



Lean Research Field Guide

A rigorous, respectful,
relevant, and right-
sized alternative

Examples from
the Sustainable
Food Lab & the
Lean Research
Community

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An enumerator explains the use of triads to help a Senegalese farmer self-interpret his story, using the Inclusive Business Scan. Courtesy Rikolto.

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Introduction to Lean Research



Researcher carrying out a solar light technology evaluation in Morocco. Courtesy MIT D-Lab.

A new and evolving framework for research

As outlined in the Lean Research declaration, how we approach and implement research, monitoring, and evaluation matters. Data collection is an intervention that can negatively or positively affect research participants and their communities. The power dynamics between researchers and those researched affect not only the participant's experience, but also the outcomes of the research.

Disrespectful and inefficient data collection practices can produce research results that are neither relevant nor actionable, so it is important to establish alternatives that are rigorous, respectful, right-sized, and produce results that are meaningful to researchers, research participants, and other stakeholders as well.¹

Data collection is an intervention that can negatively or positively affect research participants and their communities.

The Lean Research Initiative, led by MIT D-Lab, the Fletcher School at Tufts University, and Root Capital, offers an alternative. Lean Research is a new and evolving framework for research in the contexts of international development and humanitarian work.

It is also a growing community of practice, which is made up of practitioners, scholars, and donors from academic institutions, non-governmental organizations, multi-lateral and bi-lateral entities, and social enterprises, all of whom contribute ideas, cases, and more.

Lean Research draws from lean production, participatory design methods, and participatory action research. It prioritizes the experience of research participants and other stakeholders and it emphasizes continuous improvement and reduction of waste in the implementation of research, and highlights the importance of creating actionable results.

¹ This section presents content adapted from *The Lean Research Declaration*. (2015). Cambridge, MA: MIT D-Lab.



As described in the Lean Research Declaration and the Lean Research Framework, Lean Research seeks to:

- » Increase the quality of information gathered through research.
- » Minimize the burden on the research participants and other stakeholders.
- » Improve the usefulness of research findings for research participants and stakeholders.
- » Enable both the research process and outputs to benefit study participants and their communities, as well as donors and decision-makers.²

Lean Research prioritizes the experience
of research participants and other
stakeholders and it emphasizes continuous
improvement in the research process.

Neither these observations about the problem, nor the proposed solutions, are new. Researchers have been talking about this for decades, yet the current state of practice falls short of aspiration. Both the [Lean Research Working Paper](#) and the Root Capital Working Paper [A Client-Centric Approach: Impact Evaluation that Creates Value for Participants](#) provide evidence and examples for why researchers of vulnerable populations need to do better.

The [Lean Research Framework](#), developed in 2015, describes Lean Research principles and provides a set of guiding questions for implementing the principles in your work (included for reference in this document as Appendix A). The response from researchers has been positive, but

always accompanied by a question: “I support these principles – who wouldn’t? – but what are the specific things I should do differently in my next research project?”

Following discussion of the Lean Research Framework at the Sustainable Food Lab (SFL) Performance Measurement Workshop in 2015, members of the SFL Community of Practice on Smallholder Performance Management expressed interest in assembling a field guide of methods for working with smallholder farmers in a leaner way as a companion piece to their

co-developed [Towards a Shared Approach for Smallholder Performance Measurement](#). In response, we co-created this field guide with, and for, the SFL community, with the hope that many of the practices will be relevant to other researchers as well.

Through this field guide, we have highlighted examples from the Sustainable Food Lab community and the Lean Research Community. The practices are not a comprehensive list of lean practices, but rather, a set of lean practices that researchers and monitoring and evaluation specialists have used in their recent data collection activities.

² This content is taken from Hoffecker, E., Leith, K., and Wilson, K. (2015). The Lean Research framework: Principles for human-centered field research. Cambridge, MA: D-Lab.



An Indonesian cocoa farmer interprets his own story using the SenseMaker-based Inclusive Business Scan. Courtesy Rikolto.

Lean Research Principles



MIT D-Lab researcher explaining the objectives of a cookstove adoption study in Soroti, Uganda. Courtesy MIT D-Lab.



Rigorous, Respectful, Relevant, and Right-sized

Lean Research does not provide a set of rules to follow, but rather encourages innovation and continual improvement in research practice. As described in the Lean Research Framework, Lean Research incorporates four principles, of rigor, respect, relevance, and right-sizing.

RIGOR: Lean Research is conducted according to the highest standards of the research methodology that is best suited to the specific nature of the study. Research must adequately address issues of both internal and external validity and ensure accurate reporting of results while protecting sensitive participant data.

RESPECT: Respectful research places the dignity and delight of the research participant at the center of the research experience. It offers a clear, intelligible informed consent process, in which research participants feel truly free to reject participation without fearing negative consequences. If they decide to engage, participants find the experience enjoyable and meaningful. Participants have the opportunity to review and refute research findings and feel that their contributions to the research are appropriately valued.

RELEVANCE: Relevant research has clear value to stakeholders and addresses priority issues and questions for research participants, study communities, and donors and decision-makers. Research findings are easy to understand and accessible to research participants, practitioners, and policymakers. Research studies and results are framed in ways that can inform action and decision-making at various levels of authority, and stakeholders commit to use findings to inform action.

RIGHT-SIZING: Research is right-sized when its scope and methods are well suited to the research objectives and the importance of the research questions to stakeholders. Right-sized research is only as time-consuming, burdensome, and costly as it needs to be, and all unnecessary questions, activities, and protocols are removed.³

Keep these principles in mind as you think about each stage of the research process. The next section of the field guide outlines practices employed by the Sustainable Food Lab Community and the Lean Research Community to make their research, monitoring, and evaluation activities ‘leaner.’

³ The principles are taken from Hoeffcker, E., Leith, K., and Wilson, K. (2015). The Lean Research framework: Principles for human-centered field research. Cambridge, MA: D-Lab.

Lean Practices in Action



What do cocoa farmers from Nicaragua think about inclusive business partnerships? Helping cocoa farmer respondents to interpret their own stories is a key r

Examples from the Sustainable Food Lab Members and the Lean Research Community

Organized as a guide to conducting research with smallholder farmers, this section includes a set of sequenced practices from Sustainable Food Lab members and the Lean Research Community, who are putting these practices into action to make their research more rigorous, respectful, relevant, and right-sized. To help guide the reader through the different stages of the research process and help identify when the Lean Research practices may be more relevant, this guide has been divided into research phases

- » Scoping and Research Design
- » Gathering Data
- » Analyzing Data
- » Reporting and Dissemination

Topics that are already covered in depth in existing resources (e.g., how to establish sample size, survey and interview design, and what statistical analysis techniques to use) are not covered here. Individual practices may or may not be appropriate for your research study, but you may gain insight or inspiration from the practices provided by the contributors.

It is important to review the questions at the end of the Lean Research Framework (also in Appendix A of this document) to determine which practices are most appropriate for your study.



Phase 1: Scoping & Research Design



MIT D-Lab solar lighting technology evaluation, Morocco. Courtesy MIT D-Lab.

Although the Lean Research principles should be integrated throughout each phase of research, it is particularly important that they be established in the design and planning phase.

Assess whether primary data collection is necessary

Primary data collection can be resource intensive and create a burden on the research participants. Thus, it is important to identify whether and how much data needs to be collected. In some cases, it may not be necessary, or you may not need to collect as much data as originally planned, as the data already exists or the information can be gathered using other mechanisms. Therefore, it can be beneficial to:

- » Determine what data exists and whether primary data collection is necessary at all by reviewing the literature, talking to key stakeholders about data that was collected previously,

and reviewing the project goals

- » If primary data collection is required, identify how much is necessary and how that data should be collected

Example

Technoserve

Before embarking on data collection for any given study, Technoserve identifies whether there are rigorous ways to measure impact that do not require a survey of a farmer. Are there transparent market prices that they can use? Are there ways to model or proxy incremental gains? Are there ways to use administrative data that already exist? Technoserve raises the question of whether a survey or other primary data collection is needed to capture the data that's required, which helps to ensure that the work is respectful, relevant, and right-sized.

Consider engaging stakeholders in the research up front to identify research questions and expectations

To ensure that the research is relevant to key stakeholders, there is buy-in for the research, and the expectations are clear, it can be beneficial to work with partners and other key stakeholders to define the research scope and design and outline roles and responsibilities at the beginning of the project. Therefore, it can be important to:

- » Think about engaging stakeholders to define the research questions and get input into the research or evaluation design
- » Consider including a scoping trip to define the research or monitoring and evaluation questions, answer any questions about the study, outline benefits and costs, and define roles and responsibilities
- » Review existing documentation and survey and interview questions from organizations that have conducted similar work
- » If a scoping trip is not feasible, consider getting feedback from stakeholders on the research or evaluation questions and interview or survey questions before the study begins

Examples

UTZ

In the past, UTZ, joining forces with Rainforest Alliance, hired researchers to conduct studies, but UTZ's partners on the ground were not always actively engaged in the scoping and designing of the research. The monitoring and evaluation staff members have realized that it is important to understand the perspectives and needs of the stakeholders on the ground before commissioning the research. UTZ has found it necessary to build rapport with local partners, so that they understand the research and can actively participate in the

definition of the research goals. As a result, UTZ has added a scoping trip to its research activities, in which they set up a dialogue with local stakeholders about the research questions and data collection process. Although this requires more time and money, it can increase the quality of the data and the usability of the research, which affects the rigor and relevance of the study.

Rikolto

After Rikolto created a new organizational structure and an associated theory of change, they also revised their monitoring and evaluation system. While updating this system, Rikolto held a workshop in Nicaragua with the local partners and staff and a follow-up staff workshop in Belgium to determine which data to collect, how the data would be collected, who would gather the information, and how the data would be used and by whom. By engaging the stakeholders in the value chain early on in the process, Rikolto found that the data collected was more relevant and the monitoring and evaluation system was less burdensome to the participants, which demonstrates respect and helps to ensure that the monitoring and evaluation data is more useful.

Root Capital

Root Capital has found it important to explain the benefits and costs of the study in detail and to repeat as necessary to ensure that enterprise managers understand the time required of them over the course of the study. For example, enterprise managers may need to make introductions to farmers, set up appointments for surveys, and oftentimes take surveyors directly to farmers' houses that might otherwise be too difficult or remote for enumerators to find. Through this process, the research team clearly lays out the expectations, demonstrating respect for the stakeholders involved.

William Davidson Institute

When William Davidson Institute begins an impact assessment study (or any research), it first meets with its partners to understand their goals, to provide more information on how the study findings can be used, and equally important, to educate partners on the finer nuances of what research is and how it is conducted. William Davidson Institute has found that this educational component is essential for the future buy-in of the management team, many of whom come from business backgrounds (or backgrounds that do not regularly engage with research), to conduct the impact assessment as well as to gain a full understanding of why certain decisions are made in research.

Additionally, as part of its data collection process development, William Davidson Institute speaks with their partners to understand the most efficient way to collect data that does not create any additional burden for the staff. William Davidson Institute co-creates the research design with the partner and solidifies the final set of indicators for data collection with partner buy-in. This process in-

creases the relevance of the study and shows respect toward the key stakeholders, recognizing that they have important contributions to add.

Committee on Sustainability Assessment

In Colombia, where community pressures near conflict areas can be significant, COSA and its local partner institution CRECE applied Lean Research principles from the start of a project with full support of the publicly held company that commissioned the work. The effort began with a broad community discussion about their sustainability challenges, an agreed baseline survey to identify the core issues or hotspots, and a mutual review and discussion of the data to arrive at key topics on which the community wanted to partner with the company.

Many of the community members were single parent, female-headed households who had unique needs and expectations. Working with female extension agents and taking the time to talk and listen, within a year, a multi-year work plan was in place and, together, the company and producers agreed on the performance indicators that each would address and how to measure them.

With regular reviews of simple-to-measure Key Performance Indicators (KPI) that anyone could check on, the relationship between the client firm and the producer community blossomed into one of deep trust, as each was able to see and maintain accountability for its commitment using tangible metrics rather than opinion or anecdote.



Research being conducted for a Living Income Benchmark Study, Ghana. Courtesy Sustainable Food Lab.

Consider utilizing standard indicators that have been previously verified

To save time and resources, it can be helpful to build off previous work. In some cases, substantial work may have already been done to develop standardized indicators.

If the indicators are tested and verified, this can increase the rigor and relevance of the study. It also helps organizations to right-size the research and select the appropriate questions.

Although there is still a need to test the questions within the local context, selecting indicators from a previously tested list of questions can also demonstrate respect to the research participants. Therefore, it can be valuable to:

- » Identify existing tools, instruments, and indicators that may be relevant for your project
- » Consider utilizing tools that have been tested and validated by others, but do not limit yourself to those tools if they are not appropriate

Examples

Committee on Sustainability Assessment

Informed by the decades of collective experience of its founding institutions, COSA began with best practices from a literature review, incorporated extensive feedback from a wide variety of stakeholders during years of fieldwork, and created a set of indicators that are aligned with dozens of leading multilateral agreements to ensure best practice consistency.

The resulting library of hundreds of indicators measure the social, environmental, and economic elements of sustainability with a focus on rural communities. COSA's indicators are formulated carefully to comply with a number of SMART criteria (Specific, Measurable, Achievable, Realistic, and Trackable), so that they are practical to use and provide actionable information.



MIT D-Lab partner conducting interview in Mali. Courtesy MIT D-Lab.

They have been tested in tens of thousands of surveys around the world and are used by hundreds of major organizations. COSA has found that common indicators used consistently over time can reduce costs, streamline data collection, increase fidelity of the data, and permit comparison and quality control, thus adding to the rigor of observations in the field.

William Davidson Institute

During an impact assessment project, William Davidson Institute first conducts a literature review to understand what relevant research exists as part of its qualitative phase.

They do so to understand what research has been carried out in order to enable the Institute to build off that work and leverage any survey measures already developed (which also allows the organization to compare outcomes to others). This helps to increase the rigor and relevance of their studies.



MIT D-Lab workshop participant, Estelí, Nicaragua. Courtesy MIT D-Lab.

Reduce the data collection burden on the research participants

Many researchers have had to work with a survey instrument so long that it wears out the research participant, causing the respondent to disengage. The outcome is incomplete or inaccurate data, which undermines the study. From the respondents' perspective, undergoing such a survey is onerous, and likely interferes with more important work or household activities. Therefore, it can be beneficial to:

- » Identify which questions are necessary to achieve your research or monitoring and evaluation goals, and identify which results could contribute to decision-making
- » Work with local stakeholders to determine the appropriate length of time for an interview or survey
- » Think about ways to reduce the burden on the research participants, such as including only as many questions as necessary or using other data collection mechanisms

Examples

Syngenta

Syngenta's questionnaire used to include 120 questions in a survey and took an hour to administer. Suspecting they were using more questions than necessary – and more of respondents' time than was needed – Syngenta and a collaborator prioritized the questions focusing them on their theory of change, which emphasized the effects of input use and training on productivity, incomes, and the farming family's social situation.

As a result, the number of questions was reduced to one or two per indicator. This enabled Syngenta to reduce the burden on the research participants and demonstrate greater respect, while also ensuring that the research was right-sized. This also helped improve the quality of the data collected, as both interviewer and interviewee faced less stress from long questionnaires.

Committee on Sustainability Assessment

Utilizing modern computer-assisted personal interviewing (CAPI) technologies over the last decade, COSA has reduced the time needed for surveys by half. Learning to use functionalities such as data piping, answer loop-merge, question placement, and even validations make the survey more of a conversation, where nothing is repeated, and the flow creates rapport between respondent and surveyor for a more respectful environment.

MIT D-Lab

In a cookstove adoption study in Uganda, MIT D-Lab utilized stove-use monitors to reduce the interview burden on the participants. The team was able to reduce the number of questions and amount of time required for each interview. The sensors also increased the accuracy of the data, as participants did not have to recall exact usage patterns from last week, last month, or the last six

months. Sensors come with their own set of ethical dilemmas as well as cost implications in a study that may have limited financial and technical resources; however, if those issues are adequately addressed, sensors can be a way to reduce survey length and improve data accuracy, which can increase the level of respect and rigor in the study.

UTZ

UTZ found that when they administered a survey that took as much as two hours to complete, that the quality of the data was compromised. In addition, participants were sometimes not able to recall details and made up data or withdrew. UTZ realized that the studies were too time consuming and that the team needed to do more to prepare farmers, researchers, and other stakeholders for the study. UTZ and the research team have looked for ways to reduce the number of questions and decrease the burden on the participants, demonstrating respect toward the participants, increasing the rigor of the study, and ensuring that the research is right-sized.

Test survey questions in the field to make sure the questions are clear, culturally appropriate, and necessary

Interview or survey questions may be unnecessary or confusing, which can be disrespectful of the research participants and reduce the quality of the data. The instrument is as vital as the surveyor or interviewer for getting good data. If the survey or questionnaire is inappropriate or confusing, it is very easy to reduce the fidelity and even the veracity of the data being gathered. Therefore, it can be important to:

- » Test questions in the field to make sure they are clear to the interviewers and research participants, and that the questions are necessary and culturally appropriate. For instance, you

might test the interview questions with potential research participants or the research team to get their feedback on the wording, flow, and cultural acceptability of the content

- » Debrief with the research team at the end of each day to identify if any of the questions are creating issues or if the research participants have other questions
- » Have the questions translated into the local language and back-translated

Examples

William Davidson Institute

William Davidson Institute researchers pre-test their questions in the field with a small sample representative of the target population to adapt questions to the local context, ensure that survey questions retain their intended meaning, and all respondents understand the questions in a similar manner. This includes adjusting the language of any questions that confuse respondents, especially after translation to the local language, and determining whether any questions are unnecessary or inappropriate.

The process also enables the team to prioritize which questions are included in the final survey based on the time taken to answer the survey from start to finish; and how best to order questions to ensure sensitive questions are asked after rapport has been developed between interviewer and respondent.

In addition, the pre-test helps to evaluate the length of the survey and ensure participant respondents do not become tired during the interview, demonstrating respect to the research participants. The pre-test is an important practice for right-sizing the research, ensuring rigor through collecting accurate data, and respecting the time of the participants.

Syngenta

Syngenta also tests their questions in the field with a small group of farmers. Based on feedback from the grower, they adjust the questions accordingly. This is not only important to make sure that the questions are clear to the farmers and data collection process is not too burdensome, but it also helps to determine whether the interviewers understand the questions and can explain them to the growers. Syngenta then discusses the pilot test results with the interviewers and modifies the questionnaire if needed. This process can help to ensure that the research is right-sized and the research process is understandable, and respectful to all involved parties.

Committee on Sustainability Assessment

To get functional data, COSA rigorously tests questions in the field with farmers, gathers their feedback, and adjusts the questions accordingly. In addition, the surveyors play-act with the trainers to test difficult situations they may encounter in the field. COSA also has the trainers accompany the surveyors on their first interviews to see if there are any questions or issues that arise during the process. These steps help to ensure that the research is rigorous and respectful and even pleasant.

Create a respectful consent process in which research participants feel comfortable saying no

Research participants have the right to decide whether they want to participate in the research through informed consent. By providing the research participants with information about the study in a clear and concise manner, they are more likely to understand the content and be able to decide whether they want to participate. This demonstrates respect to the participants. Therefore, it can be important to:

- » Establish a consent process in which the researcher explains to research participants the purpose and process of the research, discusses any risks and benefits, explains the confidentiality process and how results will be attributed and used, and ensures that participants understand these parameters and can meaningfully agree or refuse to be part of the study
- » Determine which type of consent agreement (oral or written) is most appropriate
- » Try to make the information easier to understand by potentially simplifying the content or using an alternative mechanism to communicate the information

Examples

MIT D-Lab

MIT D-Lab has found that it is helpful to engage stakeholders (research participants, partners, enumerators) in the creation of the consent form and determine how to make it clear and understandable to the participants, which demonstrates respect. This can mean simplifying the language or creating a video or skit in the local language that explains the data collection process. In one study in Uganda, the team worked with local stakeholders to make the text more concise and easier to understand by cutting down on the content without losing the intended meaning and changing the wording, so that it was clear, simple, and easy to translate into the local language.

William Davidson Institute

Researchers at the William Davidson Institute have discovered that research participants may feel less comfortable participating in a research study when they have to sign a consent form. William Davidson Institute tests the informed consent form and the emotions around signing the form during the pre-test. In one study,

the researchers shared this information with the Institutional Review Board (IRB) at the University of Michigan, which typically requires a signed form and asked permission to obtain verbal consent from participants in lieu of a signature.

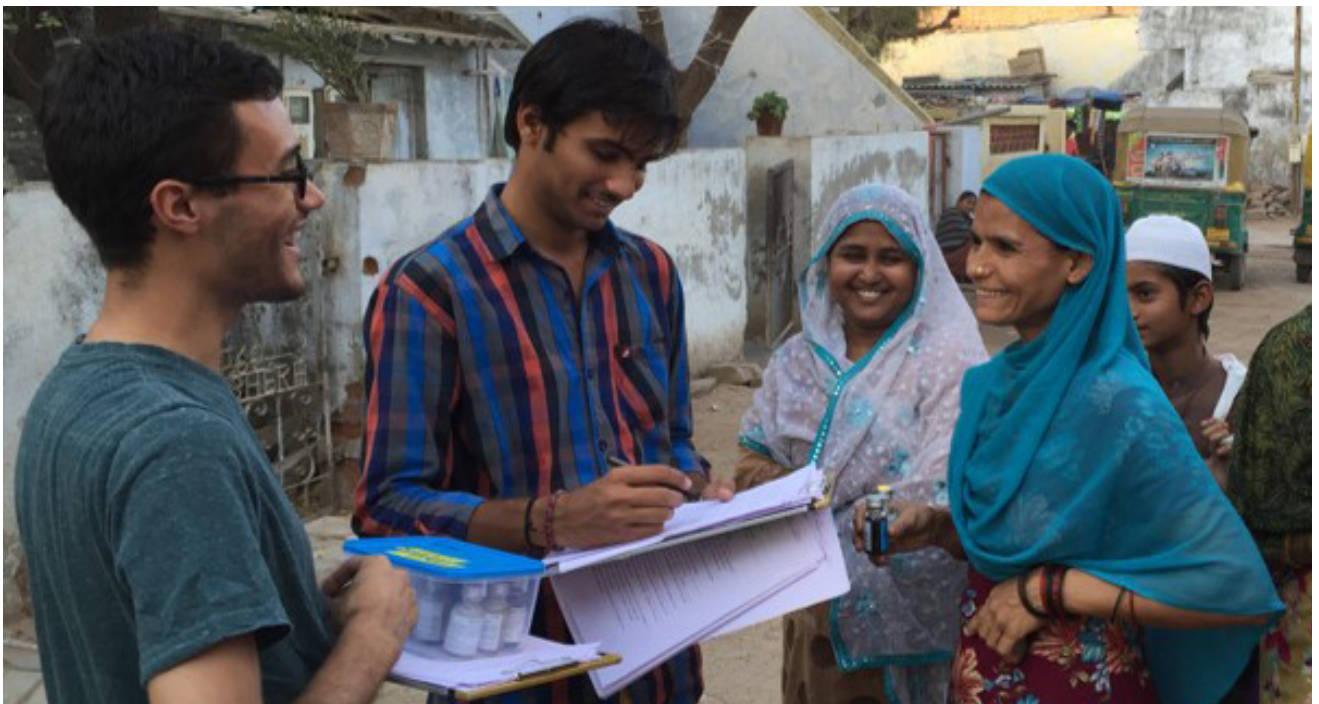
The researchers were ultimately successful and now, whenever appropriate, use oral consent, which can be less intimidating and less anxiety-provoking for research participants. They continue to provide contact information of the principal researchers or the key partner by giving research participants a copy of the informed consent form with this information for their records. By creating a thoughtful consent process, researchers can create a more respectful environment.

(It is important to note that while this type of consent practice is a good option, not all IRBs will allow it. If an institution requires IRB approval, oral consent should only be used if it has been approved by the IRB.)

Tufts University

In some cases, it may be helpful to review the content from the interview and revisit the consent process at the end of the interview. At the conclusion of an interview about refugee experiences, researchers at Tufts University flagged information that they thought might be sensitive if published. They said, “I heard you say ‘x’. Is that correct? I am concerned that if we publish this information, it may be harmful for you or other refugees traveling the same path because it reveals sensitive information about the journey and the risks involved. I wanted to confirm with you that you are still okay with sharing this.”

After going over all points, the researchers explained to refugees how the information may be used in the future (media, publications, talks, etc.), asked them whether they still wanted their information to be included, and gave them their contact information in case research participants wanted to reach out in the future.



Water filter research, India. Courtesy MIT CITE.

Demonstrate appreciation toward the host institutions, partners, and research participants

Partners, host institutions, and research participants add a great deal to your research study. It is crucial to value their contributions and demonstrate respect toward all of the stakeholders. Therefore, it can be important to:

- » Talk to stakeholders (partners, enumerators, and research participants) to determine how best to demonstrate appreciation to research participants. This may take the form of financial compensation, sharing a meal or snack, training on important concepts, or gifts such as solar lights. In some cases, financial compensation or gifts may not be appropriate. It depends on the local context and relationships with the partners and research participants

- » Talk to stakeholders to determine what they would like to get out of the research experience. How could you value their contributions? Do they want to be thanked in publications or events? Do they want to be co-authors on a paper? Should you provide gifts to show gratitude? How can you generate value for them?

Examples

Tufts University

When working with enumerators and interpreters, Tufts University has a conversation beforehand asking about their goals and why they are involved in the research. They also ask about what aspects of the research they find most exciting and which aspects they find less interesting, difficult, or potentially risky. This helps inform both the research and the understanding of their experience.



Research project in Andhra Pradesh, India. Courtesy William Davidson Institute, University of Michigan/Heather Esper.

Researchers at Tufts University then outline ways the interpreters and enumerators could be involved at different levels (as co-authors and research partners, and explain the corresponding activities and levels of responsibility – or just as employees, and explain how they would be credited for that) and ask them how they would like to participate. They also budget for refreshments at the team debrief at the end of the day.

MIT D-Lab

For a study that took place in India, MIT D-Lab showed its gratitude by providing food to the community, thanked participants publicly for their participation, and shared family photos that had been taken as part of the study with each family. MIT D-Lab also thanked partners in meetings, presentations, and publications, and provided gifts such as tea sets to the partners. In another study in Uganda, the team included the local partners as co-authors on a paper. These activities help to demonstrate respect toward the research participants and other key stakeholders.

William Davidson Institute

In Kenya, researchers from the William Davidson Institute wanted to find a way of thanking farmers for taking the time to participate in their study as a way of demonstrating respect for study participants.

The researchers considered giving a mobile top-up as a thank you, as this was what respondents in previous studies had desired. However, after the researchers talked to the farmers, they determined that many of the farmers preferred to receive information on farming practices. It is important to determine what type of compensation or thank you is most relevant for the research participants to demonstrate respect toward the participants.

Plan for effective reporting back to research participants

In order to increase transparency and help ensure that the results will be utilized, it can be beneficial to share the results with research participants including partners and interviewees. It is also important to note that research participants may want to see the results, but in other cases, it may not be appropriate. Although it is important to think about these issues in the later stages of the research process, it is important to address these issues up front and plan accordingly. Other parts of the guide will provide examples on sharing results as well. At this stage, it can be valuable to:

- » Determine whether it is appropriate to share the results with the research participants
- » Consider including time in the work plan and funds in the budget for reporting findings back to participants
- » Engage participants in advance to understand how they would like to receive results, in terms of content, format, timing, and community representation. Who should be present when near-final results are shared with participants?
- » Schedule a presentation or sharing opportunity around participant availability

Example

MIT CITE

In a water filter evaluation in India, MIT CITE included budget and time to share the results of the water tests with 234 beneficiaries. The research participants were able to determine whether their water was clean or contaminated. If the water was contaminated, the team referred the beneficiaries to local partners, who could provide information on how to address the contaminated water. This not only ensured that the research was relevant, but also demonstrated respect to the participants.

Phase 2: Gathering Data



Agricultural waste charcoal briquette user research study, Soroti, Uganda, MIT D-Lab.

Recruit local enumerators who can retain objectivity and make the research participants feel comfortable

Enumerators and interviewers often play an important role in many research and evaluation studies. However, if you do not hire people who are objective, they may introduce bias, which can reduce the quality of the data gathered. In addition, to ensure that research participants feel comfortable, it is can be important to think about the demographics of the enumerators.

Depending on the local context, culture, content of the data collection, and gender of the research participants, it may be appropriate to hire male or female enumerators or both. It is important to consider these issues when hiring local researchers, as it can affect how comfortable the participants feel and the quality of the data, impacting the rigor and level of respect:

- » Hire local researchers and interpreters who will remain objective when collecting the data. The right people will depend on context and partners involved
- » Determine which of the enumerators would likely be the most appropriate to the local culture given the local context and the questions being asked

Examples

Root Capital

In conducting surveys of rural communities, Root Capital finds that it is best to hire skilled locals not employed by the enterprise.

These local community members are able to navigate the local context and speak the local language while still eliciting relatively more objective responses to questions related to business performance, improving the rigor of the study.

William Davidson Institute

William Davidson Institute works with local third parties to collect survey data. These people are not only objective, they also can help keep costs down and data quality high through their understanding of the local context, which can improve the rigor of the study.

Committee on Sustainability Assessment

There can be trade-offs between local and external surveyors. COSA has found it preferable to use researchers and surveyors selected for their ability to be objective when collecting the data, and who are well trained, rather than rely on community members or others with more intimate knowledge of the people and issues being researched.

However, there are notable exceptions. In Papua New Guinea, which has more than 700 local languages, it was very difficult to find surveyors to train who could also understand the appropriate languages. In addition, it was considered dangerous to send strangers into remote communities. In this case, COSA combined regional researchers with community leaders to ensure multi-party visits that elevated the costs of the study but made the research possible. While the context will determine the best partners, COSA does not typically select members of the communities being surveyed as data collectors. Exceptions are made when linguistic or cultural factors necessitate a local to collect authentic, accurate data, which improves the rigor of the study.

Ensure that the enumerators or research assistants are well trained

It is important to make sure that enumerators are well trained and feel comfortable collecting the data, as this can increase the quality of the information gathered and may lead to a more enjoyable experience for the research participants.

Therefore, it can be beneficial to:

- » Set aside time and funds before the research begins to train enumerators, including reviewing the research questions, data collection and storage procedures, the consent process, how to make the respondents feel comfortable, and potential challenges they might encounter
- » Allow enough time to answer questions from the enumerators
- » Consider role play exercises to go over the interview or survey procedure

Examples

Rikolto

To implement its Inclusive Business Scan, Rikolto has engaged young people or students who are familiar with the context to collect the data and provided them with a three-day training on the methodology and how to ask the questions, among other topics. As a result, the data collected are more consistent, accurate, and less biased, increasing the rigor of the study.

Root Capital

When training enumerators, Root Capital found it important to allocate ample time for trainees to get comfortable with the survey. When enumerators are confident with the material, they are able to be fully present when interacting with smallholder farmers – making eye contact, listening actively, and building rapport – while meticulously gathering the relevant information. This kind of enumerator-respondent engagement can contribute to improved data quality and demonstrate respect for the respondents.

William Davidson Institute

William Davidson Institute also places heavy importance on the enumerator training in the beginning of the data collection phase (in addition to train-

ings before a pre-test and pilot). William Davidson Institute also ensures that the training takes place a day or two before the data collection begins to prevent loss of information over time.

If resources allow, William Davidson Institute researchers travel to the field to be present during the first two days of the data collection to allow enumerators to ask their questions in real time and conduct the training and role play exercises on the survey. If resources do not permit, the Institute conducts remote enumerator trainings and works closely with the local data collection partner's management to transfer essential information to the enumerators. William Davidson also conducts weekly debrief calls with the enumerator team and reviews the incoming data on a weekly basis to identify any issues with the survey and/or data and with any processes surrounding data collection.

Consider conducting surveys at a time, and in a place, that is convenient for respondents

The time and resources required to participate in an interview or survey can be burdensome for research participants and certain times of the year or day may be more challenging than others. Therefore, it can be helpful to:

- » Talk to stakeholders in advance about the best time of year to conduct the research to collect the most accurate data and reduce the burden on the participants. In the context of agricultural businesses, this typically means surveying between harvest seasons
- » Think about which time of day may be most appropriate. Certain times of day may be more convenient than others for respondents
- » Talk to local stakeholders and research participants to identify the most appropriate location for the interview. Think about how this spot

might affect the research participant's ability to participate, feel comfortable, and be open and honest as well as the researcher's ability to triangulate the data

- » Consider other constraints such as need for child care or mobility challenges that might prevent respondents from participating in a study

Examples

William Davidson Institute

When William Davidson Institute develops data collection manuals for their partner enterprise in order to help them continue measurement after the end of the impact assessment project, they stress that data should be gathered during existing touchpoints with research participants, decreasing the burden on participants as well as on enterprise staff and also reducing the resources required for continuing monitoring and evaluation.

Committee on Sustainability Assessment

At COSA, data for performance monitoring is collected via short, highly-structured surveys (about 15 minutes in length) by technicians or field staff who may already be interacting with the farmers in different locations (on farm, at delivery station, at co-op meetings, at processing plant, etc.). This approach significantly reduces the burden of research on respondents while keeping costs very low. Of course, it can sacrifice some rigor, and so options are made available for validation, additional levels of rigor, or selective auditing functions that can be readily applied.

MIT D-Lab

Before starting a research study in Uganda, MIT D-Lab researchers talked to participants to find out what time would be convenient for them and scheduled interviews during those times. In

some cases, the team conducted interviews in the early morning and late evening as these times were more convenient for the research participants, which demonstrated respect to the participants and could improve the quality of the data collected.

Root Capital

Root Capital has found that traveling to the homes of respondents, rather than meeting them in central gathering points such as community meetings or collection centers where they deliver product to the business, demonstrates respect for the respondent and indicates the value that the researcher places on the information being obtained. This encourages farmers to share information as they feel more comfortable in their own homes, and also minimizes any pressure that might exist in a public setting among peers.

Consider utilizing strategies to assess data quality

Ensuring data quality is incredibly important. Collecting high quality data and verifying that quality is not only rigorous, but also respectful of the research participants. Therefore, it can be beneficial to:

- » Conduct internal data validation
- » Share results early to confirm findings
- » Record and verify data cleaning procedures

Example

Committee on Sustainability Assessment

Approaches such as sensitivity analysis can shed some light on data quality issues. COSA has used an array of combined approaches ranging from internal data validation to stakeholder workshops that review findings with those surveyed to minimize any sloppy data. Transforming raw data into knowledge requires a careful set of choices based

on considerable research experience. For example, a simple yet vital determinant can be the data cleaning choices. COSA diligently records data cleaning protocols and has two researchers review the cleaning process to reduce bias and ensure data quality.

Consider reflecting on the research experience during the data collection process

It can be helpful to reflect on the research experience and identify how the process is affecting the research participants and other key stakeholders, as well as the data. Therefore, it can be useful to:

- » Create a “lean log” in your notebook to record reflections on the experience
- » Debrief each day to determine whether any changes must be made to the data collection process

Example

Tufts University

At Tufts, researchers set aside a page in their notebooks for their own observations and reflections throughout the process. Researchers are encouraged to document what they felt went well, what didn't work so well, what they shared with others, and what they learned throughout the lean research process. In South Africa, one of the more enlightening moments was realizing that age does matter. One researcher noticed that older participants were more reluctant to open up to the younger researchers, whereas a younger researcher was able to draw more information from younger participants. Gender can have an impact as well. Seeing this in the field, recording these reflections in their notebooks each day, and debriefing every evening allowed the research team to refine the evaluation methods and ensure that the results would be more meaningful.

Phase 3: Analyzing Data



A coffee farmer in DR Congo interprets his experience of selling coffee through the Kawa Kabuya Cooperative. Courtesy Rikolto/ Caroline Huyghe.

Sustain commitment to research participants' priority research questions and analysis of those questions

To demonstrate respect and appreciation for the contributions of the research stakeholders, it can be valuable to collect data that is relevant to those stakeholders. This may also help to ensure buy-in and cooperation from the different participants, as you are generating value for them as well. Therefore, it can be important to:

- » Identify and collect data that is relevant for the stakeholders
- » Prioritize data collection and analysis

Examples

Root Capital

Root Capital prioritizes the analysis and synthesis of results that the enterprise will use to inform decisions. They remain committed to analysis and

synthesis until participants' research goals are achieved, even after the priorities of the researcher and other stakeholders are achieved. Root Capital also ensures that the portion of the research that primarily benefits the enterprise or community being researched is completed to the same standard of rigor and quality assurance as that which primarily benefits the researcher or the researcher's other stakeholders. This helps ensure that the results are relevant and actionable and also demonstrates respect for the key stakeholders.

William Davidson Institute

William Davidson Institute analyzes the data collected on business and social indicators with a lens of how this data can be used for adaptive management and future decision-making by the partner enterprise. Additionally, based on qualitative and quantitative findings, William Davidson develops recommendations for their partners to

enhance positive impacts, reduce any negative impacts found, and identify steps to continue ongoing monitoring and evaluation. Recommendations developed are also based on a thorough literature review of proven successful interventions implemented in similar contexts.

Consider engaging research participants and other key stakeholders in the data analysis

When outside entities complete the data analysis, they may introduce some bias, even if it is unintentional. Therefore, it can be helpful to:

- » Engage research participants in the analysis to improve the accuracy of the analysis and help to ensure that the results are actionable

Examples

Rikolto

After the data had been collected using the Inclusive Business Scan – a tool to measure the perceived degree of inclusion and sustainability of commercial relations between a farmer organization and a buyer – Rikolto engaged farmers, staff from farmer organizations, and other service providers in a participatory data analysis process to jointly analyze the data. Together, the farmers and other stakeholders interpreted the data, thereby deepening their collective understanding of different aspects of inclusive business practices and eliciting their engagement in improving stumbling blocks they were facing. This resulted in a concrete action plan for the farmer organization, backed by the farmer-members, which could count on the support of the service providers and Rikolto, and improve the relevance of the research.

Committee on Sustainability Assessment

For one field research foray in Vietnam, working with a respected local institution and a well-known professor, it was assumed that the standard vali-

dation workshop with stakeholders and community members (COSA conducts these at the end of fieldwork) would be more of a sharing-learning process and an opportunity to acknowledge the team and the local community representatives. Within the first hour, however, the event turned into a heated, vociferous exchange about the differing interpretations of the data among the communities and experts present that surprised all the supervisors and coordinators. The discussion was rich and uncovered some subtle yet important and previously hidden factors at play in the communities, and led to further fieldwork and a substantive improvement in COSA's ability to interpret the research data in a somewhat different manner.

Rikolto

Rikolto has been using SenseMaker to collect large quantities of short stories that are interpreted by respondents. Its SenseMaker-based frameworks allow for quick feedback loops (from data collection to participatory feedback and joint analysis in less than 1 month) of ongoing value chain programs and can generate new insights into complex dynamics that influence its work environment. The visualization of the answers of the respondents interpreting their shared experiences allows for an intuitive interpretation (regardless of educational backgrounds), while demographic and story-related variables make for hands-on filters that allow patterns to emerge across the stories and shape interpretations of the intervention context and dynamics. This double sense-making process – allowing respondents to interpret their own stories as they are collected, and subsequently having participatory analysis workshops to interpret the data – significantly reduces the bias of the collected data and engages all stakeholders throughout the process, improving the rigor of the study, while demonstrating respect toward the participants and their ideas.

Phase 4: Reporting & Dissemination



MIT D-Lab xylem water filter research in Uttarakhand, India. Courtesy MIT D-Lab.

Think about reporting near-final results to participants and other key stakeholders as quickly as possible

If appropriate, it can be valuable to report near-final results to key stakeholders to verify the findings, identify any refutations, and ensure that they can act on the results quickly. This helps to ensure that the results are accurate and will be utilized by key stakeholders. Therefore, it can be important to:

- » Talk to research participants and partners to determine whether to share the findings and through which mechanism (group presentation, individual conversations, skits, etc.)
- » Set aside budget and time to share findings
- » Discuss the findings with key stakeholders
- » Identify how the results may be used by stakeholders in the future
- » Publish any corrections or refutations

Examples

Committee on Sustainability Assessment

COSA always seeks to deliver the results to farmers and other key stakeholders providing them an option to vet the work and possibly improve COSA's understanding as part of that exchange. This often helps clarify or illuminate some of the findings for the researchers. Jointly reviewing the findings has intrinsic value as a process of understanding, both for the local community and for the researchers. It is not critical that everyone agree with the findings, but it is critical that they understand and come to respect the quality or rigor of the process that was undertaken.

COSA also has farmers and other stakeholders break into groups to decide how to put the research findings into action by addressing the key issues that emerge. Separately, COSA also discusses with the key partners how to build on a baseline study and track the results moving for-

ward over time. This helps ensure that the findings are not lost or left to gather dust on a shelf and contributes to the active engagement of the target community with the research. This contextual effort can help increase the relevance of the work.

Tufts University

Researchers at Tufts University conduct research on patterns of violence in a remote, rural community in South America. When one researcher returned to the community to share results a year after the conclusion of the initial study, community members reacted strongly and negatively. Those who participated in the research stated that their intent had been for their results to be shared “with the world, not with our village,” and were afraid that – even when anonymized – their experiences would be identifiable within their own communities in ways they wouldn’t be among other audiences. Community leaders were concerned that sharing the results of the research (even though they had vouched for the accuracy of these results at various stages of the research process) could be a potential source of conflict and tension within the community.

On future research trips, this researcher checked with participants regarding whether and how they would like to receive information about the study results in advance of planning the dissemination phase. The researcher also checked with local activists and NGOs regarding best practices, including whether to translate publications into the local language, whether to hold a community meeting, whether to only brief state and NGO staff (as opposed to the wider community), or a combination of the above.

Root Capital

Root Capital has found that it is nearly always possible to return to the interview location to present results within four months. They often present the

results to enterprises in a group event. For agricultural businesses, presenting results in a timely fashion can mean the difference between acting on them in time for the harvest season and having to wait until the following year to implement them, which increases the relevance of the research.

Root Capital often conducts ‘clusters’ of impact studies among several enterprises in similar sectors and geographies, and, with permission of participants, shares de-identified results from each enterprise with the others to enable benchmarking. This enables managers of each enterprise to identify strengths and opportunities for improvement in their operations, increasing the relevance of the findings.

MIT D-Lab

At the conclusion of a study in India, MIT D-Lab shared the research results with the in-country partner. Although the partner staff members did not dispute the findings, they added important context on how the partner organization had already started to address the challenges raised by the research. This enabled the local partner to feel more comfortable sharing the results publicly. The responses from the partners were published along with the findings, demonstrating respect toward the key stakeholders and increasing the rigor of the study.

William Davidson Institute

William Davidson Institute conducts data sharing meetings with its partner enterprises right after the analysis to gather comments and thoughts on the data as well as the analysis and corresponding recommendations. This feedback session allows for the partner enterprise to view the data collected and analysis at an earlier point in time, rather than after the final report has been written and delivered. This enables William Davidson

to capture relevant information and feedback and answer questions before diving into report writing. In addition, William Davidson Institute also gives their partners the opportunity to review the report before it is deemed final.

When presenting research findings to participants, consider tailoring content and format to the audience's needs and preferences

To be able to use the results, stakeholders need to understand the findings. Therefore, it can be important to:

- » Identify the best format for sharing the results. If research participants are literate, consider creating a short executive summary, translate it into local languages, and distribute it in advance of the meeting to present findings. If participants are not literate, explain results verbally and consider using visuals as appropriate
- » Determine which content is relevant for the stakeholders

Examples

William Davidson Institute

William Davidson Institute explores many different options for dissemination and selects channels that are culturally appropriate: blogs, webinars, case studies in multiple languages, town meetings, plays, storytelling activities, and radio shows. The research team tries to talk to key stakeholders about the most appropriate and effective channels for dissemination of results, which can increase the relevance of the research.

Root Capital

Root Capital has learned to be thorough but concise and highly visual in their presentation of results back to participant communities. They often

use PowerPoint presentations with graphs summarizing the data. If farmers have low literacy levels, or are not used to seeing data represented graphically, it is important in the verbal presentation to clearly explain in nontechnical language what the data is showing, increasing the likelihood that the results will be utilized.

Consider sharing data with other partners and other researchers

Although it is important to share the results with the research participants and primary stakeholders, it can also be important to share the findings more widely to ensure that others can build on this information. Therefore, it can be important to:

- » Identify mechanisms for sharing the results, such as online platforms

Examples

Committee on Sustainability Assessment

Sharing data in a way that is functional for users is an intrinsic part of managing data. Many of COSA's impact assessment data are available in aggregate and scrubbed of any identifying characteristics. Whether via its UN partner websites, publications, or its own database, COSA can help understand trends and the results of rigorous research. For performance monitoring projects, data is displayed on easily accessible and understandable dashboards, which update automatically with new data. COSA created this system because it wanted to provide partners with data that can be utilized quickly to make decisions, rather than only after evaluations that can take much longer. The approach also has value for maintaining transparency and accountability among different stakeholders, who can promptly see the data in such readily accessible forms, increasing the usefulness and relevance of the studies.

Syngenta

Syngenta has been working with a collaborator to develop a digital platform to display analysis from their impact assessments. They will show these dashboards on their company's own website, so that the information will be easier to access, understand, and interpret by both internal and external audiences.

This system is intended to help improve efficiency while maintaining quality. Along with the data, the platform will also include the questions asked and why indicators were chosen, which will provide more context for the study. With this platform, Syngenta hopes to have all of their studies in one location, create opportunities for more comparison between the studies, and to make it easier to visualize hypothesis testing, which could increase the relevance of the results.

d-lab.mit.edu/research/lean-research

Conclusion

The practices described above have been implemented by members of Sustainable Food Lab and members of the Lean Research Community. Although these practices may or may not be appropriate for your specific research study, hopefully they provide you with some inspiration and demonstrate that it is always possible to improve your research practice. Lean Research emphasizes the concept of continuous improvement, and we hope that you will adapt some of these practices to your own research or experiment with new ways to make your research more rigorous, respectful, relevant, and right-sized. If you do apply the Lean Research principles and practices to your research or monitoring and evaluation activities, we also hope that you will share experiences with the Lean Research Community of Practice by emailing us at leanresearch-admin@mit.edu. We can provide you with a case study outline and share it on the website: d-lab.mit.edu/research/lean-research.



MIT D-Lab Local Innovation and Development research focus group, Sri Lanka. Rajith Mahindapala, Institute for Participatory Interaction in Development. Courtesy MIT D-Lab.

Appendix A: Guiding Questions for Conducting Lean Research⁴

From the Lean Research Framework

Lean Research does not provide a set of rules to follow, but rather a guiding orientation to encourage innovation and continual improvement in research practice. From the way in which research questions are selected through implementation and dissemination of findings, there are opportunities to better align the research process with principles of rigor, respect, relevance, and right-sizing. While different types of research will call for different implementation strategies, the following questions can be used to help guide an iterative process of incorporating the Lean Research principles into planned and current research activities.

Is our research rigorous?

1. How do we know that our research adheres to the highest standards of our discipline or field of practice with regarding to research and instrument design, data collection, cleaning, and analysis? Who or what resources have we consulted to obtain input on our research design?
2. What steps are we taking to ensure the internal validity of the research?
3. If applicable, what steps are we taking to ensure the external validity of the research?
4. How are we designing and implementing our research process to ensure that the research is reproducible?
5. What steps will we take to clearly, accurately, and transparently report all relevant research results to stakeholders?
6. How are we protecting the data of the people who participate in the research?
7. If the research is an impact evaluation or trial, is it registered with AEA's social science registry? If the research is a Random Control Trial, is it registered with Jie's RIDIE?
8. Will the research be reproduced or verified by an independent party? If there are no current plans for this, is the research conducted in a way that it can be easily verified?

Is our research respectful?

1. What are we doing to engage the research participants, members of their communities, or similar populations (where appropriate) in the design of our study and our informed consent process?
2. How are we designing the informed consent process to ensure that research participants receive all the information that they need in a way that is understandable to them, so they can decide if they wish to participate in the research or not?
3. What actions are we taking to ensure that the participant feels truly free to reject participation in the study or to drop out of a study once it has started without fearing or experiencing negative consequences?
4. What actions are we taking to create an environment in which research participants can enjoy and find meaning in the experience of participating in research?
5. Are we appropriately using existing information and knowledge that local host institutions may have? How are we helping local host institutions to obtain the information they need about the proposed study and determine if it is to their benefit to participate?
6. Have we determined culturally appropriate forms of compensating participants and host institutions for their time and expenses, and have we consulted key stakeholders in this process?

7. If the study involves enumerators who are not on the core research team, how are we planning to train and compensate them, and have we consulted relevant stakeholders in this plan? In addition to fair compensation, how else are we ensuring that enumerators experience the research process as respectful, meaningful, and enjoyable?
8. What specific steps will we take to provide study participants with opportunities to review and refute (if applicable) the study findings? Do we plan to publish any refutations along with our original research findings?

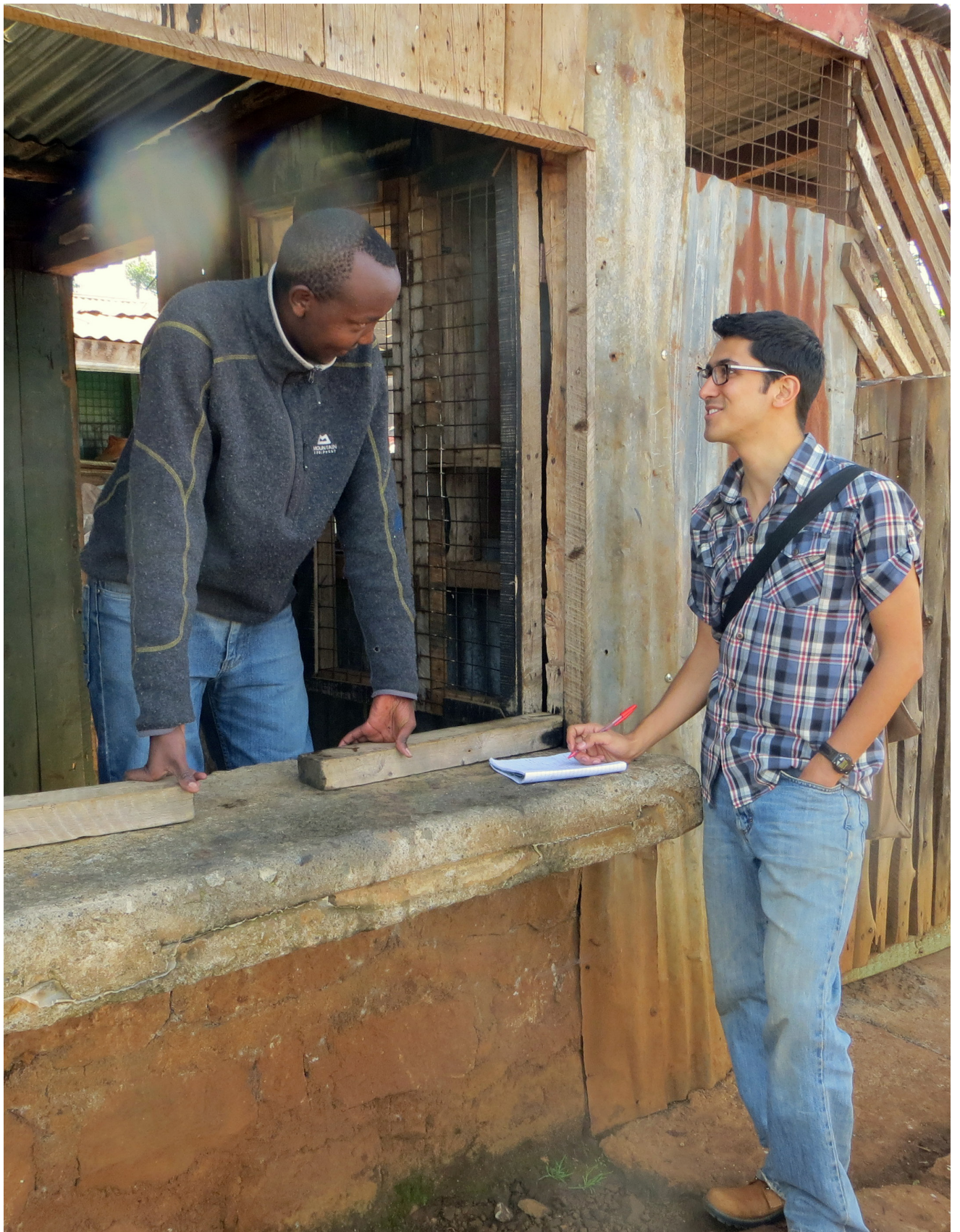
Is our research relevant?

1. What secondary research have we done to assure that primary research on the topic we are proposing is actually needed?
2. What process are we using to identify the research priorities of the research participants and, if relevant, their communities? What criteria are we using to determine to what extent these priorities should be included in our research?
3. What steps are we taking to understand what aspects of the research local host institutions find most relevant, and how are we factoring that into our research design and dissemination strategy?
4. Have we identified stakeholders in advance of the research project who have given input into how they would like to receive and use research findings? How are we incorporating this input into our research design?
5. Are the research participants and the host institution able to clearly articulate the value of the proposed research study?
6. What steps will we take to communicate and share the research findings in ways that are understandable and accessible to all stakeholders, including research participants?
7. Have we allocated time and budget to disseminate research results to stakeholders and decision-makers at various levels?
8. Have decision-makers agreed or expressed interest in using research findings in advance of the study? After completion of the study, have decisions been made based on the findings?
9. Are we planning to share de-identified study data, if appropriate? With whom will we share it and how will we identify additional opportunities for the data to be used?
10. What approach will we use to understand the impact that the research has had (for example, on the decision, debate, issue, or audience of interest)?

Is our research right-sized?

1. What criteria are we using to assess how large (in terms of people or households involved) and costly it is reasonable for the study to be? Are we considering the relevance of the research question to key stakeholders and the type of decisions that will be informed by research results in making that assessment?
2. How are we assessing which activities and questions are essential to the research objectives and which ones we can eliminate? Are we eliminating all non-essential protocols and questions?
3. With input from various stakeholders, have we determined the length of time that is acceptable for an interview from the perspective of study participants? How are we designing our research protocols and instruments to ensure that interviews do not exceed this length of time?
4. If the research involves sampling, how are we selecting the sample to ensure that it is large enough, but not too large?

4 These guiding questions are re-printed from Hoffecker, E., Leith, K., and Wilson, K. (2015). *The Lean Research framework: Principles for human-centered field research*. Cambridge, MA: D-Lab.



MIT D-Lab user needs assessment, Kenya. Courtesy MIT D-Lab.

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A rigorous, respectful,
relevant, and right-sized
alternative

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