to describe the outcomes they had observed from implementing CCB, we also inquired into the factors that they felt had contributed to bringing about these outcomes. We used the following open-ended question to inquire into contributing factors:

*Thinking about the specific outcomes you mentioned previously, what do you see as the factors that have helped to bring this about?*

Interviewees identified 58 discreet factors that they felt had contributed to bringing about the outcomes reported in the previous section. The majority of factors they identified (45) related to aspects of the CCB program itself, which is unsurprising given that most interviewees are program implementers familiar with the details of program design. We organized reported contributing factors into the following categories and sub-categories:

### EXTERNAL (CONTEXT) FACTORS

- Whether or not there was an existing or developing innovation ecosystem
- Existing mindsets and interests related to innovation within the community
- Initial support from the government for CCB
- Local culture
- Farming season – how CCB fits into farmers’ schedules

### PARTICIPANT FACTORS

- Pre-existing skills
- Personality
- Participants’ schedule and availability
- Participant mindset
- Being part of an existing group already

### PROGRAM FACTORS

- Curriculum (what is taught)
  - Experiential learning
  - Design orientation
  - Skill-building opportunities
  - Other aspects of the curriculum
- Training methodology (how it’s taught)
  - Group work
  - Safe space for learning
  - Builds community
- Facilitators and facilitation approach
  - Facilitation attributes
  - Facilitation approach
- Follow-up support
  - Funding
  - Tools
  - Space
  - Mentorship
  - Connections to other opportunities
- Other program attributes:
  - Timing of the CCB
  - Selection criteria of participants

Given that enabling conditions related to the CCB program itself (e.g. program factors) were mentioned most frequently by participants, we have included more detail on those factors in Table 6 below:

**Table 6. Program-level contributing fSactors**

<b>Curriculum</b>	
Experiential learning	<ul style="list-style-type: none"> <li>• The fact that the curriculum is practical and hands-on (after activities some participants feel transformed)</li> <li>• Deliberate about experiential learning</li> </ul>
Design orientation	<ul style="list-style-type: none"> <li>• Exposure to design process and examples</li> <li>• Creates space for creativity</li> <li>• Multiple iterations of prototypes</li> <li>• Trial and error aspects, safe space to try and fail</li> <li>• Design cycle</li> <li>• Designing and creating together in groups</li> </ul>
Skill-building opportunities	<ul style="list-style-type: none"> <li>• The curriculum focuses on skill-building and is participatory,</li> <li>• Giving the opportunity for participants to present their ideas in a group setting</li> <li>• Going through the design cycle</li> <li>• Opportunity identification as part of the design process</li> <li>• Build-its: using tools they had never used before</li> </ul>
Other aspects of the curriculum	<ul style="list-style-type: none"> <li>• The flexibility of the curriculum, which allows participants to pick problems they want to work on, which have the potential for income generation,</li> <li>• Encourages the use of technology (wakes up people's interest in tech)</li> <li>• Extended the curriculum to include business aspects like bookkeeping</li> </ul>
<b>Training Methodology</b>	
Group work	<ul style="list-style-type: none"> <li>• Designing and creating together in groups</li> <li>• Giving opportunity to present their ideas in a group setting</li> <li>• Democratic engagement</li> </ul>
Safe space for learning	<ul style="list-style-type: none"> <li>• Creating a safe space for feedback giving and receiving</li> <li>• Creating a safe space for failing and learning, etc., for trial and error</li> <li>• Safe space for bonding among participants (working together for the whole week)</li> <li>• Women only group made them feel comfortable and open to trying new things</li> </ul>
Builds community	<ul style="list-style-type: none"> <li>• Camaraderie among the participants</li> <li>• Working with people they have not met before</li> <li>• Space for bonding</li> <li>• Designing and creating together in groups</li> </ul>
<b>Facilitators and Facilitation Approach</b>	
Facilitator attributes	<ul style="list-style-type: none"> <li>• Women facilitators – it was powerful for women to see women leaders</li> <li>• Facilitators are trustworthy and dedicated</li> <li>• Facilitators were inspiring</li> </ul>
Facilitation approach	<ul style="list-style-type: none"> <li>• Equal treatment of participants – everyone is treated equally, no hierarchy</li> <li>• Offering the training in the local language – no language barrier</li> <li>• Confidence the facilitators have in participants builds participants' confidence in themselves</li> </ul>
<b>Follow-up support</b>	
Funding	<ul style="list-style-type: none"> <li>• Follow-up funding to support business ideas and prototypes coming out of the trainings, trainees</li> </ul>
Tools	<i>No example given</i>
Space	<ul style="list-style-type: none"> <li>• Opportunities for people to come together and work together</li> <li>• Mini work stations for participants in to work on the prototypes, making this more accessible</li> </ul>
Mentorship	<ul style="list-style-type: none"> <li>• Access to ongoing technical advice/support, and guidance</li> </ul>
Space	<ul style="list-style-type: none"> <li>• Opportunities for people to come together and work together</li> <li>• Mini work stations for participants in to work on the prototypes, making this more accessible</li> </ul>
Connections to other opportunities	<ul style="list-style-type: none"> <li>• Connections to grants, volunteers, exposure, networking opportunities</li> <li>• Opportunities for people to come together and work together</li> </ul>
<b>Other program attributes</b>	
Timing of the CCB	<ul style="list-style-type: none"> <li>• CCB was scheduled based on the availability of participants, keeping in mind the local context and seasons</li> </ul>
Selection criteria of participants	<ul style="list-style-type: none"> <li>• Diverse mix of participants from different backgrounds, carefully selected based on their interest levels, etc.</li> </ul>



In terms of the background and profiles of participants (e.g. Participant Factors), interviewees mentioned several relevant participant factors. The first of these related to the **pre-existing domain and technical skills** that participants brought to the sessions, such as familiarity with entrepreneurship or familiarity with textiles, farm machinery, craftwork, or other types of skills. The second participant factor mentioned was the **personality of participants**. Interviewees mentioned that participants who had leadership qualities, were outgoing, or already highly motivated contributed to the success of their workshops. The third factor related to **participants' mindsets**: whether they were curious or fearful about technology, whether they thought they can make things or not, and how they viewed experimentation and risk-taking. The fourth category related to **participants' availability**; some participants were more able to carve out the time required for active participation in the CCB than others. Finally, interviewees noted that **participants who belong to an existing group**, are from the same community, and/or already working together were more likely to be able to move their projects forward after the CCB.

## Linking outcomes to their contributing factors

While interviewees did not always specifically link contributing factors to each outcome area they mentioned, they did draw connections between certain categories of contributing factors and certain types of outcomes. Reported outcomes at the individual, internal level that occurred during or immediately after the workshop, such as enhanced self-confidence and changes in mindset, were linked mostly to enabling factors having to do with the **CCB curriculum**, such as the experiential, hands-on learning nature of the curriculum, which provides opportunities for skill-building, combined with the **training methodology** and facilitation approach, which reduces perceived barriers between participants and creates a safe space for learning.

Individual-level changes that manifested externally, such as a changed approach to daily activities and increased income generation, were attributed to a mix of CCB program factors, participants factors, and external contextual factors. With regard to factors that contributed to increased income generation, for example, interviewees mentioned the curricular factors noted above, as well as factors related to **follow-up support**, such as the provision of mentorship, access to resources for follow-on work, and access to connections that the trainings had provided. In terms of participant factors, interviewees noted that participants' personalities, **schedule and availability, prior training and skills**, and whether or not they were **part of an existing group** contributed to their ability to turn their CCB prototypes into income-generating opportunities following the workshops. They also mentioned contextual factors, such as the **existence of an existing local innovation ecosystem**, and the **presence of government support**, as being important for income generation.

At the group-level and local community-levels, outcomes related to changed social relations and the creation of new projects within the community were associated with contributing factors related to the CCB program as well as the local context, but not to participant factors. Given the general way in which outcomes and their contributing factors were described, these relationships should be interpreted as exploratory and hypothesis-forming rather than conclusive. Nevertheless, they provide insight into specific factors and relationships that can be explored in subsequent research.

# DISCUSSION AND NEXT STEPS

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The outcomes and contributing factors mentioned by CCB practitioners in this round of stakeholder interviews, while preliminary, provide insights to inform the development of evaluation frameworks and tools designed to detect and assess these types of changes in future instances of implementation. At the most practical level, they can be used to inform and refine existing monitoring and evaluation (M&E) tools that practitioners use to identify the types of changes produced by CCB as well as the various causal factors contributing to those changes. The interview findings will also be used by the research team on *Designing an evaluation methodology to assess capacity development for local innovation* study as one source among others to inform the development of a framework for assessing changes related to local innovation capacity.

Moving forward, the research team will share this first round of findings with the interviewees as well as other practitioners of CCB in order to prompt additional learning regarding relevant outcome areas as well as contributing factors. Given the highly exploratory nature of this first round of interviews, the research team will also design protocols for inquiring into the relationships between specific contributing factors and outcomes, as these have been suggested but not confirmed by this initial round of interview findings. Finally, the research team will be developing and testing specific instruments for assessing changes in some of the frequently-mentioned outcome areas, such as empowerment, self-efficacy, mindset change, and changed approaches to daily activities.

## About USAID

This report is made possible by the support of the American People through the United States Agency for International Development (USAID), and specifically through USAID's Research Division within the Innovation, Technology, and Research Hub (IRT/R), formerly the USAID Global Development Lab. ITR works to improve development outcomes through the generation and effective use of scientific research around the world, across all sectors and regions that USAID works. The Research Division does this by partnering within and outside of USAID (particularly with the global academic community) to promote evidence-based programming and policy making, to build human and institutional capacity within global research systems, and, ultimately, to advance USAID partner countries on their journey to self reliance. ITR/R works with USAID and the development community to ensure that research drives real impact through the uptake of quality data and evidence into development-relevant programs, policies, and practice.

## MIT CITE

The Comprehensive Initiative on Technology Evaluation (CITE) at the Massachusetts Institute of Technology was created in 2012 to develop and disseminate rigorous, practitioner-oriented evaluation methodologies for use in global development. Based at MIT D-Lab since 2017, CITE is implemented by an interdisciplinary team of researchers and practitioners working at the nexus of evaluation methodology, sociotechnical systems, and global development challenges. This report is the first in a series of reports under the CITE project, "Designing an evaluation methodology to assess capacity development for local innovation." This project is developing an evaluation methodology to assess changes in local capacity for innovation and creative problem-solving, as well as the outcomes of interventions that seek to strengthen this capacity.

## MIT D-Lab

MIT D-Lab works with people around the world to develop and advance collaborative approaches and practical solutions to global poverty challenges. The program's mission is pursued through academic offerings, including over 15 MIT courses, professional education courses, and student fieldwork opportunities; research groups focused on domains and methods with relevance for rural communities facing development challenges; and a portfolio of participatory design, innovation, and entrepreneurship programs implemented in collaboration with partners around the world.

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