

DELIVERING BIGGER CHANGE FASTER

A WORKBOOK ON STRENGTHENING PROPOSALS FOR PROJECTS WITH CROSS-SECTOR IMPACTS

VERSION 2.0

BRIDGECOLLABORATIVE

There's only one way to solve today's most critical problems: Together.

The Bridge Collaborative is a global change agent driving a fundamental shift in how we think, plan, fund, and work across sectors to make bigger change faster.

We unite people and organizations from across the health, development and environment sectors with the shared evidence and tools to make a greater impact at the speed the world needs now. Our growing global alliance of scientists, practitioners and organizations is moving beyond business as usual with the aim of creating a more equitable and sustainable world.

Founded in 2016, the Bridge Collaborative is a partnership led by The Nature Conservancy, Duke University, the International Food Policy Research Institute, and PATH.

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FOOD POLICY RESEARCH

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Workbook Overview

Purpose

Many of today's greatest global challenges do not respect traditional sectoral boundaries. Issues like climate change, food insecurity, inequalities, poor nutrition, pollution, water insecurity, pandemics, poverty and many others are rooted in and impact multiple sectors. They demand holistic and integrated solutions that address multiple angles, engage diverse partners, and reach the people and places most in need. For too long, these multidimensional challenges have been addressed with sectoral interventions designed and implemented in isolation.

This approach has often led to inefficient use of scarce resources, and in many cases advanced results in some sectors at the expense of others. Many siloed responses have had tangible, detrimental impacts on the planet, as well as on people's lives, opportunities, and aspirations. The status quo will not suffice if we are to achieve the Sustainable Development Goals and the pledge to leave no one behind.

While we know that cross-sector thinking is essential, it is not commonplace. <u>Cross-sector funding is hard</u> to come by, past proof of success is disjointed in disciplinary literature and sectoral reports, and truly cross-sectoral, diverse teams can be difficult to put together and coordinate. The Bridge Collaborative created this workbook to help teams moving from single-sector to multi-impact thinking. The workbook walks through some of the common stumbling blocks that prevent cross-sector projects from getting off the ground to create multiple impacts at scale.

This workbook is a resource for teams that are fairly new to cross-sector thinking but already have a proposal for creating multi-sector impacts. Examples might include WASH teams starting to incorporate watershed management approaches, forest management teams thinking about reducing health risks from wildfire, sustainable agriculture teams thinking about nutrition, community health teams thinking about climate impacts, clean energy teams thinking about racial equity or just transitions, humanitarian response teams thinking about climate adaptation or climate migration, infectious disease teams considering pandemic prevention at the source, and many more.

This workbook is not a comprehensive strategic planning guide, but rather is designed to help teams that already have an initial idea and draft proposal for a strategic plan or funding request. We assume a draft proposal exists, and the team wishes to strengthen the newer, cross-sector elements of the team's thinking. This is meant to serve as a complement to other traditional project design and planning frameworks. For example, teams earlier in the planning process may find the Bridge Collaborative Practitioner's Guide to be a useful resource.

Recommendations here draw from the Bridge Collaborative's engagements with practitioners and researchers in health, environment and development fields. We have focused this workbook on the following common knowledge gaps we have seen teams face as they move beyond single-sector approaches and attempt cross-sector systems change:

- the ability to identify, articulate and estimate **impacts** outside their usual sector (e.g. a health team including climate impacts; an environment team including racial equity impacts, etc.)
- the ability to plan for impacts at scale.
- the ability to engage experts outside their usual networks to fill new knowledge gaps.

This workbook was piloted with over 50 teams (semi-finalists in the Bridge Spark Fund program and additional rounds of user testing). We plan to continue to update this workbook based on user feedback and future learnings. We welcome your feedback, which you can share with us at info@bridgecollaborativeglobal.org.

Workbook Structure

The workbook is organized into two main sections:

- (1) <u>Expanding Beyond Single Sector Impacts</u> this section will help you articulate causal pathways that touch down in multiple sectors, identify assumptions, support logic with evidence, estimate impact, and ensure you have an adequately diverse team.
- (2) <u>Strengthening Scale</u> this section will help specify your scaling mechanism in terms of who will drive adoption, why they will drive adoption, and the magnitude of impacts you envision delivering.

For each section, we first summarize concepts from the literature, then provide a worksheet to assist your team in applying this content to your work. Additional background on <u>Expanding Impacts</u> and <u>Strengthening Scaling</u> can be found in the linked online videos.

How to Navigate the Workbook

The workbook is presented in a modular format. This approach will allow your team to focus on aspects where you have the greatest interest or identified need to improve (within the focal topics of *impact* and *scaling*).

We recommend working through the workbook in at least two relatively rapid loops, incorporating input from new experts along the way. See the Workbook Navigation Graphic below for a visual of our suggested sequence.

We recommend working through this workbook in an iterative process. You can work through the workbook in its entirety, or you can use the graphic below to focus on the parts of the workbook that would be most productive for your team.

Workbook Navigation Graphic

Foundations for Expanding Impacts (FEI)

Do you understand the causal pathways to all your expected impacts?	If no, explore FEI Content, Section 1 & FEI Worksheet, Impact Statement #1 Questions
Do you have evidence to support your intervention's connection to expected impacts?	If no, explore FEI Content, Section 2 & FEI Worksheet, Impact Statement #2 Questions
Do you have quantitative estimates of all expected impacts ?	If no, explore FEI Content, Section 3 & FEI Worksheet, Impact Statement #3 Questions
Does your team have capacity to deliver on all your expected impacts?	If no, explore FEI Content, Section 4 & FEI Worksheet, Impact Statement #4 Questions

Stengthening Scaling (SS)

Do you understand how broader adoption of your approach will happen?	If no, explore SS Content, Section 1 & <u>SS Worksheet, Section #1 Questions</u>
Do you know who will enable scaling?	If no, explore SS Content, Section 2 & <u>SS Worksheet, Section #2 Questions</u>
Do you know how later adoption of your intervention will be driven?	If no, explore SS Content, Section 3 & <u>SS Worksheet, Section #3 Questions</u>
Do you have an estimate for the magnitude of your scaled impacts?	If no, explore SS Content, Section 4 & <u>SS Worksheet, Section #4 Questions</u>

Key Definitions

Evidence:¹ The available body of verifiable facts or verifiable, relevant information from any sector or discipline indicating that a hypothesis (or assumption) can be supported, considered valid, or refuted. We take a broad and inclusive definition of evidence and accept information from the following sources, which we define for use in this context:

- *Expert knowledge:* The judgement of those with specialized knowledge obtained through training or experience. This includes local knowledge, traditional knowledge, and subject matter expertise.
- *Measurement results:* Information gained from any measurement which may or may not be part of a study.
- *Models:* A description or representation of an object or system. Models can be conceptual, mathematical, physical, mental, or computational. Models can be used in conjunction with quantitative or qualitative studies, theory, or expert knowledge.
- *Qualitative studies:* Studies based on inference through a thorough understanding of a case(s) under study, but unable to characterize an absolute numerical relationship between parts of a system.
- *Quantitative studies:* Studies based on inference through numerical data and analysis that describe the relationship between parts of a system. Quantitative studies may be experimental, quasi-experimental, or observational.
- *Theory:* A scientifically accepted general principle or body of principles offered to explain phenomena.

Impact:² The intended, positive effect(s) of an intervention. We understand that some communities prefer the term outcome for this use, and that the environment community may associate this term with a negative change. For this exercise, 'impact' only refers to positive, intended effects.

Results chain:³ A visual or written representation of the logic and theory by which an intervention leads to positive and negative consequences. When visually represented, results chains are typically constructed of notes (drivers and/or consequences) and links (lines or arrows representing hypotheses about how a change in one node causes a change in another node in the system). Other similar terms include: logic models, theory of change, influence diagram, means-ends diagram, causal chain, impact pathway, and results framework.

Scaling:⁴ Expanding, adapting and sustaining successful policies, programs or projects in different places and over time to achieve a larger amount of impact(s).

¹ Tallis H, Kreis K, Olander L, Ringler C et al. 2017. Bridge Collaborative Practitioner's Guide: Principles and Guidance for Cross-sector Action Planning and Evidence Evaluation. Washington DC: The Nature Conservancy. Available at: <u>http://bridgecollaborativeglobal.org/wp-content/uploads/2018/02/Practitioners_Guide_Final_2.pdf</u>. ¹ Ibid.

¹ Ibid.

⁴Adapted from Hartmann and Linn (2008), who note that this definition was developed in connection with the 2004 Shanghai conference on scaling up. Hartman A, Linn JF. 2008. Scaling Up: A framework and lessons for development effectiveness from literature and practice. Working paper 5: Wolfensohn Center for Development. Brookings Institution, Washington, DC.

Section 1: Expanding Beyond Single Sector Impacts

Purpose: This section covers basic components to help your team identify and estimate cross-sector impacts, and introduces illustrative examples, a stock-taking tool, and probing questions to help more thoroughly think through your concept. These materials will help clarify the logic supporting each expected impact in your project, and identify any knowledge or capacity gaps you may have.

As teams move from thinking with a single sector lens to a broader systems lens, their treatment of impacts can be inconsistent. For example, a team adept at designing poverty alleviation strategies may start to understand the relevance of climate change to livelihood outcomes. Their initial attempts to build climate considerations into their livelihood strategies may give more robust treatment to the logic and measurement of livelihood outcomes than to climate's role in the program. Similarly, an environment team focused on urban greening may realize that their efforts could benefit human health. Initial proposals to capture these benefits might remain vague on which aspects of health will be improved, and how.

We have seen teams face these challenges in practice, and funders have reflected to us that unequal treatment of different impacts in a proposal is a clear sign that the team does not have sufficient expertise to carry out the proposed cross-sector approach. In this section, we review how teams can improve their understanding of causal pathways to impacts outside their usual areas of expertise, and how they can improve quantitative estimates of these impacts when doing so is required or useful.

Foundations for Expanding Impacts

1. Understanding Causal Pathways to Impacts

When teams start thinking beyond single-sector impacts, the logic for cross-sector impacts can be fuzzy. This may be reflected as vague statements of impact or leaps of faith in otherwise logical thinking. Logic models can be a useful tool for further clarifying cross-sector impacts and ensuring that all intended impacts are treated with equal rigor.

The use of some kind of logical model is common in strategic planning processes used by the health, development and environmental communities. Such logic models are referred to as results chains, theories of change, means-ends diagrams, causal pathways, impact models, results frameworks or other terms by various disciplines. We use the term 'results chain' in this workbook.

Results chains are conceptual models or written statements that represent the logic and theory by which an intervention leads to positive and negative consequences. They often include assumptions that will enable this chain of events to occur, and identify knowledge gaps about the focal system. If you have not yet developed some kind of logic model, we strongly recommend that you do so. The Bridge Collaborative <u>Practitioner's Guide</u> (especially pages 9-20) contains guidance for developing cross-sector results chains. **Figure 1.1** | **A generic results chain**, as expressed in the Bridge Collaborative Practitioner's guide, a resource for creating cross-sector results chains.



Below are some tips to help overcome common pitfalls in creating cross-sector results chains:

Make impacts specific: Strong results chains include impacts that are specific and measurable.

Teams expanding their thinking from single sector work may start with specific terms describing impacts for their traditional sector and more vague terms for expected impacts in newer sectors. Table 1.1 provides some examples of vague ideas of impacts, and more specific corollaries.

A good test of an impact's specificity is to ask whether the impact as stated would be measurable. Even if the program does not intend to measure the impact, thinking through the metric and measurement process that might be used will reveal whether the impact is identified specifically enough. The rest of the considerations in this section can help more clearly specify expected impacts.

Table 1.1 | Examples of vague and specific impacts.

Vague Examples	Specific Examples
Terms that are too general and need	Corollary examples of one possible,
further specification	specific impact
 human health climate stability gender equity healthy environment improved livelihoods 	 micronutrient deficiency greenhouse gas emissions women's time poverty deforestation rate household income

Use clear logic: Strong results chains have links that reflect only one hypothesized and testable causal relationship.

It is common for cross-sector results chains to have clear, specified logic for impacts the team is most familiar with and fuzzier logic and leaps of faith for impacts the team is less familiar with. Figure 1.2a is an example of a weak partial results chain. Each link captures several expected changes within the system. Figure 1.2b provides a stronger example, as it has specified these changes further. Both of these examples only show the causal pathway to one impact and a strong cross-sector results chain would capture all of the expected impacts.

Figure 1.2 | **Example results chains** for a program aiming to increase renewable energy production, reduce greenhouse gas emissions and reduce health risks from fossil fuel-driven air pollution. The figures show a weak (a) and stronger (b) example of a partial results chain focused on the potential health impact. A full results chain would also include causal pathways to energy production and greenhouse gas emissions, as well as any unintended consequences. Green boxes show interventions, grey boxes show intermediate changes, and blue boxes show impacts.

(a) Weak example of partial results chain:



(b) Stronger example of partial results chain:



Articulate assumptions: Articulating the assumptions in a results chain can help clarify thinking and create a useful structure for evaluating evidence (the next step).

When a results chain is well-specified, each link captures one hypothesis about a relationship in the system that will be affected by the proposed interventions. It can be helpful to write out the assumptions supporting each hypothesis to ensure that all team members are in agreement. Assumptions that are obvious to some members of a cross-sector team may be new, or seen differently by other members with different backgrounds. Stating assumptions can also reveal where the results chain needs to be specified further. If one link seems to be capturing many assumptions, expanding the results chain in that area can improve clarity.

Assumptions can be captured in list form (as in Table 1.2) or added to conceptual diagrams (as in Fig. 1.3).

Results Chain Element	Hypothesis	Assumptions	Evidence Related to Assumptions
Arrow A	Solar subsidies and outreach will cause homeowners to commit to solar cell installation.	The subsidy being provided is large enough and culturally appropriate to attract targeted homeowners to the program.	No evidence for target community. Relevant evidence from pilot community of Austin, Texas, where the same incentive design resulted in recruitment of 200 households in one year.
Arrow C	Homeowner outreach to the solar company will result in solar panel installation and grid connection.	The solar company has capacity to meet demand created by the program.	Verbal commitment from the CEO of partner company that they have capacity to meet generated demand. Based on past partnership with same company, we are confident in this commitment. In addition, company has shown 5% growth in last fiscal year.
Arrow E	Reduced demand for polluting energy sources will lead to reduced use of polluting energy sources.	New installed solar capacity will be large enough for producers to decrease energy production from polluting sources.	Newly installed solar did displace fossil fuel demand in a pilot location. This was confirmed by market analysis and an impact evaluation of the pilot. The energy system in target community is different and has a higher proportion of energy generated by fossil fuels.
		Polluting sources will be reduced in the same airshed where solar production is increased (rather than in other airsheds connected through the grid).	No evidence.
Arrow G	Lower air pollution from energy sources will result in lower health risks for residents in the airshed.	The decrease in air pollution in participating homeowners' airshed will be big enough to meaningfully reduce human health risk.	Several modeling studies show conflicting estimates of how much fossil fuel energy generation contributes to air pollution in the target homeowner airshed (40-80% of particulate air pollution). In addition, the target population (2,500 households) makes up a much smaller proportion of the energy demand in the region than the target population did in the pilot, so shifting the primary energy source for the target population may not be sufficient to drive airshed-level changes in pollution. It is possible that first-year implementation will not cause large reductions in particulate air pollution and associated health risks.

Table 1.2 | Select hypotheses and assumptions for results chain in Figure 1.2. This table is not comprehensive, but provides examples of how hypotheses and assumptions can be specified and relevant evidence considered.

Figure 1.3 | **Example results chain including key assumptions.** A hypothetical program proposes two interventions (sanitation technology and a communications campaign) to create improved safe sanitation and water access, decreased extinction risk for sensitive freshwater species and decreased undernutrition from diarrheal disease. Yellow boxes capture sample assumptions expressed by the program team. Green boxes show interventions, grey boxes show intermediate changes, and blue boxes show impacts.



Identify relevant cross-sector impacts: Existing resources can help determine which cross-sector impacts are most relevant to your program or policy.

The interlinkages in today's world are many, and it can be difficult to know which impacts are most important to consider. Some resources have been developed to help identify which connections are strongest and most common, to help teams prioritize their cross-sector work. For example, FHI 360 developed a Development Sector <u>Adjacency Map</u> to help with the very initial phases of exploring beyond a single sector. The Bridge Collaborative and UNDP released a <u>report</u> showing what the strongest interlinked Sustainable Development Goals are related to a low-carbon, clean air energy future; transforming the global food system; and improving sanitation and wastewater treatment.

A short list of impacts related to these challenges (Fig. 1.4) may be a helpful starting point for expanding impacts targeted by some kinds of programs. Results chain libraries (e.g. <u>GEMS</u>, <u>Outcomes and Evidence Framework</u>) are also being expanded to include multi-sector impacts, and may help teams identify possible cross-sector impacts.

Figure 1.4 | Examples of impacts to consider for projects relating to clean energy transition, food system transformation and water security.

For a clean energy transition project, have you considered impacts like changes in...

- Greenhouse gas emissions
- Renewable energy access
- Health risks from air pollution
- Energy infrastructure risks for rivers, lands and oceans

For sustainable and healthy food system projects, have you considered impacts like changes in...

- Malnutrition from over or underconsumption and/or poor dietary diversity
- Agriculture productivity (yields of crops, forage, livestock, fish etc.)
- Greenhouse gas emissions
- Health risks from air pollution
- Habitat conversion
- Freshwater biodiversity risks from water use (e.g. irrigation) and water pollution (e.g. agrochemical and sediment pollution)

For water security and WASH projects, have you considered impacts like changes in...

- Access to safely managed sanitation services
- Adequate wastewater treatment
- Health risks from unsafe water (especially water borne infectious diseases, antimicrobial resistance)
- Undernutrition from diarrheal disease
- Freshwater and/or marine biodiversity risks from sewage & untreated wastewater

2: Understanding Evidence for All Impacts

It can be useful to check your major hypotheses and assumptions against existing evidence. As results chains are expanded to include multiple impacts, new types of evidence from new disciplines are likely to become relevant.⁵ Examples of the broad types of information that can be considered as evidence are shown in Table 1.2.

Matching an evidence review to the risk of 'getting it wrong' can help make efficient use of a team's time and resources.

Evidence review can be done quickly through a survey of several relevant experts, or a larger investment of time and resources can be used to support cursory to extensive reviews of all available evidence. We recommend matching the investment in evidence review to the risk associated with the hypothesis being tested. Within a given results chains, there is likely to be a diversity of relationships with varying levels of associated risk. Higher risk relationships are:

- Highly uncertain (low confidence) AND
- Associated with high financial risk OR
- Associated with high reputational risk OR
- · Associated with irreversible, extreme changes (such as mortality or extinction) OR
- Linked to many subsequent outcomes

If a cursory review of evidence shows that a link may have low confidence, but the link does not meet any of the other criteria here, a deeper evidence evaluation may not be warranted. If, however, a link

⁵ Tallis H, Kreis K, Olander L, Ringler C et al. 2017. Bridge Collaborative Practitioner's Guide: Principles and Guidance for Cross-sector Action Planning and Evidence Evaluation. Washington DC: The Nature Conservancy. Available at: <u>http://bridgecollaborativeglobal.org/wp-content/uploads/2018/02/Practitioners_Guide_Final_2.pdf</u>.

does represent a relationship of high financial consequence, high reputational risk, irreversible effect or is a key node central to many subsequent links, a more extensive evidence evaluation is warranted to establish the level of confidence. If your team is interested in rating the quality of cross-sector evidence for a given hypothesis or assumption, you may find the Bridge Collaborative <u>evidence matrix</u> useful.

As with single-sector proposals, teams have a range of options for addressing a high-risk, low confidence aspect of a program. The design can be changed to use an approach that is more proven, or aspects can be added to reduce the risk that has been identified. Alternatively, pilot implementation can be used to experimentally test and learn about the relationship, if such testing can be done without risk of harm to people or environments. Teams also have the option to abandon the approach until additional evidence emerges through the work of others.

3: Quantitative Estimates of All Impacts

Managers and funders often want to know how much impact a program or policy is likely to create. When teams are first adding new cross-sector impacts to their plans, they may not treat them as robustly as other impacts they are more familiar with.

Ensure that all expected impacts can be estimated quantitatively.

Weaker proposals discuss the scale of the challenge or report on levels of expected activities, rather than providing estimates of impacts (Fig. 1.4). Reviewing the previous elements in this section can be helpful in making quantitative estimates of all impacts. For example, a proposal reporting on activities could be strengthened by using a results chain to follow causal pathways through to expected impacts, and the types of evidence that would be gathered to test the final hypothesis in a results chain may be useful for estimating impacts.

When quantitative impacts are not a required or desired element of a proposal, it can still be useful for a team to think through how such estimates would be made. This activity can serve as a gut check on whether all impacts are specific and measurable, the logic for all impacts is clearly described, and the relevant evidence has been considered. Estimating impacts is also a useful way to check the scale of expected impact against the scale of the challenge being addressed.

Challenge	Activities	Impacts
 4 billion people lack safely managed sanitation services 20% freshwater species are threatened globally due to poor water quality The majority of fish stocks are overfished. Fishing all sustainably would increase yields 30% and help 5 million people 	 Composting toilets installed in 50 villages Train 50 fishery managers in Kenya Use a decision support tool with 2 energy decision makers 	 Secure access for safely managed sanitation for 500 people. Nutrients (and associated harmful algae blooms) are reduced in 10 watersheds containing 35 threatened aquatic species Increase fishery productivity by 1%

hypothetical programs.

Figure 1.5 | Quantitative estimates of challenges, activities and impacts for different types of

• Fossil fuel use is the primary driver of climate change, contributing 73% of greenhouse gas emissions

•	Increase renewable energy
	access in Brazil by 25%,
	reduce greenhouse gas
	emissions by 150 M metric
	tons annually by 2025

4: Team Capacity to Deliver on All Impacts

A team may be able to estimate how an intervention will drive an impact of interest, but still lack the full set of knowledge and skills needed to deliver that impact.

Anticipating risks, and how your team would respond to them, can strengthen proposals and ensure the team has capacity to deliver on all impacts.

One way to test the robustness of your team is to specify the risks the proposed work is likely to face, and how your team is equipped to respond if those risks emerge. If your team is not confident that they are aware of all major risks, or that they could manage those risks, consider expanding the team's capacity through new partnerships, advisors, consultants, or team members, as appropriate for the scope and resources at hand.

Expanding Impacts Worksheet

This worksheet will help prioritize which proposed impact(s) need most improvement, and which aspect of their specification most needs to be advanced. Questions will then guide you through making improvements.

Instructions:

- (1) List all of the impacts your project expects to create in the Impact Assessment table below.
- (2) For each impact, answer 'yes' or 'no' to the statements in columns numbered 1-4. If you are not sure, then the answer is probably 'no' and worth exploring further.
- (3) If you answered **'No' in any column** *for more than one impact*, prioritize the impacts in order of most-to-least critical to improve. We suggest prioritizing based on impacts that:
 - (a) Are critical to the overall success of the project (considering stakeholder preferences, scaling mechanisms, funder requirements, legal or reputational risks, etc.);
 - (b) You have low confidence in.
- (4) For the highest ranked impact, work through the Expanding Impact Questions with your team. If you can answer them all yourselves, use the answers to improve the clarity of the impacts in your proposal. If there are questions you cannot answer, seek out external experts who may be able to help (see <u>Appendix A: Network Outreach Guide</u>).
- (5) Move to the next-highest ranked impact and work through the questions. Continue to work through questions for as many impacts as time and resources allow.

Impact Assessment

Impact	1. We understand well the causal pathway to impact	2. We know the evidence for this impact well (even if the evidence is limited)*	3. We are confident about the amount of impact we expect during our project timeline	4. We have the right team to deliver this impact	Priority Ranking (1 = highest)
Example: Health risks from air pollution for target populations in Los Angeles	Yes	Yes	No	No	1

* If you know the evidence well, but it is mixed or under-developed, then the answer is 'Yes'. You can explain in your proposal the state of evidence and why you may have low confidence in a given impact.

Expanding Impact Questions

Impact Statement #1: We understand well the causal pathway to impact. *Fill in the answers to these questions for EACH IMPACT you would like to improve.*

1.1 Write the impact here. Is it specific and measurable? *If you are not sure, check Table 1.1 for examples.*

Ask an Expert

If your impact of interest is not measurable, and your team is challenged to specify it further, you may want to ask an expert:

• I believe our intervention will cause this kind of impact, but I don't fully understand the details. Can you describe what specific measurable changes are likely to happen?

1.2 What series of changes in the system will make your intervention(s) lead to this specific impact? Describe these changes in a conceptual diagram or written statements. If you want to see examples, check Figures 1.2 and 1.3.

Ask an Expert

If you have trouble answering this question, or some parts of your logic seem less detailed than others, you may want to ask an expert:

- I believe our intervention will lead to this impact, but I don't fully understand the mechanism. Can you describe how this happens and what specific measurable changes are likely to result?
- How has this intervention led to the specific impact in other places?
- Are you familiar with others who have done this intervention in the place we want to use it? If so, how did it change the system?
- Are there other positive or negative impacts likely to happen from this intervention that we have not captured?

1.3 What are the key assumptions in your logic?

Write out the assumptions you think must be true in order for your intervention to cause this impact. See Table 1.2 for examples of assumptions.

Ask an Expert

At this stage, don't worry about how confident you are in your assumptions (that's addressed in Impact Statement #2 below), just be sure you can state the assumptions clearly. If this is difficult, you may want to ask an expert:

- What are the largest or riskiest assumptions in our logic for this impact?
- Are there common unintended negative effects from this intervention we have not captured?
- Are there cases of our intervention failing to produce this impact? If so, what went wrong, and how might we mitigate for that in our project?

Impact Statement #2: We know the evidence for this impact well. *Fill in the answers to these questions for EACH IMPACT you would like to improve.*

2.1 What is the evidence for each of the key assumptions about how your intervention will cause this impact? *If you are not sure what your key assumptions are, see Impact Statement #1 above. Table 1.2 has examples of evidence used to evaluate assumptions, and you may find the Bridge Collaborative's evidence evaluation rubric useful if you have time/need to do a systematic evidence review.*

Ask an Expert

If you have only one type of evidence for a key assumption, or have difficulty answering the above questions, consider asking an expert:

- What are the most relevant sources of evidence you are aware of with respect to this assumption?
- Are there published or unpublished reports you are aware of that are relevant to our assumptions?
- Are there key stakeholders, community members or researchers who might know more about this assumption?

Impact Statement #3: We are confident about the amount of impact we expect during our project timeline. *Fill in the answers to these questions for EACH IMPACT you would like to improve.*

3.1 How much of this impact do you expect your intervention(s) to deliver during your project implementation timeline? What evidence have you used to make this estimate? *Be sure to express your estimates in terms of impact, not activities (see Figure 1.4 for examples). If you are stuck on activities, answer the questions for Impact Statement #1.*

Do external experts and stakeholders understand and generally agree with your impact estimates? If you are not sure, consider vetting your estimates with key individuals and groups.

Ask an Expert

If you have difficulty estimating the impact of interest for the timeframe of the grant, consider asking an expert:

- Has anyone shown how much of the impact of interest our proposed intervention will have in our proposed context?
- What causes the amount of this impact to vary?
- Who else could review our estimate of impact to help improve it?

Impact Statement #4: We have the right team to deliver this impact.

4.1 What are the skill sets and expertise needed to conduct the activities to deliver this impact? Who will be responsible for providing these skill sets and delivering this impact?

4.2 How is the project most likely to fail in delivering this impact, and who on the team is well equipped to help avoid this failure?

Ask an Expert

If you have difficulty answering the questions above, consider asking an expert:

- Is our intervention likely to deliver the impact of interest, or does it take particular expertise to ensure we deliver the impact of interest? What expertise?
- Who are the leading companies or organizations in our project context for delivering the impact of interest?
- Can you direct us to a landscape analysis or competitive analysis for organizations that deliver this impact in our project context? (this may give you a more objective view of possible partners or experts than one person's knowledge).

After completing one iteration of this worksheet, we recommend one iteration of Section 2, and then returning back to Section 1 for a second iteration.

Section 2: Strengthening Scaling

Purpose: This section is intended to help strengthen your ability to design concepts that achieve impacts at scale. It introduces frameworks for creating a strong vision for scaling and provides probing questions to help clarify your scaling vision. These materials will help ensure you have thought through the various options for who will scale your approach and why they will do so, positioning your work to achieve larger impacts more quickly.

Many accelerators and innovation platforms focus on scaling through private sector approaches. Our focus is broader and draws heavily on the findings of ExpandNet,⁶ an extensive review of the human development literature,⁷ and experience with both private sector and non-profit driven scaling. The frameworks we include are not designed specifically for cross-sector impacts, but their general principles are relevant. We complement with cross-sector considerations as needed.

Two of the primary drivers of scaling are having an idea that is proven to provide impacts, and having a clear vision for scaling.⁸ We addressed how to create an idea with proven impacts in the first section of the workbook. This section addresses how to create a clear vision for scaling multiple impacts. A strong vision for scaling specifies how broader adoption of an intervention will happen, who drives that adoption, why they are motivated to do so, and how much impact is expected through scaling.

Foundations of Scaling Impacts

1: Dimensions of Scaling

Dimensions of Scaling refer to how broader adoption of your approach will happen, driving scaling of impacts. These dimensions do not relate to what the planned intervention(s) itself will change you answered that in the impact worksheets above), but rather what will change to enable scaling of the intervention over time.

One framework suggests four possible **Dimensions of Scaling**⁹ to consider (Figure 2.1). Quantitative scaling up causes spread of an intervention by expanding the geography or population where it is applied. Functional scaling up grows impact by expanding the scope of an intervention. Many teams adding cross-sector impacts to single sector programs are applying functional scaling up by expanding the scope of the impacts they aim to deliver.

Political scaling up relies on expanded political influence to grow impacts. Concepts that deliver crosssector impacts may be able to leverage political scaling up by creating coalitions of supporters that value different impacts, or value the impacts for different reasons. Finally, organizational scaling up builds impact by growing the size of the implementing organization, or adding new implementing organizations. Cross-sector concepts that use multiple organizations to deliver multiple impacts are applying this dimension of scaling. However, collaboration across multiple organizations is not a requirement

⁷ Hartman A, Linn JF. 2008. Scaling Up: A framework and lessons for development effectiveness from literature and practice. Working paper 5: Wolfensohn Center for Development. Brookings Institution, Washington, DC.

⁶ Simmons R, Fajans P, Ghiron L. 2011. Beginning with the end in mind: Planning pilot projects and other programmatic research for successful scaling up. World Health Organization, Geneva, Switzerland.

⁸ Simmons R, Fajans P, Ghiron L. 2011. Beginning with the end in mind: Planning pilot projects and other programmatic research for successful scaling up. World Health Organization, Geneva, Switzerland.

⁹ Hartman A, Linn JF. 2008. Scaling Up: A framework and lessons for development effectiveness from literature and practice. Working paper 5: Wolfensohn Center for Development. Brookings Institution, Washington, DC.

for creating cross-sector impact, as some cross-sector approaches can be delivered by individual organizations.

Not all dimensions will be relevant to all concepts, but it is worth exploring them to be sure opportunities have not been overlooked. As these dimensions are often inter-related, scaling may rely on more than one dimension.

Figure 2.1 | Dimensions of Scaling¹⁰ that capture a diverse set of changes that can cause scaling to happen.

Quantitative Scaling Up Functional Scaling Up Expanding geography or population **Expanding scope** • Also called 'horizontal scaling up' or 'scaling out' · More impacts added • More people, communities, or places added • Example: An intervention initially designed to within the same sector or functional area deliver sustainable agricultural productivity gains is altered to also improve nutritional • Example: Intervention replicated with new content of agricultural products. demographic group (e.g. different age group) or in new city or ecosystem. **Political Scaling Up Organizational Scaling Up** Growing or adding implementing **Expanding political influence** organization(s) · More adoption achieved through greater political influence that shields efforts from · Also called institutional scaling up countervailing political interests and/or · More adoption achieved through horizontal sustains the intervention(s) (growing more or similar institutions) or • Example: A new regulation is passed that makes functional (adding more institutions with an intervention mandatory. Or, community different functions such as regional, national or leaders are cultivated as champions to drive super-national organizations, or organizations further adoption. from other sectors) organizational expansion Example: A corporate roundtable adds ten adopting organizations 2: Scaling Path

The scaling path refers to who will enable scaling by driving future adoption of the intervention. There are three basic options for who can drive scaling:¹¹



Expansion happens when the same organization(s) involved in the initial application of the concept create more impact over time (Fig. 2.2). Increase in impact can be driven by growth in the size of the organization, or by more parts of the existing organization promoting the concept. An advantage of this path is that it allows for more uniformity of the deployment of the intervention (since the same organization(s) will be doing the work). In some cases, however, this approach can present a disadvantage, such as when an intervention needs to be modified to account for place-based or cultural differences. One organization may not provide enough flexibility or the most relevant skills to adapt the intervention to new contexts.

Figure 2.2 | **Scaling through expansion.** In this scaling path, the same organization that does initial implementation of an intervention ('thing': can be a policy, program, activity, etc) is encouraged by the impacts that are created and grows the amount of implementation it undertakes.



Replication happens when additional organizations beyond those involved in initial implementation create more impact over time. These other organizations may be other levels of government, private sector actors, nonprofit organizations, community organizations or any other organized group of people. One example of this path to scaling is the creation of a standard, methodology or policy that ensures desired impacts, with the use of campaigns or incentives to encourage other organizations to adopt those standards. This path also includes franchise models (such as World Wide Fund for Nature or BRAC in the nonprofit world). An advantage of this path is that it enables more flexibility to adapt the intervention to new contexts and allows flexible matching of roles to organizational strengths. A potential drawback is that each organization may implement the intervention differently, introducing possible variation in results.

¹⁰ Simmons R, Fajans P, Ghiron L. 2011. Beginning with the end in mind: Planning pilot projects and other programmatic research for successful scaling up. World Health Organization, Geneva, Switzerland.

Figure 2.3 | **Scaling through replication.** In this scaling path, new organizations take up application of the intervention ('thing'), growing impact over time.



Spontaneous diffusion happens when no particular organization is needed to facilitate further adoption of an intervention (Fig. 2.4). While hopes for success through this path are extremely common, cases of successful scaling through this path are extremely rare. The tenets of diffusion of innovation theory apply to scaling through this path . Spontaneous diffusion is most likely when information necessary for adoption of the intervention is easily spread, necessary institutional infrastructure for spread of the intervention already exists, and institutional actors have some incentive to propel the intervention (e.g. a profit motive). Examples of ideas spread through this path include cellular phones and the agricultural advances commonly referred to as the Green Revolution (which worked because an agricultural extension system already existed).

Figure 2.4 | **Scaling through spontaneous diffusion.** In this scaling path, an intervention is replicated without the assistance of any organization. This path to scaling is highly coveted because of its low resource and investment requirements, but its success is extremely rare.



¹¹ Rogers E. 1983. Diffusion of Innovations, 3rd ed. Free Press, New York, NY.

3. Scaling Approach

The **scaling approach**¹² refers to *how* later adoption of the intervention will be driven. In all of the scaling paths except spontaneous diffusion, later adopters of the intervention need to be motivated in some way. In these cases, there are three options for how later adoption will be motivated:



A **hierarchical approach** promotes change by informing well-positioned decision makers (Fig. 2.5). The basic assumption of this approach is that once influential decision makers have information about the impacts caused by the intervention, they will make decisions that drive further adoption of the intervention. This approach usually includes top down, planned programs that do not require bottom-up participatory processes. Examples of interventions that may be scaled well through this approach are macroeconomic policy changes or immunizations.

Figure 2.5 | **Hierarchical scaling approach.** In this scaling approach, information about the crosssector intervention is shared with influential decision makers, who then drive further use of the intervention.



An **individualistic approach** promotes change through incentives and individual accountability, using standardized rules or processes (Fig. 2.6). Examples of interventions that may be scaled well through this approach include microfinance programs, corporate pension programs, or sustainability certification or standards programs. In this approach, the core assumption is that the incentive (social pressure, rule, subsidy, etc) will motivate additional actors to adopt or apply the intervention.

Figure 2.6 | **Individualistic scaling approach.** In this scaling approach, an incentive is used to motivate new adopters to spread the intervention.



A **relational approach** promotes change through decentralization of power or processes, participatory methods and empowerment techniques (Fig. 2.7). Interventions that may be scaled well through this approach include community development, community-based natural resource management, or community health worker programs.

Figure 2.7 | **Relational scaling approach.** In this scaling approach, power is decentralized to those who can then drive adoption, and they are provided with methods to enable adoption.



¹² Hartman A, Linn JF. 2008. Scaling Up: A framework and lessons for development effectiveness from literature and practice. Working paper 5: Wolfensohn Center for Development. Brookings Institution, Washington, DC.

4. Decision Tree for Scaling Path and Approach

Development researchers¹³ have suggested a framework for choosing a scaling path and approach based on an understanding of how much adjustment an intervention needs to be applied in distinct contexts (discretion), and how much capacity and resourcing are needed to adopt the intervention (transaction intensity). We have turned that framework into a decision tree. Many interventions will rely on multiple approaches and paths to scaling, so there is no single right answer. We provide the decision tree (below) as a way to test your thinking and help explore options for paths and approaches to scaling.





5: Magnitude of Impact

It can be useful to estimate how much impact is expected through the scaling process. If your concept is at a stage where the focus is entirely on scaling, you may have already done this calculation in Section 1. If you are piloting a new intervention or at the initiation of replication and scaling, then a new calculation may be useful.

Scaling often involves a separate set of interventions meant to drive further adoption of something (policy, program, action, message, etc). The only time that scaling does not require additional interventions is when spread happens through spontaneous diffusion. Evidence of effectiveness of scaling interventions will be needed to make a robust estimate of future expected impacts through scaling. This is very likely to be different evidence than you used to estimate expected direct impacts (Section 1).

¹³ Pritchett L, Woolcock M. 2004. Solutions when the solution is the problem: arraying the disarray in development. *World Development* 32(2): 191-212.

For example, consider a population, health and environment (PHE) concept that aims to increase access to family planning and safe water supplies, and reduce deforestation rates through improved sustainable agriculture practices. A team aims to scale the adoption of this concept by using an information campaign with national health ministry leaders, in hopes that the government will replicate the model in other parts of the country. This is an example of scaling through replication using a hierarchical approach. To estimate potential impact of the concept after five years of scaling (replication by the government), you would use evidence of how successful past information campaigns in the country have been, and what rate of spread occurs once the target ministry adopts an approach. This is clearly different evidence than you would use to determine the effectiveness of the PHE interventions themselves.

Scaling Worksheet

1. Dimensions of Scaling: What specific changes do you expect to affect to drive scaling?

Answer these questions to help determine the dimensions of scaling (Quantitative, Political, Functional, and Organizational) most applicable to your concept. As you answer these questions, keep in mind that this section is not about what the intervention itself will change (you answered that in Section 1), but rather what will change to enable scaling of the intervention over time.

1.1 What dimension(s) of scaling do you think are critical for your proposed intervention to achieve impact at scale? Have you accounted for each of these dimensions in your scaling vision in some way? *It is not important to use the terms introduced in Section 2 but it is valuable to clearly articulate the kinds of change you expect.*

1.2 Would adding additional dimension(s) of change help drive scaling of your idea faster? If so, what changes would you need to make in your current plan to incorporate additional dimension(s)?

1.3 Are there dimensions of scaling you have included that are not essential? How might your idea be simplified and still drive as much change?

2. Scaling Path: *Who* will drive later adoption of the intervention?

Answer the following questions. If you are challenged to do so, Ask an Expert the same questions:

2.1 Who would likely do the 1000th implementation of your intervention(s)? We know there needs to be early adopters, but people tend to do a better job of thinking about them, and a worse job of thinking about who comes after the early adopters. This question is meant to make sure you have thought through more than just the early spread of an idea. Once you have answered this question, check your answer against what you get if you follow the Scaling Approach and Path Decision Tree (see Fig 2.8). If the decision tree suggests a different path for scaling, can you justify why your proposed path is more likely to succeed? 2.2 Why would these later implementers be invested in driving adoption? What would motivate them?

2.3 Are there changes you could make to your current intervention to increase interest, investment from, or enabling conditions for the later adopters now?

3. Scaling Approach: How do you think later adoption of the intervention will be driven?

Answer the following questions. If you are challenged to do so, Ask an Expert the same questions.

3.1 What do you expect will drive the 1000th adoption of your intervention? What will make later adopters want to drive the use of your intervention? Check Strengthening Scaling section 3 if you need ideas.

- Have you designed your project to maximize motivation of later adopters?
- How are these later adopters different from the early adopters?

3.2 Will getting to later adoption of your intervention require a lot of adjustment of the intervention to new contexts?

- If so, does your approach to scaling allow for these adjustments?
- If so, are there changes you can make to your intervention that will allow testing or feedback from more contexts up front?

3.3 Does your intervention have a high transaction intensity, meaning it has some type of high transaction cost (e.g. need for large upfront capital investment; need for large existing infrastructure or creation of new large infrastructure; high cost of implementing; need for creation of new governance or adjustment of existing policies or norms, etc.)?

• If so, does your approach to scaling account for this high transaction intensity?

3.4 Would a different scaling approach than the one you are planning help the intervention scale more quickly or more widely?

Once you have answered these questions, **check your planned scaling approach** against what you find if you follow the Scaling Approach and Path Decision Tree (Fig. 2.9). If the decision tree suggests a different approach for scaling, can you justify why your proposed path is more likely to succeed?

4. Magnitude: *How much* impact do you estimate your intervention will have in the next [time horizon appropriate for your project] years?

4.1 Different contexts and interventions have different time horizons for reaching impact at scale. What is the time horizon appropriate for your project?

As you answer the following questions, remember to think about all of your expected impacts, from Section 1. Use this time horizon from 4.1 in place of 'X' to answer the remaining questions:

4.2 What does existing evidence say about the likely effectiveness of your proposed approach and/or path to scaling?

4.3 How far down the scaling path do you expect your idea to be in [X] years?

- For example, if you expect other organizations to drive adoption, how many organizations of what influence will have adopted in [X] years?
- If you expect adoption based on decisions of key decision-makers, how many will have acted in support of your idea in [X] years?

4.4 How much of each impact do you expect your scaling approach and path to create in [X] years? *Your answers to questions 4.2 and 4.3 should help you answer this.*

4.5 Are there important political or institutional barriers to overcome before wider adoption of your idea will be possible?

• Have you accounted for the time needed to overcome these barriers in your estimation of impact in [X] years?

4.6 How does your intervention compare to the current best alternative?

- Will your answer likely change over the next [X] years (in other words, will your intervention become more competitive for some reason)? You may compare interventions based on cost effectiveness (return on investment), cultural acceptability, need for context-specific adjustment, feasibility, or other factors.
- Does your answer here change your expectations about how fast your intervention may be adopted?

4.7 If you had to achieve the same expected impacts 10 times faster, how could you do it? *Thinking through this challenge may cause you to revisit your ideas about paths and approaches to scaling.*

Appendix A: Network Expansion Guide

Purpose: This guide provides recommendations to assist teams in searching for and identifying new experts to reach out to, particularly in relation to answering 'Ask an Expert' questions that you identified through using this Workbook. These tips may be particularly helpful in contexts where you are expanding your network beyond the fields and sectors that your team knows well, which is often the case with integrated, cross-sector projects.

1. If you are looking for someone to help answer questions about evidence, causal pathways, rates of adoption, or estimates of impact:

You may be well served by someone who has done some research on the intervention and/or impact you need advice on.

If you know someone in a relevant field or area of expertise, don't be shy, start with them. This can be a very exploratory conversation to let them know the kind of input you are seeking and ask if they can direct you to any relevant people.

If you don't know anyone in a relevant field, try using peer-reviewed publications as an entry point:

- Search for publications (e.g. using <u>Google Scholar</u>) on the impact and/or causal pathway you have prioritized. While published literature is just one viable source of evidence to inform your ideas, it is a widely accessible starting point. Our assumption (based on our experience working with teams) is that people who have published on a topic can likely point you to other types of evidence and/or other people with valuable knowledge and perspectives.
 - If you have a geographic focus, include the region.
 - Look for people who have published multiple times (at least 3) on the topic you are interested in.
- Take a short list of 3-5 people that have multiple publications and do a regular web search on them.
- Read their bios and look at CVs (if available), to look for some indication that they are interested in applied impact (e.g. have done applied research, worked for a practice or private sector organization, served on boards, influenced decision makers).
- Identify your short list of at least 3 people who have relevant expertise and likely interest in informing impact.
- Consider whether you may know someone in the network of a person you want to reach out to. Do you know someone else at their organization? Do you know anyone they have co-authored papers or reports with? Do you have a shared connection on LinkedIn? If so, ask that person for an introduction. If you have no known connection to the person and/or need help making a compelling ask, proceed to the section 3 for guidance on writing an email or crafting talking points for a phone call.

If you are not comfortable with reviewing publications, or just want a different approach, try looking for visible leaders in your area of interest.

- Search the internet for conferences on your topic of interest and identify keynote speakers (e.g. conference energy transformation Thailand; WASH Latin America conference; etc.).
- Search the internet for award winners on the topic of interest (e.g. award nutrition in Africa; award scaling up solar low- and middle-income countries, etc.).
- Identify your short list of at least 3 people who have relevant expertise and likely interest in informing impact.

- Consider whether you may know someone in the network of a person you want to reach out to. Do you know someone else at their organization? Do you know anyone they have co-authored papers or reports with? Do you have a shared connection on LinkedIn? If so, ask that person for an introduction.
- If you have no known connection to the person and/or need help making a compelling ask, proceed to section 3 for guidance on creating an email or crafting talking points for a phone call.

2. If you are looking for someone to help answer questions about scaling, adoption, or a possible new implementing partner:

You may be well served by someone who is based in an implementing organization.

- Determine if you are looking for someone in a government entity (and what scale, e.g. local, sub-national, national), a non-profit organization, or a company (private sector).
- Search the internet for your impact of interest, the type of organization, and, if relevant, geography (e.g. energy access non-profit Uganda; nutrition non-profit rural United States; WASH infrastructure company Ecuador). There are some aggregator websites that may be useful for finding relevant organizations. For example: for sanitation and wastewater—<u>Sustainable Sanitation Alliance</u>
- Identify your short list of at least 3 people who have relevant expertise and are likely interested in informing impact.
- Consider whether you may know someone in the network of a person you want to reach out to. Do you know someone else at their organization? Do you know anyone they have co-authored papers or reports with? Do you have a shared connection on LinkedIn? If so, ask that person for an introduction.
- If you have no known connection to the person and/or need help making a compelling ask, proceed to the next section for guidance on creating an email or crafting talking points for a phone call.

3. Craft your outreach to get a response

Email, Phone, WhatsApp, WeChat?

Different places have different norms around communication channels, so find out more about the typical modes of communication in the home country of your contact. For example, in some countries, email is rarely responded to, whereas WeChat (commonly used in China) or WhatsApp (commonly used in some African, Asian and Latin American countries) are frequently used in professional settings.

Consider the below best practices for reaching out to someone you are contacting for the first time:

- Know when an interview can be pursued directly through email. For example, if you have a single, straightforward question or request for more information, ask for this via email.
- Any outreach should be very brief and to the point—most people you are reaching out to are busy. Any email that requires scrolling to see what you are asking for is likely too long!
- Consider four elements for an email or talking points to initiate a phone conversation with a new person.

- (1) Open with how or why you found them. This can include some honest flattery. For example, you might:
 - Refer to a paper or blog of theirs that inspired you or is directly relevant to your request.
 - Recognize they are a known leader on the thing you would like advice about.
 - Make clear in some way that you know they are an expert on the thing, and that you respect their work.
- (2) State how their input will help with something they likely care about.
 - Make it very clear what you are doing, why you want their input, and how their input may have impact.
- (3) State your request very clearly (you don't want your would-be expert to be unclear about what you are asking for)
- (4) Give them an easy out that still helps you.
 - For some people, saying no is hard, so if they feel that is their answer, they may just not respond.
 - To avoid this, and give you some forward progress, recognize that the person may not have time or interest to help you, but may respond to an easier ask that is also helpful (e.g. like sending you any resources they have or recommending another person that might help you).

See below for two real (anonymized) examples that follow these recommendations, and which were met with a positive response:

Example 1: Requesting a consultation—Sample email from a project where a conservation team in California, USA, wanted to consult experts on how agricultural practices affect human health through air pollution or groundwater pollution pathways.

Dear Dr. XXX,

I am writing upon finding your paper from 2013 on air pollution effects on birth defects in the San Joaquin Valley.

I work for XXXX, and our California team is developing a program that may have the ability to help with these effects. The passage of groundwater regulation in the state is likely to lead to the retirement of a large amount of agricultural land. Our organization is interested in directing this retirement to lands that will help the environment AND human health the most. We see an opportunity to help reduce agriculturally related air pollution in places where people are most vulnerable to these health impacts, and we are seeking connections to experts who can help us think about this part of the possible program.

Would you be willing to have a brief phone call in the next 1-2 weeks with our team to discuss some questions we have?

I recognize your time is limited, so if you are not able to talk, can you direct me to any resources that might be helpful, or suggest other experts I might reach out to? Thank you in advance for your time.

Best regards, XXXX How you found them

How their input will help with something they likely care about

Clear request

Easy out that still helps you

Example 2: Requesting a Consultation—Example where a colleague provided a recommendation for who to contact.

Dear Dr. XXX,

I am writing on the recommendation of XXX, who noted your expertise on air pollution and related health impacts. I admit that on further looking into your work, you appear to be the dream expert we are looking for, so I do hope you will consider our invitation here! We are looking for experts in this area that are willing to have a 30 minute phone consultation with us about a project we are developing.

I work for XXXX, and our California team is developing a program that may have the ability to help with these effects. The passage of groundwater regulation in the state is likely to lead to the retirement of a large amount of agricultural land. Our organization is interested in directing this retirement to lands that will help the environment AND human health the most. We see an opportunity to help reduce agriculturally related air pollution in places where people are most vulnerable to these health impacts, and we are seeking connections to experts who can help us think about this part of the possible program.

I recognize your time is limited, so if you are not able to talk, can you direct me to any resources that might be helpful, or suggest other experts I might reach out to? Thank you in advance for your time.

Best regards, XXXX

4. Conduct the interview to solicit valuable input

Tips for conducting your interview:

- List your questions in advance—you should have generated one or more questions from the <u>Expanding Impact</u> and/or <u>Scaling</u> worksheets.
- In your initial outreach, you will have crafted a compelling ask that connects this person's work with your project topic. Remind them of this—what you are working on, and how you believe the person can add value.
- You may only speak with this person once, so be sure to create space for them to do most of the talking.
- Walk through your questions, starting with the highest priority ones. After the person responds, it may be helpful to ask open-ended follow-up questions to draw out more information, such as "Can you tell me more about...?" or "Can you explain why that is the case?"
- Ask for any additional resources or recommended experts to speak with next.
- Thank them for their time!
- If relevant, ask them if they would like to continue to be involved in some specific way, or if they would like to be kept informed about the project. Only include this if you have bandwidth to do the follow up, but even a short outreach like this can plant seeds for later collaborations.

How you found them, with honest flattery

Clear request

How their input will help with something they likely care about

Easy out that still helps you

Appendix B: Applying the Workbook to Example Projects

Purpose: In this appendix we provide descriptions of two hypothetical example projects and show how their project teams might apply the guidance from this workbook. These examples are for illustrative purposes only.

Example 1: Healthy Energy. Project Description: HealthyEnergy is a program that provides solar subsidies to minority homeowners, and interfaces with local energy providers for grid connection. Our objective is to increase equity in renewable energy access while decreasing carbon emissions and related air pollution. We have piloted in Austin, Texas and are now expanding to Los Angeles, California.

Example 2: Food Systems Decision-Making Online Hub. Project Description: We want to establish a web-based global food-system information hub that makes relevant information easily accessible to policymakers and other stakeholders for the purpose of informing the design of sustainable food systems.

Workbook Guidance **Initial Project Details** Section 1: Expanding Impacts 1. Understanding Causal Pathways to Impacts Use clear logic: strong Initial Project Details: results chains have Each link (arrow) represents a single relationship Minority links that reflect only homeownei access to one hypothesized renewable and testable causal energy relationship [see p. 7] Production of Solar company Α Homeowner energy from panel н commitment Greenhouse gas installations polluting to solar emissions Interventions and grid sources in installation connection target airshed Solar subsidies provided B١ C/ D E F Demand for Outreach Homeowner Respiratory G to qualified coordination polluting disease risk Air pollution in energy sources with solar from air homeowners target airshed and power in target pollution in companies airshed target airshed Example hypotheses: Hypothesis for arrow A: Solar subsidies and outreach will cause homeowners to commit to solar cell installation Hypothesis for arrow C: Homeowner outreach to the solar company will result in solar panel installation and grid connection Hypothesis for arrow E: Reduced demand for polluting energy sources will lead to reduced use of polluting energy sources Hypothesis for arrow G: Lower air pollution from energy sources will result in lower health risks for residents in the airshed Adjustments made based on workbook suggestions: No changes: each link reflects a single causal relationship.

Example 1: Healthy Energy

Make impacts specific:	Initial Project Details:		
strong results chains	Impacts Identified:		
include impacts	Respiratory disease risk from air pollution		
that are specific and	Greenhouse gas emissions from energy use in the target neighborhood		
measureable	Amount of energy produced (MwH) from the installed solar panels		
[see p. 6]	Minority homeowner access to renewable energy		
	Adjustments made based on workbook suggestions: No changes: current list of impacts is specific and each is measurable.		
Articulate assumptions: articulating assumptions	<i>Initial Project Details:</i> Example assumptions for results chain above:		
can help clarify your thinking and create	Assumption for arrow A: The subsidy being provided is large enough and culturally appropriate to attract targeted homeowners to the program		
evaluating evidence [see p. 7]	Assumption for arrow C: The solar company has capacity to meet demand created by the program		
	Assumptions for arrow E: New installed solar capacity will be large enough for producers to		
	decrease energy production from polluting sources; AND The energy producer will choose to reduce polluting sources in the same airshed where solar production is increased (rather than in other airsheds connected through the grid)		
	Assumption for arrow C: The decrease in air pollution in participating homeowners' airshed		
	will be big enough to meaningfully reduce human health risk		
	<u>Adjustments made based on workbook suggestions:</u> No changes.		
Identify relevant cross	Initial Project Details:		
sector impacts: Existing	Comparing figure 1.4 to our impacts list, we realize For a clean energy		
resources can help	we have not yet thought about how Healthy Energy transition project, have you		
determine which cross-	installations might affect rivers, lands and oceans. considered impacts like		
sector impacts are most	changes in		
relevant to your program	Adjustments made based on workbook suggestions:		
or policy	Since all household solar we support is being installed • Greenhouse gas emissions		
[see p. 9]	on rooftops, there is a potential positive benefit of this • Renewable energy access		
	program in avoiding land-based impacts of renewable • Health risks from air pollution		
	energy infrastructure. We added this pathway (links J • Energy infrastructure risks for		
	and K) to our results chain and now include this impact rivers, lands and oceans		
	in our impact list.		
	J Development of solar fields in project area		
	I I Minority homeowner access to renewable energy		
	A Homeowner Solar company Production of		
	Interventions Solar subsidies provided By C Dy E A E		
	Outreach to qualified homeowners Homeowner coordination with solar and power Demand for polluting energy sources in target Air pollution in target airshed G Respiratory disease risk from air pollution in target airshed		
	companies airshed target airshed		

2. Understanding Evidence for all impacts		
Check your major hypotheses and assumptions against existing evidence [see p. 10]	Initial Project Details: Assumption for arrow A: The incentive being provided is large enough and culturally appropriate to attract minority homeowners to the program. Evidence for arrow A: We have no evidence that this is true for the target community. In the pilot community of Austin, Texas, the same incentive design resulted in recruitment of 200 minority-owned households in one year.	
	Assumption for arrow C: The solar company has capacity to meet demand created by the program. Evidence for arrow C: We have a verbal commitment from the CEO of our partner company that they have the capacity to meet generated demand. Based on our past partnership with the same company in the pilot location, we are confident in this commitment. In addition, the company has shown 5% growth in the last fiscal year.	
	Assumption for arrow E: New installed solar capacity will decrease the use of polluting energy sources in the participating homeowners' airshed Evidence for arrow E: Newly installed solar did displace fossil fuel demand in the pilot location. This was confirmed by market analysis and an impact evaluation of the pilot. The energy system in Los Angeles is different and has a higher proportion of energy generated by fossil fuels. We have moderate confidence that newly installed solar will generate enough energy to displace fossil fuel generation in the target community.	
	Assumption for arrow G: The decrease in air pollution in participating homeowners' airshed will be big enough to reduce human health risk from energy-related air pollution. Evidence for arrow G: We have low confidence in this assumption because several modeling studies show conflicting estimates of how much fossil fuel energy generation contributes to air pollution in the target homeowner airshed (40-80% of particulate air pollution). In addition, the target population (2,500 households) makes up a much smaller proportion of the energy demand in the Los Angeles region than the target population did in the pilot, so shifting the primary energy source for the target population may not be sufficient to drive airshed-level changes in pollution. It is possible that first-year implementation will not be significant enough to produce sufficiently large reductions in particulate air pollution and associated health risks.	
	Adjustments made based on workbook suggestions: Given limited evidence for arrow A, we will conduct a pre-enrollment phase offering the program in the community to test receptivity. If response rate is less than 25%, we will use focus groups to gather information on how the incentive could be adjusted to make it more attractive.	
	Given moderate confidence in assumptions for arrow E, we will closely monitor energy sourcing with our partner provider and run a communications campaign to encourage reduced use of fossil fuels in the airshed.	
	Given low confidence in assumptions for arrow G, we will emphasize monitoring of particulate air pollution and respiratory health risks. We will also focus business growth in this area to ensure the highest possible participation rates in the target population.	

Ensure that all impacts can be estimated	Initial Project Details: Example project impacts with quantitative estimates:
quantitatively [see p. 11]	<i>Impact</i> : Increase energy access in Los Angeles <i>Estimate</i> : We expect to create renewable energy access in 200 Los Angeles minority households (0.5% overall increase in renewable access, and 50% increase for minority access) by December 2021. This estimate is based on: Results of experimental pilot in another region (Texas) where the same intervention led to adoption of solar energy by 200 households in one year (Healthy Energy 2015).
	<i>Impact</i> : Reduce respiratory disease risk from air pollution <i>Estimate</i> : We expect no impact on health risks from air pollution during our 1-year project. This estimate is based on: The amount that fossil fuel energy production contributes to air pollution health risks in Los Angeles is not clear. Modeling and energy sector studies provide highly varying estimates (40-80% contribution; Shelling et al. 2011; Gosling et al. 2015; Margaruite and Lemming 2016), so we have low confidence in how much displacement of fossil fuel use will improve air quality in the near term.
	Adjustments made based on workbook suggestions:
	No change.
4. Team Capacity to Delive	er on All Impacts
Anticipating risks, and how your team would respond to them, can strengthen proposals and ensure the team has capacity to deliver on all impacts. [see p. 12]	Initial Project Details:Our team members have expertise spanning:• Environmental justice• Engaging minority communities• Residential solar sales• Public-private partnership building• Solar energy (in the Los Angeles region)• Solar installation (sub-awardee)Our new program is targeting solar installations in a particular LA neighborhood. Theteam does not have a relationship with this community, and we have concerns about theeffectiveness of the incentive with the target population.Adjustments made based on workbook suggestions:We will add a community leader to our team to provide direct feedback on the incentivedesign and to facilitate community meetings and focus groups.
	Section 2: Scaling
Scaling path: this refers to <i>who</i> will enable scaling by driving future adoption of the intervention [see p. 20]	 Initial Project Details: We originally thought that our project will scale through expansion (the same organization will grow impact)—our existing corporate partner will offer the package to new service areas where they already operate. We considered the other scaling paths in the workbook and think that there may be an opportunity to scale faster through replication. Adjustments made based on workbook suggestions: We are initiating conversations with additional corporate partners to see if there is interest in adopting this approach in other regions in the near term.
Scaling approach: this refers to <i>how</i> later adoption of the intervention will be driven [see p. 23]	Initial Project Details: We think that our project will scale through a hierarchical approach (change will occur through well-informed decision makers)—we will build political support for city government budget allocation to solar subsidies Adjustments made based on workbook suggestions:
	No change.

Magnitude of scaled impact: ensure that evidence for the scaling vision has been used to develop estimates of im- pact, not just evidence for the intervention itself [see p. 25]	Initial Project Details: Example estimates for scaled impact:
	<i>Estimated impact 1: Within 5 years 250,000 minority-owned households will gain renewable energy access.</i> Evidence: This estimate is based on our program's rate of growth in Austin and conversations with community-based solar programs on the east coast and their rate of growth over the same length of time.
	Estimated impact 2: Over 5 years, this project will have helped avoid 1.4-2.8 metric tons of CO_2 emissions. Evidence: This estimated impact was calculated using, 1) the number of households we expect to join this program each year, 2) the estimated emissions of those 250,000 total households over length of time they would have been enrolled in our program, based on the type of energy those households currently use.
	Estimated impact 3: Over five years the program will reduce particulate air pollution in the target airsheds by 5%. Evidence: While several modeling studies show conflicting estimates of how much fossil fuel energy generation contributes to air pollution in the target homeowner airshed (40-80% of particulate air pollution), we anticipate that after five years the number of households enrolled in our target airshed will be enough to impact air quality. However, we are still unsure whether a 5% air quality improvement will result in associated health benefits—other studies have shown that even a 20% improvement in air quality had limited impacts on health outcomes (Zheng et al. 2017).
	Adjustments made based on workbook suggestions:
	Since we added consideration of habitat impacts, we have added this scaling estimate:
	Estimated impact 4: After 5 years 27,300 hectares/ year of avoided habitat conversion for energy infrastructure. Evidence: This estimated impact was calculated using 1) the total population size of the tar- get neighborhoods, 2) projected solar energy demand over the next five years in California, and 3) the amount of land required by solar fields to produce the amount of projected solar demand. If you apply the California solar demands to our target neighborhoods, and offset the amount of energy provided by our roof panels, you can estimate the avoided amount of land that would have been converted to solar fields.

Workbook Guidance **Initial Project Details** Section 1: Expanding Impacts 1. Understanding Causal Pathways to Impacts Use clear logic: strong Initial Project Details: results chains have links that reflect only Natural habitat conversion to one hypothesized agriculture Interventions and testable causal Creation Online hub relationship Demand for of policies created promoting sustainable GHG emission [see p. 7] sustainable and and healthy Workshops with healthy food at products stakeholders to a national level introduce the hub Rate of malnutrition Adjustments made based on workbook suggestions: We realized that our original results chain was too high level when we found we had multiple hypotheses incorporated into each arrow. We needed to add detail and break down the different pathways through which food systems might change based on application of our online portal. Below is an example of one specific type of policy that might be adopted in response to use of the portal: a change in school lunch programs. National policies Availability of A Use of the sustainable and promoting hub after sustainable and healthy food Interventions workshops healthy food options for school lunches served at schools L Natural habitat Online hub conversion to created н∤ J G K T agriculture Policy-maker Corporate Presence of Workshops with awareness of supply of sustainable М Carbon stakeholders to introduce the hub sustainable and sustainable and healthy footprint of healthy food and healthy food options in school food school lunches system options food options N E F Rate of Community obesity among group and Demand for schoolchildren в consumer C sustainable D School district awareness of and healthy food purchasing ustainable and products by preferences healthy food students and system options parents Example hypotheses: Hypothesis for arrow A: the hub will be used by workshop participants Hypothesis for arrow H: After policy-makers are made aware of food systems issues, they will apply this knowledge to develop policies addressing the sustainability and health of food served in public schools Hypothesis for arrow K: Schools will change the food they serve Make impacts specific: Initial Project Details: strong results chains Impacts Identified: include impacts that are Natural habitat conversion to agriculture specific and measureable Carbon footprint of school food [see p. 6] Rate of obesity among schoolchildren Adjustments made based on workbook suggestions: No changes: current list of impacts is specific and each is measurable.

Example 2: Food Systems Decision-Making Online Hub

Articulate assumptions: articulating assumptions can help clarify your thinking and create a useful structure for evaluating evidence [see p. 7]	Initial Project Details: Example assumptions for results chain above:
	Assumption for arrow A: the hub is user friendly and workshops effectively engage different types of stakeholders so that use of the hub extends after the workshop is over
	Assumption for arrow H: Information is the primary barrier to action. Informed policy makers have sufficient political influence to overcome vested interests and pass legislative changes.
	Assumption for arrow K: Sufficiently healthy and sustainable food is affordable for schools to purchase on existing budgets.
	<u>Adjustments made based on workbook suggestions:</u> No changes.
Identify relevant cross sector impacts: Existing resources can help determine which cross- sector impacts are most relevant to your program or policy [see p. 9]	Initial Project Details: After engaging with additional experts we realize we have not yet considered other important health outcomes, such as rate of childhood diabetes. Adjustments made based on workbook suggestions: We added an impact to our results chain accordingly (link O). Interventions Online hub created Workshops with stakeholders to introduce the hub GV H Vorkshops with stakeholders to introduce the hub System options Corporate sustainable and healthy food options in school lunches Vorkshops with stakeholders to introduce the hub GV B Community group and consumer awareness of sustainable and healthy food options in school lunches System options E B Community group and consumer awareness of sustainable and healthy food options in school lunches System options E B Community group and consumer awareness of sustainable and healthy food options in school lunches School district food purchasing preferences Rate of diabetes among schoolchildren

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2. Understanding Evidence for all impacts		
Check your major hypotheses and assumptions against existing evidence [see p. 10]	Initial Project Details: Assumption for arrow A: The hub is user friendly and workshops effectively engage different types of stakeholders so that use of the hub extends after the workshop is over. Evidence for arrow A: We have no direct evidence that this is true for the target audience. However, literature review shows that an easy to use web platform and interactive engagement based on real-world use are key for uptake. Additionally, the literature has pointed us to the importance of co-creation, or making a product with users rather than for them (Sanders and Stappers 2008).	
	Assumption for arrow H: Information is the primary barrier to action. Informed policy makers have sufficient political influence to overcome vested interests and pass legislative changes.	
	Evidence for arrow H: We do not currently have evidence that political will is strong at the national level to update school food policies, but we have talked to state-level policy makers who are actively working on these issues. We found that for U.S. federal school nutrition programs, food purchasers must follow both federal and state procurement standards, and if those differ they must follow the stricter one (Public health law center). This indicates that working at the state level would be sufficient to initiate change in food procurement.	
	Assumption for arrow K: Sufficiently healthy and sustainable food is affordable for schools to purchase on existing budgets.	
	Evidence for arrow K: We do not currently have data on affordability of healthy school foods.	
	Adjustments made based on workbook suggestions: Assumption A: We will work with a trained facilitator in order to run design workshops with state policy makers positioned to change school food policies. We will also co-design test cases for several individual states that directly demonstrate how specific policy makers could use the information in the database to design new school food policies.	
	Assumption H: We can adjust our pilot to focus on one or more of these interested states, with the idea that we could scale up to national level policy-maker conversations if and when it seems appropriate.	
	Assumption K: Given our lack of information on this assumption, we need to enter into a round of conversations with policy makers, public health departments, and food procurement groups in our target states to understand current pricing of healthy and sustainable foods and how costs of these foods might fit into their budgets.	

Ensure that all impacts can be estimated quantitatively [see p. 11]	Initial Project Details: Our initial project proposal did not include quantitative estimates of our expected impacts because we had used vague ideas of a wide range of possible policy changes.	
	Adjustments made based on workbook suggestions: To provide some quantitative estimate of possible impacts, we used the school food policy change example as one possible type of policy change the hub might inspire. We might do this kind of estimate for a few different types of policies to give us and funders a broader sense of the range of impacts the hub could help create. For example, passage of a corporate 'sugar tax' or similar disincentive for production of unhealthy and unsustainable foods would have different types and magnitudes of impact not captured here.	
	Impact: Reduce carbon footprint of school food Estimate: We expect to help reduce the carbon footprint of school food in 3 states by at least 20% in five years. A two year project assessing carbon impacts of school foods in the Oakland Unified School District found that just reducing its meat procurement by 30% decreased the district's food carbon footprint by 14% (Friends of the Earth, 2017). We expect purchasing policies to target healthy and sustainable alternatives for more than just meat products, and therefore expect greater than 14% carbon footprint reduction.	
	Impact: Decrease rate of obesity among school children Estimate: We expect obesity rates of children eating school lunches in our 3 target states to fall by at least 5%. There is evidence to show that in states with strict school lunch guidelines, obesity among children eating those lunches is 11 percentile units smaller than those in states without the same guidelines (Taber et al. 2013). Other findings report childhood obesity declines of roughly 5% (or less) associated with healthy lunches (Nestle, 2013).	
4. Team Capacity to Deliver on All Impacts		
Anticipating risks, and how your team would respond to them, can strengthen proposals and ensure the team has capacity to deliver on all impacts. [see p. 12]	 Initial Project Details: Our team members have expertise spanning: Public health Pediatrics Education and public health policy Adjustments made based on workbook suggestions: We recognize after going through the workbook that our team is strong on the public health, medical, and policy aspects of the project, but we do not have environmental expertise. We need to bring in sustainability expertise, likely someone with experience of environmental impacts of corporate supply chains 	
Scaling path: this refers to <i>who</i> will enable scaling by driving future adoption of the intervention [see p. 20]	Initial Project Details: We think that our project will scale through replication (other organizations will grow impact)—once the online hub is up and running, we hope that food advocacy groups at state, local, and national levels will be able to use the information to influence policy.	
	Adjustments made based on workbook suggestions: In order for replication to happen, we will need to do outreach to target advocacy groups and policy makers in additional states/ agencies/ countries where this could scale. We had not originally planned for this form of outreach. We can do this through targeted engagements and outreach, but also at a broader scale through events like the Sustainable Food Summit.	
Scaling approach: this refers to <i>how</i> later adoption of the intervention will be driven [see p. 23]	Initial Project Details: We think that our project will scale through a hierarchical approach (change will occur through well-informed decision makers)—this is the primary purpose of the online portal, to deliver science-based, applicable information on food systems to decision-makers who make relevant decisions.	
	Adjustments made based on workbook suggestions: No change.	

Magnitude of eacled	Initial Duringt Detailer
Magnitude of scaled	
impact: ensure that	Our initial project proposal did not include quantitative estimates of our expected long-term
evidence for the scaling	impacts.
vision has been used to	
develop estimates of	Adjustments made based on workbook suggestions:
impact, not just evidence	New example estimates for scaled impact:
for the intervention itself	
[see p. 25]	Estimated impact 1: Within 10 years at least 15 states will have reduced the carbon footprint
	of their lunch programs by 20%.
	Estimated impact 2: Over 10 years, this project will have reduced childhood obesity rates by
	at least 5% in 15 states.
	Evidence: We believe that once we are successful with 3 pilot states in our first five years,
	it will be possible to promote change in at least 12 more states. Once success in our pilot
	states is shared after our first 5 years, uptake in other states will be faster and easier due to
	documented policy success and a tested framework for creating policy change. Documented
	success will bring in states that were hesitant at first as well as additional funding that is
	contingent on a successful pilot. We will work to synthesize learnings from the 3 pilots so
	that we can create additional content for the online toolkit that represents a "how to" for
	states looking to implement these changes to their school lunch programs.

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