

PROGRAM GOALS

- **Identify and meet the immediate** and essential needs of artisanal miners in four regions of Antioquia, Colombia during the COVID-19 crisis.
- **Create and deliver** creative capacity building (CCB) modules that can be delivered virtually (TeleCCBs) in communities with limited internet connectivity through the help of local facilitators.
- **Spark agency and confidence** of TeleCCB participants by teaching them how to use MIT D-Lab's CCB design process to solve problems affecting their families and communities during the COVID-19 crisis.
- **Evaluate the effectiveness** of TeleCCBs and understand their impact on mining communities in Colombia.



TeleCCB for Artisanal Miners

In the spring of 2020, as MIT D-Lab Inclusive Economies program and its local partners—Diversa, Uniminuto, and Universidad Nacional de Colombia—prepared to deliver a creative capacity building (CCB) workshop to small-scale gold miners in Bajo Cauca, Colombia, when the national government declared a mandatory preventive quarantine. Although the virus had been slow to arrive in the region, the quarantine created severe hardship within these mining communities.

To assess the impact of the mounting crisis on this region and understand the communities' priority needs and preferred method of communication, the program team designed and conducted a rapid mobile survey over WhatsApp with 70 miners in three municipalities of Bajo Cauca: Nechi, Zaragoza, and El Bagre. The results of the survey indicated that these small-scale and artisanal miners were in critical need of facemasks and hand sanitizer as well as food because of disrupted supply chains.

In response to these priorities and the government-imposed lockdown, the program team pivoted and devised a plan to deliver pieces of its content virtually. D-Lab partner Diversa designed “TeleCCB” modules, consisting of short videos and step-by-step graphic instructions to instruct 25 participants on how to fabricate critical items such as face masks, hand sanitizer, vertical gardens, and portable chicken coops.

KEY FINDINGS AT A GLANCE

1. Participants and facilitators reported having found great value in the instruction and hands-on activities of the TeleCCB.
2. Participants felt they acquired useful knowledge and skills that allowed them to confidently use the design process to construct personal protective equipment (PPE) and develop food production techniques and tools to meet essential needs during COVID-19.
3. Facilitators highlighted that participants were inspired and motivated to share their newly acquired knowledge and skills as well as the particular workshop designs within their families and communities.
4. Local facilitators and participants gained useful knowledge and skills on how to utilize their cell phones as a device to overcome logistical challenges and to mobilize teams of miners to solve problems in their communities during times of crisis.

PROGRAM DESCRIPTION

As part of MIT D-Lab's Inclusive Regional Economies program, the team created this project to support miners in Antioquia, Colombia as they responded to the ongoing COVID-19 crisis. The [project](#) builds on a multiyear initiative, Creative Capacity Building for Miners, to train individuals in mining communities, using D-Lab's CCB methodology, to develop sustainable solutions to challenges related to artisanal, small-scale gold mining (ASGM) and alternative jobs outside of the mining sector. The initiative leverages partnerships with Universidad Nacional de Colombia, Universitaria Minuto de Dios (Uniminuto), and Diversa, a community organization and makerspace affiliated with D-Lab.

In April 2020, in order to identify the needs of the miners during the quarantine, the team conducted a rapid survey via WhatsApp. The responses produced accurate and current information about the effects of COVID-19 in these communities, details about the essential needs facing communities (food, PPE, etc.), and the respondents' preferred methods of communication. Based on the survey findings and participants' preferences, the program team decided to conduct the TeleCCB via WhatsApp, using text, video, audio, emojis, and images. Each participant received a physical tool kit and materials, with a supporting curriculum manual as a back-up in case of connectivity issues. In the week before the TeleCCB was conducted, five local facilitators were trained on the TeleCCB curriculum by Diversa's facilitators via a WhatsApp group. In turn, each of the five trained facilitators conducted a TeleCCB via a WhatsApp group with five local participants. The TeleCCB concluded with teams presenting their projects in a design showcase and feedback session that took place on Facebook

ASGM TeleCCB Workshop Agenda

- Day 1:** *Introduction to the Design Cycle*
- Build-It Module One: Hand Sanitizer
 - Design Challenge
- Day 2:** Build-It Module Two: Face Masks
- Day 3:** Build-It Module Three: Vertical Gardens
- Day 4:** Design Cycle Modules:
- Idea generation
 - Experimentation
 - Choosing the best idea
 - Working on the details
- Day 5:** *Build-It Module Four: Mobile Chicken Coops*
Design Cycle Module: Testing
- Day 6:** Virtual Showcase

INITIAL RESULTS

In order to gain insight into the effectiveness of the TeleCCB workshop, D-Lab surveyed participants, facilitators, and organizers before and after the workshop.

The four Build-It activities—facemasks, hand sanitizers, vertical gardens, and chicken coops—were devised to teach relevant skills to address current needs in the context of COVID-19, and that could also provide opportunities for income generation. All participants self-reported an average increase in their competence in using tools and materials to build simple technologies. Eighty percent of participants planned to continue developing projects related to the Build-Its, and 80 percent planned to teach other people the build-it activities. Eight out of the 25 participants indicated they were interested in starting businesses directly related to the Build-It activities, such as the production and commercialization of face masks and poultry.

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In addition, the TeleCCBs contributed to an increase in self-confidence, agency, newly found abilities to create and innovate, and valorization of local design and production. Fourteen out of the 25 TeleCCB participants reported that they felt more capable and more useful after the workshop. One of the participants said, “I feel a change because now I think I can do different different things, for example, I never thought I could make a vertical garden.” Another participant expressed, “I feel different because I can see that I have the ability to do different things, and because I can teach this to my children. Sometimes we underestimate ourselves, but we really do have the ability to do many things.” Moreover, many participants, facilitators, and organizers noted the importance of the family dynamics that were part of the TeleCCB. As the workshop was conducted remotely and in a family setting, many family members got involved in the activities, which resulted in a collective learning process.

Finally, the TeleCCBs provided an opportunity for both participants and facilitators to acquire virtual skills relevant to remote work. When asked what the most important TeleCCB lessons were, eight out of 25 participants mentioned gaining competence in virtual remote work. As one facilitator put it, “For me, it was a gigantic challenge because it was something that I had never thought to do. Also, it taught me that I can facilitate a workshop, which was very rewarding. It was a unique experience for me to facilitate a workshop using a cellphone.”

SPOTLIGHT ON PARTICIPANTS

In addition to addressing essential needs during the COVID-19 crisis, the TeleCCB workshop was developed to build capacity among small-scale miners, enabling them to engage in problem solving and entrepreneurship. Participants reported that they had acquired new knowledge and felt more capable, useful, and self-confident:



Photo credit: Maria Margarita Gamarra

The TeleCCB workshop allowed me to discover new skills and it has helped me generate confidence in myself because it taught me how to design and develop certain practices. Now I have a small face mask business. And I know that by using these skills wisely I can improve my quality of life, benefit my community and pass on those same teachings so that other people can discover the skills that each of us have –but are not aware of.

- Cristina Montoya, Andes

Today we can think differently about how to improve our livelihood and that mining is not everything. We ourselves can give added value to our products. For example, I ended up raising chickens after participating in the June workshop. Today I have 60 chickens and I have added value to my chickens—they are wood-roasted chickens and that makes my chicken have a higher value. - Aida Luz Mosquera, Bajo Cauca



Photo credit: Maria Margarita Gamarra

NEXT STEPS

Due to the ongoing pandemic, MIT D-Lab and its partners continue to develop and deliver virtual content while developing the program's next phase. The TeleCCBs delivered in gold mining communities in Colombia have introduced opportunities for future programs as we consider how we might better leverage digital platforms to reach our global communities with virtual curricula.

Additional TeleCCBs

In Bajo Cauca, participants expressed interest in additional food-related innovations, and the program team is developing content for two more TeleCCBs for this region focused on food production and processing.

Economic Development and Study Workshop

MIT D-Lab is conducting an economic development study and a virtual multi-stakeholder design workshop in Los Andes. Both the study and workshop are being conducted alongside private sector

actors, including representatives from the mayor's office, and small-scale miners with the goal of identifying the sectors within the region that are most promising for economic growth.

Microgrants and Virtual Innovation Centers

Ten technologies and services that emerged from the TeleCCB workshops will be selected to receive microgrants, with the goal of growing a network of interrelated enterprises. To support these fledgling enterprises, virtual innovation centers are being launched in the two regions and managers will be hired to support the emergent technologies and businesses. In addition, beginning in April 2021, the project will begin to provide CCB workshops for the development of businesses either in person or virtually, depending on federally mandated quarantine measures.

Find out more about MIT D-Lab's
Inclusive Regional Economies Program

<https://d-lab.mit.edu/innovation-practice/inclusive-regional-economies>

ACKNOWLEDGMENTS

Funding for the Creative Capacity Building for Miners program was provided by the Rising Tide Foundation, with additional funding for the Virtual Innovation Centers provided by Apple.

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ABOUT 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 mission is pursued through our academics program of more than 15 MIT classes and student research and fieldwork opportunities; our research groups spanning a variety of sectors and approaches; and a group of participatory innovation programs we call innovation practice.

Image from page one courtesy of Diversa