

**IDIN Summer  
Research Fellowship  
Final Report**



*Photo from a community focus group held in Santa Catarina Palopó, Guatemala*

# **Preliminary Qualitative Research on Innovation for Sustainable Homes in Sololá Department, Guatemala**

**September 15, 2017**

**Jessica Huang, DrPH Student, Harvard Chan School of Public Health**

## Summary of Research and Findings on Local Innovation

The final project evolved to include three strands of investigation, which were identified together with Guatemalan partner organization Link4 during planning meetings. The research was conducted in the main partner community of Santa Catarina Palopó as well as other communities around Lake Atitlán in the Sololá Department of Guatemala.

The first strand is around whether a technique from environmental health – the analysis of co-benefits and co-costs, collectively called co-impacts<sup>1</sup> – can be applied to inform the design of innovations for sustainable homes in the community. The

### Strands of Work

- Explore if and how a co-benefits and co-costs framework can inform design projects
- Begin mapping stakeholders in the regional innovation ecosystem
- Identify barriers and enabling factors to innovation in communities

rationale is that there may be direct and indirect as well as intended and unintended impacts across different sectors and time scales, beyond the stated primary goal of an intervention. This topic was explored through innovator interviews and

focus groups with two women's associations in Santa Catarina Palopó, using projects from the Sustainable Homes International Development Design Summit (IDDS) that was hosted by Link4. The concept of co-impacts was introduced to participants by focus group facilitators or interviewers in the indigenous Kaqchikel language or Spanish, using a framing adapted from outcome harvesting<sup>2</sup> and ripple effects mapping (REM).<sup>3</sup> Community innovators who were on the IDDS project teams were interviewed about what they perceived as potential co-impacts, and then focus groups with non-IDDS participants from community women's associations brainstormed potential co-impacts on the same topics. These lists of co-benefits and co-costs were compared to each other, to see if community members generated additional ideas that were not brought up by the innovators on the IDDS project team. IDDS project team members were also asked whether they believe this awareness of potential co-impacts will affect their project planning process moving forward, and if so, how.

The second strand of research was to start the process of generating a map of stakeholders in the region working on innovations related to sustainable homes. For example, there are a number of organizations in the region who are working on sustainable agriculture and "ecobricks," which are a construction material made from waste. One area of emphasis was to explore whether and how stakeholders are

---

<sup>1</sup> Üрге-Vorsatz, D. et al., 2014. Measuring the Co-Benefits of Climate Change Mitigation. Annual Review of Environment and Resources, 39(October), pp. 549–582.

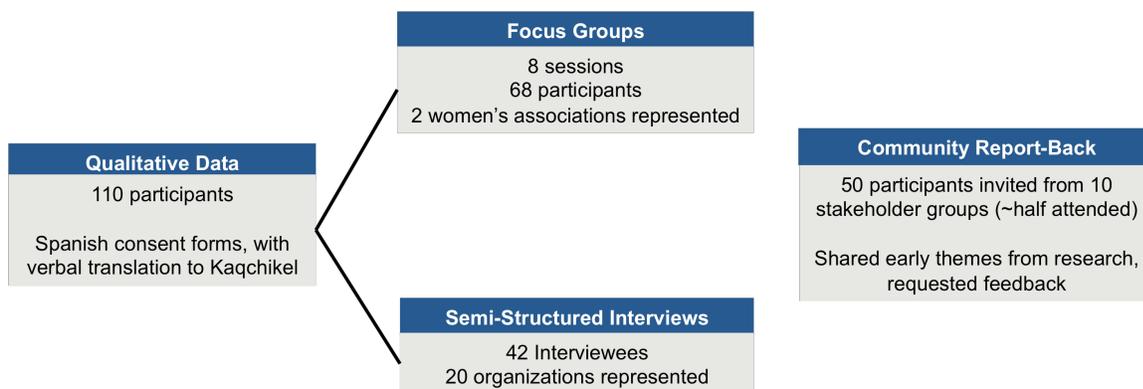
<sup>2</sup> Wilson-Grau, R. and Britt, H., 2012. Outcome Harvesting. Ford Foundation MENA Office Publication.

<sup>3</sup> Hansen Kollock, D. et al., 2012. Ripple Effect Mapping: A "Radiant" Way to Capture Program Impacts. Journal of Extension 50.5 (2012), pp. 1-5.

collaborating, and what might facilitate more collaboration. This strand of research included visits to stakeholders in 10 communities and towns around Lake Atitlán, in addition to several stakeholders within the main partner community of Santa Catarina Palopó. Initial stakeholders were identified through community contacts, with more referrals generated during subsequent stakeholder interviews. The work is still in progress, with the map continuing to be constructed using phone interviews and secondary research that can be done remotely upon return while at the Harvard T.H. Chan School of Public Health. Preliminary tags for categorizing stakeholders, such as “religiously-affiliated, politically-affiliated, none declared, unknown” and “food, shelter, income generation, waste management, energy, WASH (Water, Sanitation, and Hygiene), education, health,” were generated through suggestions during the stakeholder interviews.

The third strand of research was to explore barriers and enabling factors to innovation in communities through focus groups with community members and semi-structured interviews with the stakeholders identified above. Themes emerging from these interviews were then coded, and the most frequently mentioned themes as well as relatively unique themes were noted. One part of this strand of research included gathering suggestions for setting up a community innovation and idea exchange space, as Link4 and collaborator Universidad del Valle de Guatemala (UVG) Altiplano were interested in learning from results to inform designs of an innovation center on the local university campus intended to be accessible by community members and potential mobile or community-based innovation spaces in the future. A report-back session was held in Santa Catarina Palopó afterwards, inviting community members and organizations working in the community to hear preliminary results, ask questions and provide feedback.

A summary of methods and data sources is below:

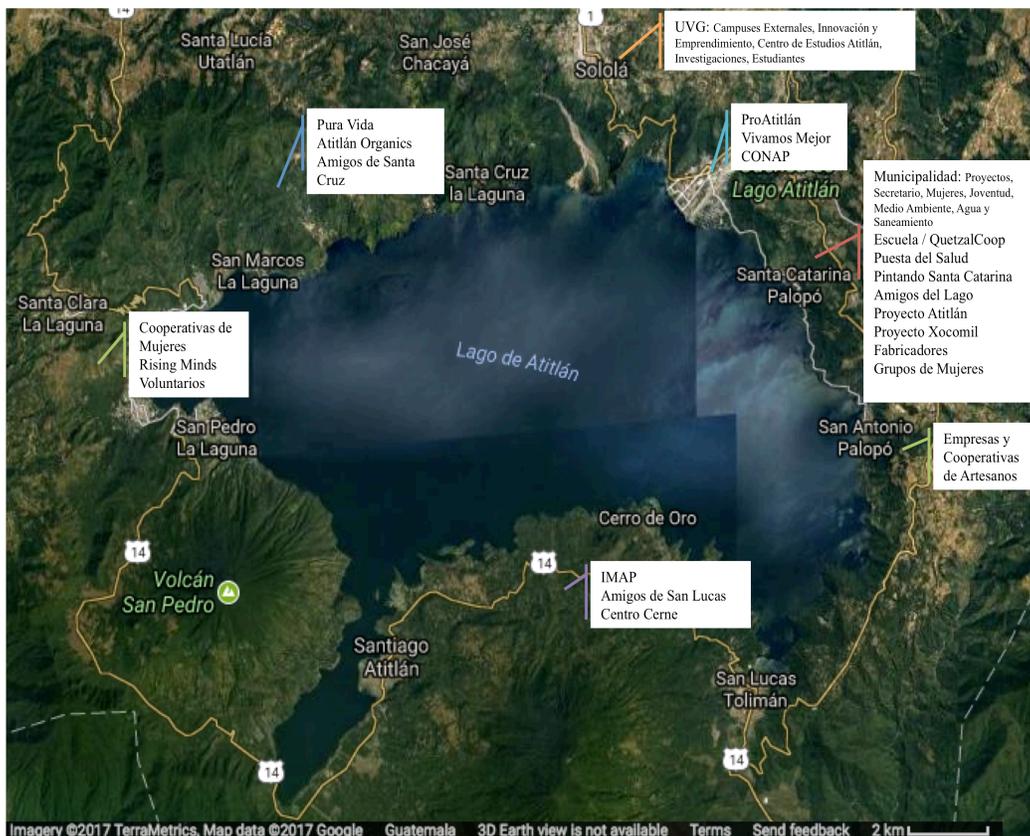


The aspects of local innovation that this project sought to understand include enabling factors and barriers to innovation in communities, the regional innovation ecosystem and to what extent stakeholders are currently able to collaborate, and what community members hope to see in a community innovation space.

Preliminary findings included how for all except one of the fully participating IDDS projects, focus groups of community members were able to identify one or more potential co-impacts that were not identified by the corresponding IDDS project team

member. For example, one potential co-cost that was not identified by the IDDS project team working on alternative fuels to firewood was that it may be more difficult for the community to hold festivities that traditionally have a large bonfire. All seven of the IDDS project team members who were interviewed (one member was not available due to work commitments in another community at the time of this research) stated that going through the process of brainstorming co-impacts helped with project planning. The majority of participating community members in the focus groups also expressed appreciation for being engaged in giving project input. In general, community members identified the economic co-benefits and co-costs as higher priority than the environmental, health and educational impacts. This may be of interest, considering how the Sustainable Homes IDDS had a large emphasis on environmental sustainability in their messaging.

For the second strand of research, all interviewees expressed interest in connecting with other stakeholders, but less than a quarter of stakeholders said that they regularly collaborated with other organizations or individual innovators. The reasons given for this were varied, including concerns about competition arising after sharing innovations that could threaten an innovator’s financial sustainability as well as how differences in each stakeholder’s approaches to innovation can make it more difficult to communicate and work together. One of the most common suggestions was to enable access to more resources for connecting with other stakeholders, as many interviewees found their time, finances, and human resources to be limited for inviting or traveling to meet with collaborators. A map of stakeholders visited is below:



### Top Barriers to Collaboration

- Limited resources to invest in connecting with other stakeholders
- Competition arising after sharing innovations could threaten an innovator's financial sustainability
- Differences in approaches to innovation make it more difficult to communicate and work together

In the third strand of research, the most immediately applicable findings would probably be the stakeholder and community member perspectives on what works and does not work in setting up accessible innovation spaces. For example, the community focus groups consistently brought up concerns about childcare responsibilities being a barrier for adult caretakers to participate in community efforts to innovate and

solve challenges, while noting that many innovation centers also seek to engage youth. The suggestion from several focus groups was to simultaneously offer innovation center programming for adults and youth, when possible, to make it easier for older as well as younger family members to join. Another major area of concern and ideation during the community focus groups was around ensuring clear and transparent methods for deciding which community members can get included in spin-off enterprises from promising innovations. Focus group participants stated that many community members would be motivated to try innovating to not only solve challenges, but also generate income, so the opportunity to join a spin-off enterprise from a community innovation center is a great draw. Additionally, social entrepreneurship is inherently risky, so some innovations may be more successful in generating income and making an impact than others, and community members may wish to switch between efforts or join one when they were not part of the original team. Focus group participants expressed a need to engage the community in determining how opportunities to get involved with innovations and social enterprises can be appropriately distributed, shared, and made more inclusive. These ideas were not previously expressed in meetings with Link4 or during interviews with multiple UVG Altiplano faculty and staff about innovation center planning.

The community report-back session was intended to be a miniature multi-stakeholder consultation involving residents and representatives of organizations working in Santa Catarina Palopó, and to be a safe space for expressing any concerns about the research, asking questions, and making corrections and suggestions. The main lesson learned during this process was that it is important to have the right people in the room in order to achieve the objectives, and that scheduling can be a challenge. Only half of the invited attendees were able to participate, who expressed appreciation for having the report-back to honor the time they had given to share information during interviews and focus groups. Several invitees who could not participate also expressed appreciation for the intent to include them. During the session, those who attended made few corrections but gave some more ideas for supporting innovation in the community as well as suggestions for whom to interview and include in focus groups in the future.

As a result of the research process, particularly the snowball referral method, several individual innovators and organizations in the Lake Atitlán region were identified, working across multiple sectors related to sustainable homes.

## Reflection and Recommended Next Steps

One challenge encountered relates to how much of the prior work on outcome harvesting and REM had been conducted on observed impacts, whereas this research was conducted entirely around potential impacts because of the IDDS project teams were in a relatively early stage and not yet seeing as many impacts. Another limitation of the research methods used for this project were the mostly within-network referrals for focus group participants and stakeholder interviewees, given the limited online presence and searchability of individual and organizational innovators in the region.

There were also multicultural challenges, as the languages spoken in the region included Spanish, Kaqchikel, Tz'utujil, K'iche, and more. It was not ideal to have different translators in rotation for this research project, due to the community partners' schedules, as it could mean less consistency between focus groups. Additionally, the community contexts vary substantially around Lake Atitlán, so a stakeholder in Santa Catarina Palopó may face different challenges and have access to different resources compared to a stakeholder in San Marcos. Transport between communities around the lake was time-consuming and sometimes required going by boat when the roads were not passable, which was a challenge for conducting the research activities, generating empathy for what stakeholders face when trying to move between communities to do their work and collaborate with others.

Next steps include following up with the IDDS project team members who are not from the communities, to share the co-impacts identified by community members. It would be interesting to see if there were co-impacts that can inform the team's planning process which they did not anticipate on their own, and whether the teams are able to build upon co-benefits to maximize gains to the community and mitigate the risks of co-costs. Another area of research could be to explore whether engaging community members in the process of brainstorming co-impacts can help increase awareness of and buy-in around innovative projects.

The stakeholder map is intended to be a living resource once it goes live online, where people can continue to update it, edit it, and add more stakeholders. It would be interesting to crowdsource stakeholder mapping in this region, as well as conduct research on who may use and contribute to the map. There are remaining questions around what constitutes an innovation enabling ecosystem, particularly when there may be relatively little collaboration between stakeholders.

For the third research strand, it would be interesting to compare the coded barriers and enabling factors of innovation in this specific geographic location to what is mentioned in the research literature and in reports from different contexts. The hope is that the ideas generated by community members and stakeholders for improving the effectiveness of community innovation centers can be piloted and evaluated.

If another student were to conduct a project at this site or a similar site, where there are multiple on-going research efforts as well as monitoring and evaluation activities, one recommendation is to ensure there is clarity during communication with community

members and stakeholders around the differences between projects, goals, and people's roles. In this situation, it is also critically important to ensure that community members are not overburdened throughout the research activities, so the concept of lean research<sup>4</sup> can help with streamlining plans to reduce the burden on community members. Finally, as the International Development Innovation Network (IDIN) Research Manager advised, it is not recommended to take on so many research strands in a short time frame.

For more information about this work, please contact [jahuang@mail.harvard.edu](mailto:jahuang@mail.harvard.edu).

---

<sup>4</sup> Armstrong, P., Wilson, K., Gordon, R., Hoffecker Moreno, E., Krystalli, R., Leith, K., and Stinchfield, B., 2015. Lean Research Working Paper.