LASER PULSE

Long-term Assistance and Services for Research (LASER) Partners for University-Led Solutions Engine (PULSE)

PROMISING PRACTICES FOR EMBEDDED RESEARCH TRANSLATION:

A TOOLKIT TO IMPROVE PARTNERSHIPS, PROCESSES, PRODUCTS, AND DISSEMINATION

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LASER PULSE

LASER (Long-term Services for Research) PULSE (Partners for University-Led Solutions Engine) is a five-year, $70 million program funded through the United States Agency for International Development's (USAID) Innovation, Technology, and Research Hub, that delivers research-driven solutions to field-sourced development challenges in USAID partner countries.

A consortium led by Purdue University, with core partners Catholic Relief Services (CRS), Indiana University (IU), Makerere University, and the University of Notre Dame, implements the LASER PULSE program through a growing network of 2,500 researchers and development practitioners in 61 countries.

LASER PULSE collaborates with USAID missions, bureaus, and independent offices and other local stakeholders to identify research needs for critical development challenges, and funds and strengthens the capacity of researcher-practitioner teams to co-design solutions that translate into policy and practice.

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Terms and terminology

Our review found that many of the following terms and concepts have multiple definitions (Cornish et al 2017, 6). LASER PULSE uses the terms as defined here. Other institutions may define terms differently.

- **Audience:** A broad term to refer to stakeholders, end-users, partners, or anyone who could use and apply research translation products.
- **Co-design:** The deep collaboration between researchers and practitioners that follows an iterative process from discovery to field-tested solution, to wider application, and impact.
- **Embedded Research Translation:** An iterative co-design process among academics, practitioners, and other stakeholders in which research is intentionally applied to a development challenge. Underpinning this approach are four pillars: partnership, process, product, and dissemination.
- **End-user:** The individuals or institutions that will directly utilize the research translation products to address development challenges.
- **Evaluation:** Systematic collection of evidence to address practical problems, judge merit, and take action. Generally, uses evaluation research methods (Breckon and Roberts 2016, 8).
- **Evidence:** Findings from research that can inform policy or practice. Practitioners are expected to rely on evidence to inform policy and practices, yet "understandings about what evidence is, and what makes it valid, valuable and useful are complex and differ from person to person" (Cornish et al. 2017, 6).
- **Knowledge:** Practitioner, lay, indigenous, natural, social science, qualitative, and quantitative expertise. This broad term is used to refer to a plurality of understandings that can contribute to evidence for practice and policy making. The goal of including and valuing different knowledge sets is not to gather it as a data source but as a way to complement and fill gaps in scientific knowledge (Gallo and Goodchild 2012).
- **Partner:** The researchers and practitioners that are directly substantially involved in the research translation process.
- **Practitioner:** Individual persons or institutions engaged in the design, planning, and/or implementation of international development programs/projects. This includes donors, government agencies, policymakers, nongovernmental organizations, civil society, or the private sector. They can be engaged as a partner or as a stakeholder.
- **Research:** Systematic collection of evidence that generally addresses theoretical problems, describes situations, and uses scientific methods (Breckon and Roberts 2016, 8).

- **Research team:** A combination of researchers and practitioners who work in partnership throughout the research translation project.
- **Researcher:** Scholars with advanced degrees who work at universities and conduct primary research. Practitioners also generate evidence and conduct research, but for the purpose of clarity, we define researchers as academic researchers.
- **Stakeholders:** Broadly defined as those who know about, can contribute to, and benefit from the results of the research project. Stakeholders include community-based organizations, nonprofits, government entities or private-sector enterprises that should be informed, consulted, or engaged throughout the research project. They are not direct members of the research team, yet they have valuable insights to contribute to the project and have a major role in the wider application of the research translation product(s).
- **Translation partners:** Practitioners that are directly and substantially involved in the co-design of research translation projects including, but not limited to, goal setting, stakeholder engagement, product development, and dissemination.

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Using this toolkit

LASER PULSE created this toolkit to support the implementation of the Embedded Research Translation (ERT) model. ERT is a new approach to research translation in international development (see page 8 for more details), defined as an iterative co-design process to intentionally apply research to development challenges. Evidence shows that collaborative approaches to research translation can maximize the potential impact of evidence for solutions to global development challenges (Fransman et al. 2021, Rethinking Research Collaborative 2018, 6; Graham et al. 2018; Kothari and Wathen 2013; Gutberlet 2015). However, the literature also finds that there are significant challenges including limited capacity for research translation and constraints to adopt research findings (Lyons et al. 2014, Kuijpers and Swinnen 2016, Sussman et al. 2006). This collection of promising practices can assist in improving the capacity to carry out research translation.

What is the purpose of this toolkit?

This toolkit is a compilation of promising practices and resources to guide researchers and practitioners to implement LASER PULSE's ERT model. We highlight the practices and resources with the greatest potential to:

improve partnerships,

establish collaborative processes,

create applicable products, and

enhance research dissemination for uptake.

What does LASER PULSE mean by promising practices?

In the absence of a well established process for research translation in international development, LASER PULSE created the Embedded Research Translation model. At the time of writing, the LASER PULSE program and its funded research translation projects are ongoing. Therefore, we are still learning what the best practices are for ERT. To identify promising practices, we synthesized the evidence and knowledge from peer reviewed articles and practitioner reports to identify practices that have led to positive outcomes in research translation. This combination of both theoretical and practical knowledge provides comprehensive insight into the research translation process. All of these practices are in line with the ERT model and framework. As more evidence of the ERT model and the impact of the projects is collected as they come to a close, these promising practices will be updated.

How were these promising practices identified?

This collection of promising practices is from a systematic, qualitative analysis of 93 peer-reviewed articles and 94 resources from practitioner literature. We selected academic literature from four areas of research translation: technology transfer in agriculture, participatory action research in development, evidence based policy making in political science, and knowledge translation in health. We identified the practitioner literature through a search of 28 key terms in publications on the websites of 23 development organizations like USAID, DFID, Oxfam, and the Institute for Development Studies. Through the search of terms like research collaboration, co-production, action research, research partnership implementation science, and research impact, we identified resources from toolkits, reports, guides, lessons learned, working papers, and technical briefs.

How is this toolkit organized?

The toolkit is organized by the four pillars of the LASER PULSE's Embedded Research Translation model: partnership, process, product, and dissemination. Each pillar is a separate chapter within the toolkit, further broken down into five sections: ERT definitions, evidence, promising practices, tools, and case studies. We caution against reading this as a checklist to perform a technical process. We recommend that you tailor these promising practices and tools to your specific context. Furthermore, the tools recommended in one pillar can be applicable at different times of a research cycle for different teams.

Within this toolkit you will see the following icons to draw attention to the five sections in each chapter:

LASER PULSE Embedded Research Translation definitions

This section details how LASER PULSE defines each pillar, partnership, process, product, or dissemination. The definition is drawn from experiences of LASER PULSE researchers and practitioners and examples are provided from LASER PULSE funded projects.

Evidence from academic and practitioner literature

This section briefly summarizes what we found through a review of 93 academic articles and 94 practitioner articles. It provides grounding for the pillars and the promising practices.

Promising Practices

Each promising practice was found through a qualitative analysis of the literature. The practice is listed and then the evidence found to support it is detailed below.

Tools

These resources are suggested exercises, templates, or guides that can assist research teams to apply each promising practice. The title of the tool is listed first followed by the citation which is a link to the document. The citation also tells you which page number to find the tool within the document. The citation is organized in the following way: (Author, year of publication, page number of tool in document). In case the link does not work, *here is a link* to a google drive folder with all the resources.

Case Study

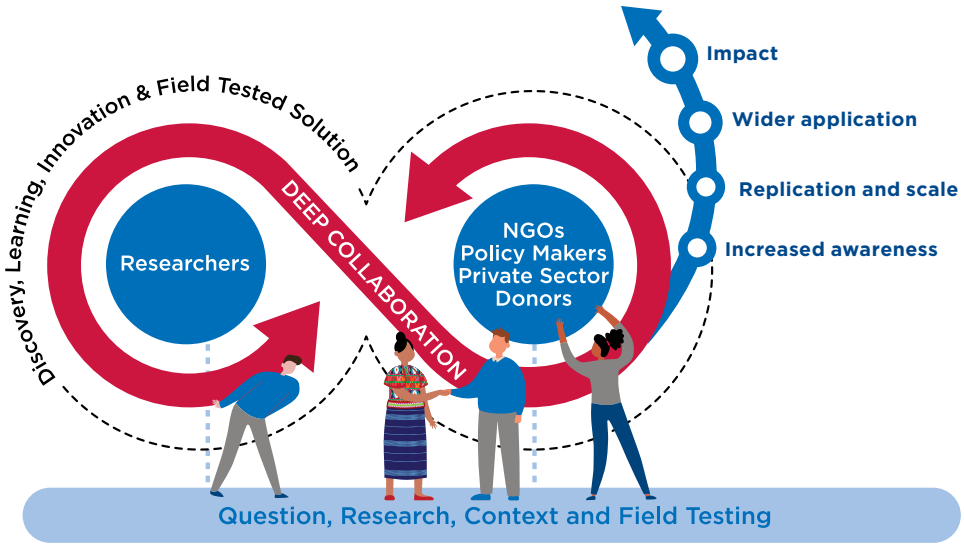
The case studies are examples from academic and practitioner literature of the promising practices in action. If some of the promising practices seem abstract, the case study can illustrate how they applied some of them from that section. Most case studies demonstrate multiple pillars.

The Embedded Research Translation model

What is Embedded Research Translation?

The LASER PULSE consortium approaches research translation as an integrated component of the entire research cycle, built in from the very beginning of the project instead of as a final phase of the research. LASER PULSE developed an approach to research translation called Embedded Research Translation (ERT). It is defined as *an iterative co-design process among academics, practitioners and other stakeholders in which research is intentionally applied to a development challenge.*

Figure 1. LASER PULSE's Embedded Research Translation model

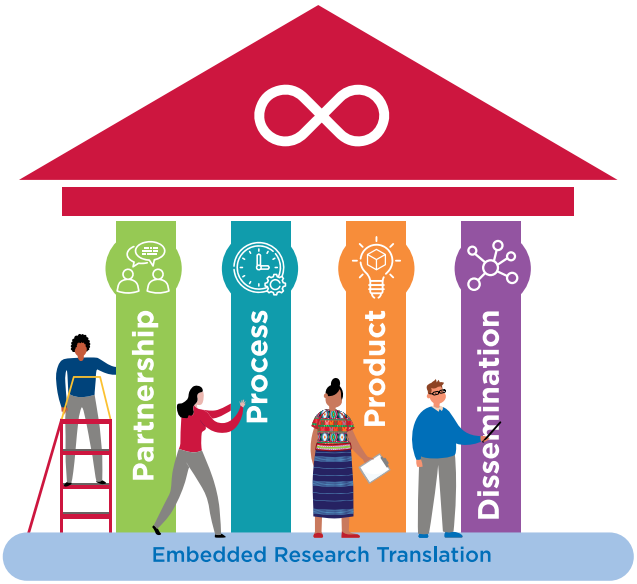


The central aspect of the ERT approach is its ability to bring together academics, researchers, policymakers, donors, nongovernmental organizations, civil society, and the private sector to develop research-driven solutions to global development challenges. Recognizing that research translation is an iterative and collaborative process, LASER PULSE promotes a model in which development solutions are derived through a co-design process between practitioners and researchers. Once these key actors are connected, ERT serves as the means to collaborate on research solutions for development. The underlying philosophy of ERT is that research translation is most effective when it is embedded across all phases of the research project, from identifying the research topic to disseminating the findings for broader impact and scale. Through the ERT model, we aim to create a foundation for researchers and practitioners to be more intentional about translation in international development. ERT is an agnostic model that can be used in any sector. This neutrality serves as a key strength in making it applicable to international development. Although it was developed with international development in mind, ERT can be applied in any research context in which close researcher and practitioner partnerships would improve research uptake.

What are the four pillars of Embedded Research Translation?

Underpinning this approach are what LASER PULSE calls the four pillars: partnership, process, product, and dissemination. Figure 2 depicts the four pillars of the Embedded Research Translation model.

Figure 2. Four pillars of Embedded Research Translation



Partnership: *the "who" you work with in research translation.*
By integrating translation partners early and throughout the research collaboration, the model ensures that the research solution is custom generated for the development and challenge, and practitioners more readily adapt the outcomes.

Process: *the "how" you work together in research translation.*
Through establishing a collaborative partnership process, the researcher and practitioner team ensure they have a solid foundation on which to work together effectively on development research.

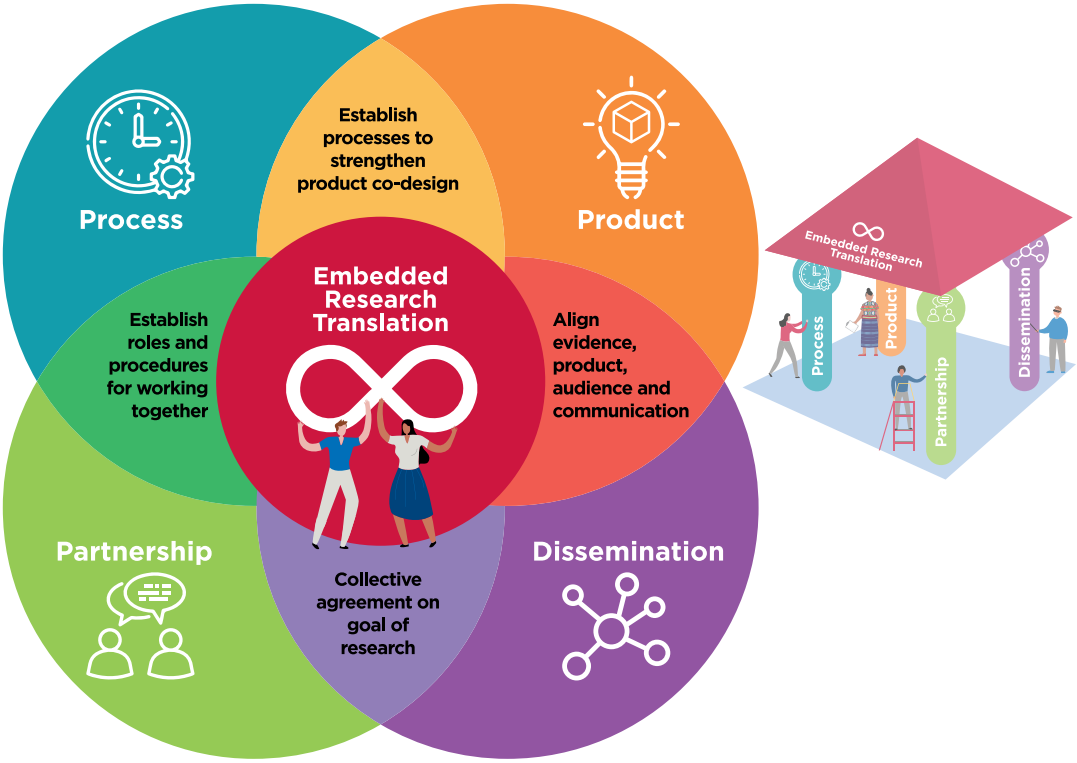
Product: *the "what" you translate the research into.*
The model emphasizes that while innovative and evidence-based research is important, it ultimately needs to result in a co-designed translation product that informs policy and/or practice. Translation products, such as briefs, training guides and videos, should lead to changes or recommendations in legal, funding, accountability, feasibility, or implementation mechanisms.

Dissemination: *the "where, when, and why" you share your research.*
LASER PULSE seeks not only to increase research capacity, output, and translation, but also research dissemination and use. Including a dissemination plan enables wider application and scale-up beyond the initial translation partnership and toward a larger uptake of relevant findings in the field or region.

How are the Embedded Research Translation pillars related?

Even though LASER PULSE presents the four pillars as linear and discrete, there are significant overlaps and interconnections between them in practice. Figure 3 depicts the overlap and interrelated nature of these foundational components of the ERT model.

Figure 3. Interrelated pillars of Embedded Research Translation



While each pillar can stand alone, it is the combination of the pillars that enhance the collaboration and increase the impact of the research translation project. For example, LASER PULSE describes the partnership pillar as *ensuring that the right partners are brought together, and the establishment of a collaborative partnership process* as the process pillar. However, there are clear areas of overlap when establishing processes to strengthen partnerships. In practice the lines between who you work with and how you work with them is complex. Similarly, translation products and product dissemination are closely related. LASER PULSE recommends that researchers and practitioners engage early and throughout the research translation project and revisit these pillars as foundational components of implementing Embedded Research Translation projects. Since ERT is iterative in nature, there is a continual back and forth between the pillars to reach the final goal of research driven solutions for development challenges.

Promising practices for Embedded Research Translation

What are the promising practices?

The promising practices for each Embedded Research Translation pillar are listed below and linked to a more detailed description within this toolkit.

Promising practices to improve partnerships:

Involve diverse partners and stakeholders.
Define the goal of the research translation together.
Emphasize relationship building.
Budget time for partnerships.
Clarify assumptions, work cultures, and organizational structures.
Share power.

Promising practices to establish a collaborative process:

Establish partnership structures, roles, and procedures.
Plan for proactive engagement.
Interactively frame the problem that research can address.
Establish clear shared vocabulary and communication procedures.
Co-design research translation as equal partners.
Collectively plan for impact.

Promising practices to create applicable products:

Agree upon purpose, evidence, and product design early.
Invest in understanding context.
Engage with the audience early and often.
Co-design research translation products.
Decide how evidence will be represented.
Develop several products to influence change.

Promising practices to enhance dissemination:

Co-design a dissemination plan early.
Invest adequate time and resources in dissemination.
Create a mixture of targeted dissemination approaches.
Disseminate to a wide range of people and institutions.
Monitor how evidence translates to impact.
Build long-term trust and relationships for evidence uptake.

Applying the promising practices and tools for Embedded Research Translation

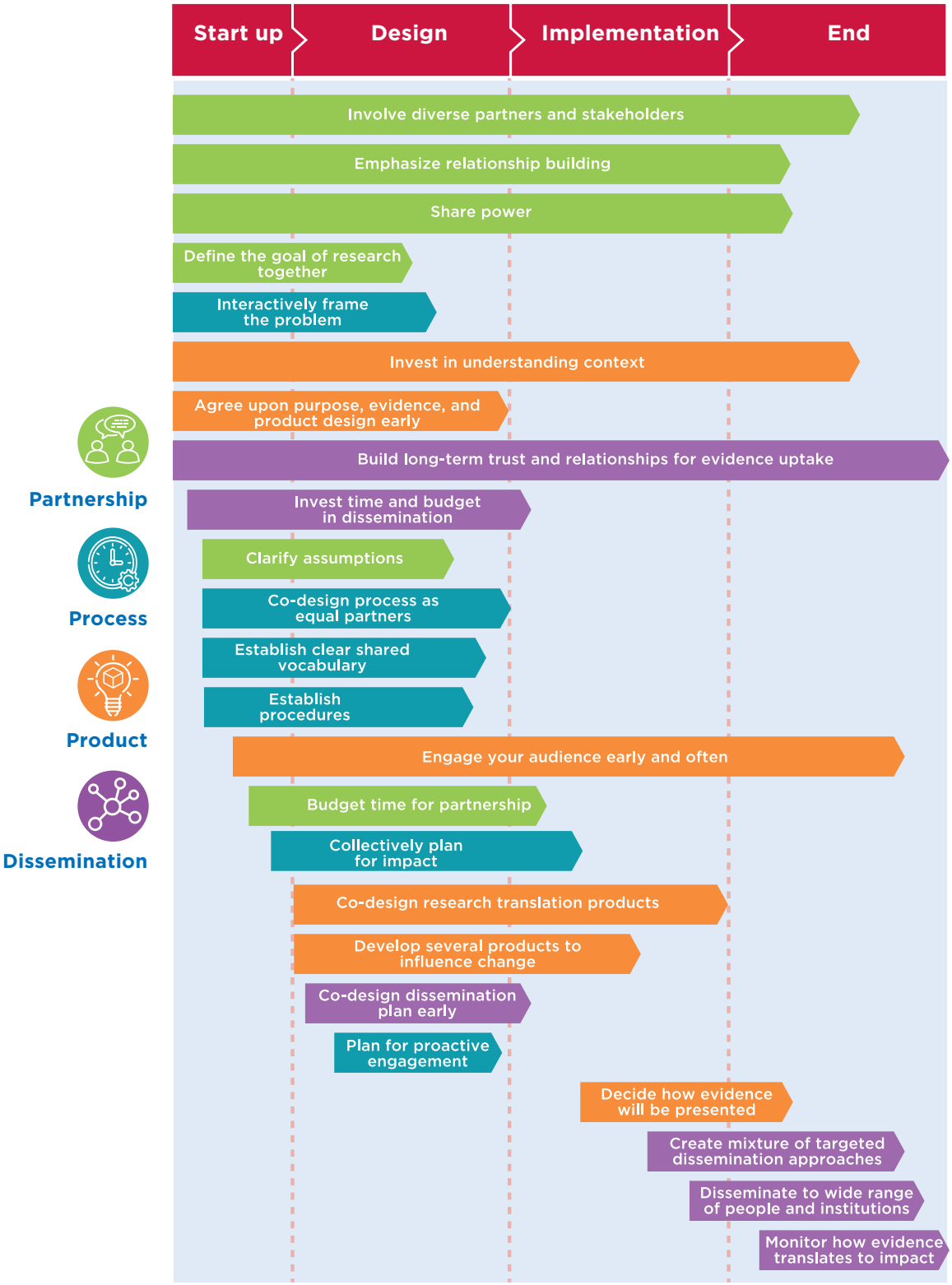
When should these practices and tools be applied?

Given the iterative nature of the Embedded Research Translation model, all ERT projects will be implemented differently depending on the internal and external factors of each context. This collection of 24 promising practices can be applied and revisited in the order best suited for each project. This toolkit is a reference to support implementation of the four pillars of an ERT project. The tools recommended for each pillar can either be applied as activities that are integrated into regular team meetings or could be utilized as separate, stand-alone events in your project implementation timeline. Figure 4, on the following page, illustrates when we recommend to think about each promising practice in relationship to start up, design, implementation, and end of project. *The LASER PULSE website* has more resources and tools as you implement your ERT project, including a project tracker organized by ERT pillar.

The Embedded Research Translation Project Tracker is a template for an implementation plan. LASER PULSE designed the Project Tracker around the four pillars of the Embedded Research Translation model (partnership, process, product, and dissemination) to reinforce the iterative nature of our model and to encourage projects to plan for each of these translation components in a concrete, practical way. This Project Tracker may identify additional activities that are required for implementing a research translation strategy that were not a part of a project's original work plan, particularly for those activities associated with partnership and process, such as establishing regular meetings and partnership check-ins between the researchers and practitioners on a team. Download it and modify it for your project team to monitor your progress in implementing the promising practices and tools.

A final point to emphasize is that many of these promising practices are ongoing. A project might not plan for a partnership activity before they begin their dissemination but may find that it is necessary to check in on the partnership to improve the dissemination. LASER PULSE's emphasis on the iterative nature of ERT and the interrelations of the pillars is intentional; we want to draw attention to how embedded these promising practices are in the everyday practices of collaborative research projects. We hope you can use this as a reference material throughout your ERT project and into your subsequent research projects.

Figure 4. Implementing the Promising practices for Embedded Research Translation across the project management phases.



What does LASER PULSE recommend to get started quickly?

These tools and resources can be added as activities into a work plan or implementation plan. LASER PULSE recommends that the activities or readings are done with all research team members and discussed afterwards.

To illustrate one potential pathway for implementing the promising practices in a project, we have outlined a sample implementation plan across each phase of a project cycle in the *Quick Start Guide to Embedded Research Translation* on page 15. While we recommend the application of all the promising practices listed in this series of reports, keep in mind your project might not require a separate activity for each promising practice. Some implementation plans, therefore, may result in a different number of activities to reflect their project's circumstances.

LASER PULSE recommends all the promising practices and that each project team select tools that meet your needs. To reiterate, Embedded Research Translation is an iterative process and LASER PULSE recommends reflection on these promising practices and adaptations to the progress tracker as circumstances change. We hope you can use this as a reference material throughout your ERT project to reach your goal and deliver research driven solutions for development challenges.

A Quick Start Guide to ERT

PILLAR	PROMISING PRACTICE	RECOMMENDED TOOL	PROJECT PHASE
 *"who" you work with in research translation*	Involve diverse partners and stakeholders.	Stakeholder analysis *(LASER PULSE 2020)*	Start up
	Define the goal of the research together.	Problem definition worksheet *(Nesta 2013)*	Start up
	Emphasize relationship building.	Building trust and cultivating partnership relationships *(Nesta 2013)*	Ongoing
	Budget time for partnerships.	A checklist for research partnerships *(Winterford 2017, 35)*	Design
	Clarify assumptions, work cultures, and organizational structures.	Checking your assumptions *(Cornish et al. 2017,18)*	Start up
	Share power.	Principles and guidelines for ethical research and evaluation in international development *(RDI 2021)*	Ongoing
 *"how" you work together in research translation*	Establish partnership structure, roles, and procedures.	Partnership agreements *(MSP 2021)*	Design
	Plan for proactive engagement.	Stakeholder engagement pyramid *(Georgeou and Hawksley 2021, 27)*	Design
	Interactively frame the problem that research can address.	Understanding research and evidence *(Cornish et al. 2017, 12)*	Start up
	Establish shared vocabulary and communication procedures.	An introduction to effective communication in partnership and capacity strengthening *(Catholic Relief Services 2014)*	Start up and design
	Co-design research translation as equal partners.	Who produces evidence? knowledge mobilisation, brokering and co-creation *(Shucksmith 2016, 23)*	Design
	Collectively plan for impact.	Fast track *ImpactPlanningTemplate (Georgeou and Hawksley 2020, 22)*	Design

PILLAR	PROMISING PRACTICE	RECOMMENDED TOOL	PROJECT PHASE
 *"what" you translate the research into*	Agree upon purpose, evidence, and product design early.	Rationales for evidence and types of evidence required for policymakers *(Breckon and Roberts 2016, 50)*	Start up
	Invest in understanding context.	Cross cultural competency in research *(RDI 2021)*	Ongoing
	Engage your audience early and often.	Know your audience *(Ademokun et al. 2016, 153)*	Ongoing
	Co-design research translation products.	Define research outputs *(Winterford 2017, 27)*	Design and implementation
	Decide how evidence is represented.	Evidence practices flower *(Cornish 2017, 36)*	Implementation and end
	Develop several products to influence change.	Tools and techniques to enhance research impact *(Georgeou and Hawksley 2020, 33)*	Design
 *"why" you share your research*	Co-design dissemination plan early.	Discussion guide: Intentional focus on impact and integrated methods for its achievement *(Georgeou and Hawksley 2020, 19)*	Design
	Invest time and budget in dissemination.	The communication path *(Cornish et al. 2017, 47)*	Design
	Create a mixture of targeted dissemination approaches.	Designing effective messages *(Ademokun et al. 2016, 158)*	Implementation and end
	Disseminate to a wide range of people and institutions.	Justice in research dissemination *(RDI 2021)*	End
	Monitor how evidence translates to impact.	Evaluating knowledge exchange *(UKRI 2021)*	End
	Build long-term trust and relationships for evidence uptake.	Capturing learning *(Cornish et al 2017, 55)*	Ongoing

Partnership promising practices

The six promising practices to improve partnerships are to:

- **Involve diverse partners and stakeholders.**
- **Define the goal of the research translation together.**
- **Emphasize relationship building.**
- **Budget time for partnerships.**
- **Clarify assumptions, work cultures, and organizational structures.**
- **Share power.**

What is partnership in Embedded Research Translation?

A partnership is who you work with in research translation; a partnership is ensuring that the right partners are brought together to be able to achieve shared objectives for research uptake and impact. In LASER PULSE, partners include any combination of academic researchers, community-based organizations, nonprofits, government entities, donors, or private-sector enterprises that are directly involved in decision making related to programming or policies for international development. More detailed information on partnerships in all of LASER PULSE projects is available on the *LASER PULSE website* and a few examples are highlighted below. Partnerships occur at multiple levels and with multiple actors including amongst the research team and research end-users. Some development challenges require collaborating with new partners in order to generate innovative solutions while other development challenges may benefit from leveraging longstanding, well established partnerships.

Examples of research partnerships in LASER PULSE projects

- Virginia Tech University, Egerton University, and an Australian company called AgUnity - *Blockchain technology to Improve Food Security*
- The University of Notre Dame, Luigi Giussani Institute, Save the Children, and the Ugandan Ministry of Education and Sports - *Measuring Teacher Well-being*
- Makerere University, Gulu University Constituent College, Mbarara University of Science and Technology, and USAID Uganda Mission - *The Voices of Indigenous People*

What does the literature say about partnerships between academics and practitioners?

Our analysis of the literature found that partnerships can produce actionable research because of the two-way exchange that strengthens research translation; however, partnerships can be time consuming, difficult to maintain, and fraught with power differentials. The evidence summarized here, the promising practices, and the case studies will provide insights to improve partnerships and prevent challenges.

Scholars and practitioners agree that partnerships offer ways of approaching development challenges, especially when thinking about complex issues in development (Winterford 2017, 21; Cornish et al. 2017; 4, Mach et al. 2020; Roper 2002). For practitioners, there is often an expectation for development programming to be evidence-based and to demonstrate impact, while for academics there is an expectation for research to be useful for programming or policy (Cornish et al. 2017). Therefore, a partnership between academics and practitioners in a research translation project is one way to produce high quality, actionable research; however, there are significant challenges that can limit the transformative potential of partnerships (Cornish et al. 2017). Partnerships can be time consuming (Sussman et al. 2006), have uneven power relations (Cornish et al. 2017, McGriffin 2020), and involve partners who operate on different timelines (Hanley and Vogel 2012, 59; Lyons et al. 2014).

Research translation partnerships between practitioners and academic researchers can be a beneficial two-way exchange, as academics can ensure their research is used and useful; and NGOS can enhance their methods for capturing evidence (Thorburn 2015, 3). However, partnerships are far more difficult than it appears on the surface, even when partners share a commitment to a particular problem (Roper 2002, 338). When partnerships work, there is something magical —ideas are flying, connections are made, people feel validated and empowered, and distant ambitions can be transformed into achievable goals (Roper 2002, 344). It is important to invest time to determine the people to include in a research partnership so that you can build a relationship to achieve research impact.

The proactive engagement of partners and actors who will produce and utilize research can reduce conflict between these parties, result in better research implementation, and increase impact. Proactive engagement is important because the inclusion of partners and actors strengthens the research recommendations and ownership which in turn can affect and improve lives (Georgeou and Hawksley 2020, 25). In some cases, the partners may be the research users, but in other cases the research users may be other actors that should be consulted throughout the research process. Therefore, it is important to acknowledge the power differentials that exist between researchers, practitioners, local communities, donors, and other stakeholders, and to develop processes to engage ethically and appropriately in order to enhance the potential of collaboration (Georgeou and Hawksley 2020, 25). Shared decision making, trust, and accountability increase the potential to produce relevant research and adoption of the outcomes (Georgeou and Hawksley 2020, 29). The engagement and shared decision making by partners and stakeholders creates shared ownership of the research.

At an institutional level, partnerships between government agencies, universities, and civil society organizations can lead to greater impact and provide mechanisms for uptake of research because the partnership combines empirical evidence with practical knowledge (Friend et al. 2015; Hanley and Vogel 2012, 24). Nevertheless, partnerships would not be possible without individuals. Individuals make collaboration happen, but institutions provide the mandates, contracts and administration that can make or break it (Hanley and Vogel, 2012, 14). When choosing a partner, it is not just about the relationship between individuals or institutions, a partnership is linked to establishing trust, transparency, accountability, reciprocity, and respect. By committing to a partnership, each entity is agreeing to make a conscious commitment, learn in tandem, and participate to achieve a common goal (Winterford 2017, 21).

Promising practices for ERT partnerships

After analyzing academic and practitioner literature, LASER PULSE identified six promising practices for ERT partnerships and suggestions for specific tools to support the practices.

Involve diverse partners and stakeholders.

Scholars and practitioners argue that the direct involvement of diverse partners ensures that knowledge is grounded, provides mechanisms for uptake of research insights, and forms the basis for engagement in policy and decision-making processes (Friend et al. 2015, 24; Pretorius et al. 2019, 15). The combination of diverse knowledge from people with different experiences and backgrounds together with scientific evidence can result in better understanding than scientific methods alone (Golden et al. 2015, 403). Make sure to give space for perspectives from across disciplines, sectors, and cultures (Hanley and Vogel 2012). The tools below provide reflection exercises to consider in order to include a range of voices in a project. Integrating sex and gender considerations into the design, implementation, and monitoring of a research translation project ensures more relevant evidence. *The case study on Traveling Together* exemplifies inclusion of diverse stakeholders with a research team that included people with disabilities, engineers, and city planners to work together to design the research project, collect and analyze data, and share findings.

Tools & Resources:

- Stakeholder analysis - map and plan *(LASER PULSE 2020)*
- Stakeholder analysis matrix *(Fast Track 2019)*
- Gender equality in research scale *(Paez et al. 2019)*
- How gender and politics came together in social change processes - case studies *(Georgeou and Hawksley 2020, 14)*
- Making research inclusive of people with disabilities *(RDI 2020, 121)*
- Consideration for vulnerable groups *(RDI 2021, Justice Checklist)*
- Fostering participation in research *(OXFAM 2019)*

Define the goal of the research translation together.

For a collaborative research translation project to be successful, it is essential for partners to have a clear goal in mind, understand what is at stake for each of the participants regarding the outcomes of the collaboration, and calibrate the goal to match the needs, capacities, and interests of the research users (Roper 2002, 340). It is important to align the goal of the research project with the participant identified problems to ensure the generation of relevant options for action and impact (Gutberlet 2015; Beh et al. 2013). Projects can have "mutual commitment to the objectives of the collaboration and a strategy that is compatible with each actor's mission, values, and goals" (Georgalakis and Rose 2019, 5). When actors take part in shared decision making, participants feel empowered to come up with their own creative solutions and design each step of the process together (Golden et al. 2015, 403). By aligning common goals for each project, expectations can be set early in the process and facilitate the ongoing use of research knowledge (Reardon et. al 2006). Having a clear idea of anticipated results and what practical changes the research is setting out to achieve will help define the process (Georgeou and Hawksley 2020, 26). This is one of the first tasks to do while establishing a relationship translation partnership. After the definition of the goals, then the technical and operational aspects of the partnership can be agreed upon. These aspects are further described in the promising practices of the process pillar of ERT.

Tools & Resources:

- Clarifying your partnership's purposes and motivations *(Cornish et al. 2017, 16-19)*
- Theory of change *(Georgeou and Hawksley 2020, 23)*
- Make a visual theory of change *(Brouwer and Brouwers 2019, 131)*
- Initial meeting key questions *(Winterford 2017, 23)*
- How to do effective knowledge exchange *(UKRI 2021)*
- Identifying Potential Research Benefits *(RDI 2021)*
- Problem definition worksheet *(Brouwer and Brouwers 2019, 23)*
- Visioning *(Brouwer and Brouwers 2019, 102)*
- Problem-driven political economy analysis *(Cordeiro et al. 2020, 51)*

Emphasize relationship building.

A partnership requires intentional care as well as respect for each team member to ensure that a project runs smoothly, and each partner's work has the greatest impact (Catholic Relief Services 2019). A partnership is underpinned by values: transparency, accountability, reciprocity, and respect (Winterford 2017, 21). Strong relationships are the backbone of effective partnerships but take time to develop (Winterford 2017, 21). Living up to this principle requires significant investment in creating spaces for new partnerships to emerge and for existing relationships to develop and sustain through funding life cycles for meaningful communication.

Partners can nurture the research translation partnership through shared, decision making, trust, and accountability (Georgeou and Hawksley 2020, 29), in addition to agreement on the guidelines, terms, and processes (Winterford 2017, 21). These processes will be further explored in the process pillar.

Tools & Resources:

- Partnerships in practice *(Catholic Relief Services 2019)*
- Metaphors of partnerships *(Cornish et al. 2017, 22)*
- Building trust and cultivating partnership relationships *(Henrick et al. 2020, 5-8)*
- Building partnerships *(NESTA 2013)*

Budget time for partnerships.

Treat the partnership like any relationship: time is needed to get to know partner organizations, individual staff, and the context in which the work will take place (Thorburn 2014, 5). There is no standard way to partner, yet there are promising practices to help partners communicate about work, priorities, concerns, and successes. First, budget the time required to build trust and enable open dialogue (Sewell et al. 2014, 72). Establish regular meetings to address emerging issues and deepen knowledge and appreciation for each partner (Catholic Relief Services n.d.). Second, create spaces that enable exchange to facilitate dialogue and learning, such as, regular team meetings, workshops, and happy hours (McGriffin 2020,4; Hanley and Vogel 2012, 64). *The case study on child-centered community-based adaptation* details the importance of investing time in building human relationships because it can be rewarding and also crucial to project success.

Tools & Resources:

- More happy hours please! *(Hanley and Vogel 2012, 64)*
- A checklist for research partnerships *(Winterford 2017, 35)*

Clarify assumptions, work cultures, and organizational structures.

Partnerships between academics, government employees, and nonprofit workers can be complex because each partner has different work cultures and structures. Academic and nongovernmental or governmental work schedules are markedly different (Hanley and Vogel 2012, 59). Furthermore, the conventional academic research paradigm undervalues the amount of labor and time involved in establishing partnerships (Lyons et al. 2014). Consider what type of institution you are partnering with and spend time learning who your partner is, including understanding their values, work, priorities, and incentives, as well as their history, leadership, and structure.

Tools & Resources:

- Checking your assumptions *(Cornish et al. 2017, 18)*
- Institutional cultures and their implications *(Hanley and Vogel 2012, 55)*
- Academic and humanitarian working cycles *(Hanley and Vogel 2012, 59)*
- Set decision rules *(Brouwer and Brouwers 2019, 129)*
- Partnership basics *(CRS 2014)*
- Value mapping *(NESTA 2013)*

Share power.

Recognize that in a partnership no partner can retain full control over the research process; power needs to be shared (Winterford 2017). It is necessary to have leadership that facilitates active involvement, and the contribution of all partners. Be aware of power imbalances (including developed / developing country perspective or academic/practitioner knowledge) and use careful strategies to address any imbalances (Winterford 2017, 7). *The case study on farmers adopting and adapting technologies* details how researchers and farmers learned to emphasize relationship building to achieve the goal of technology adoption. Researchers changed their approach to working with farmers. "Power did not reside fully with the science team by virtue of their evidence-based expertise at a university; the practical experiences and expertise of the farmers was also highly regarded" (Sewell et al. 2014, 67).

Tools & Resources:

- Sharing power in knowledge co-production *(Winterford 2017, 28)*
- Forms of power *(Brouwer and Brouwers 2019, 70)*
- Actors and influence matrix *(Cornish et al. 2017, 24)*
- Benefits to participants, management of risks, protection from harm *(RDI 2021)*
- Principles and guidelines for ethical research and evaluation in international development *(RDI 2021)*

Case studies of research translation partnerships

The two case studies below illustrate the six promising practices recommended for partnerships in ERT. The first one shows how research translation partnerships can form at an individual level between farmers and scientists. The second one demonstrates an institutional partnership between nongovernmental organizations and universities.

Case Study 1:
Farmers learn to adopt and adapt agricultural technologies in New Zealand

As agricultural literature generally finds that farmers are slow to adopt new evidence-based farming practices, one study in New Zealand piloted an innovative approach to "ensure that farmers learn about, adopt, and adapt highly effective technologies" (Sewell et al. 2014, 63). Through co-constructing new understandings with scientists, the farmers came "to see themselves as producers of knowledge with others, rather than as consumers of researchers' knowledge – a significant shift in mindset" (Sewell et al. 2014, 70). The researchers identified nine factors that supported farmers' learning and investment in technology adoption:

(1) develop respectful relationships,
(2) engage in dialogue to co-construct new learning,
(3) share power between scientists and farmers,
(4) design a range of multi-sensory experiences,
(5) meet farmers' diverse motivations,
(6) draw on content relevant to the farmer's context,
(7) ensure inclusive content,
(8) align farmer's experiences and resources, and
(9) reinforce key technical concepts.

An important part of this learning community was that the researchers and farmers established ways to share power. "Power did not reside fully with the science team by virtue of their evidence-based expertise at a university; the practical experiences and expertise of the farmers was also highly regarded" (Sewell et al. 2014, 67). They found that the key mechanism to share power was to "deliberately share some project decision making so that it was inclusive of the "farmers' ideas, interests, and expertise" (ibid). Furthermore, when the scientist team made management decisions, they were transparent and shared their thinking processes with the farmers. This transparency included the scientists being honest when they made a mistake in a decision. This honesty led to an important learning experience. Lastly, the farmers shared their ideas on how to broaden the project beyond the pilot.

The researchers concluded that the incorporation of these nine factors into agricultural extension can reconceptualize communication between farmers and scientists. While this strategic, participatory, and collaborative approach requires more time and resources than traditional extension models, it can be extremely effective to increase technology adoption (Sewell et al. 2014, 72).

This case study demonstrates how researchers share power, involve stakeholders, emphasize relationship building, and budget time for partnerships to achieve the goal of technology adoption.

Case Study 2:
Child-centered community-based adaptation in the Philippines

The Institute for Sustainable Futures (ISF) at the University of Technology Sydney and Plan International (PLAN) partnered in a project with two objectives (Treichel et al. 2015, 4). First, to enhance the resilience of Filipino children, youth, and their communities to the unavoidable negative impacts of climate change. And second, to strengthen the evidence base on child-centered community-based initiatives on climate change adaptation. The partnership grew from 7 years of involvement in a Water, Hygiene, and Sanitation Reference Group.

The research partnership between PLAN and ISF found that "embedding research within practice provides new pathways for realizing and sharing learnings from the ground, to achieve better development outcomes" (Treichel et al. 2015, 4). Through the project, PLAN and ISF learned numerous lessons on partnerships. First, they learned that human relationships are crucial and rewarding, and therefore that the time taken to build them is time well spent. Second, it is essential to have flexibility in timing joint activities to align with busy and uncertain project timelines. Last, the relationships with field staff on the ground who understood the value of research was critical.

The partners worked collaboratively to develop local indicators of 'successful' climate change adaptation that are directly informed by perspectives from children and their communities. The indicators align with the Philippine Government's National Climate Change Action Plan. ISF and PLAN jointly developed processes to monitor accountability in any community-based adaptation project in the Philippines.

This case study between a university and nonprofit demonstrates how to involve diverse partners, define the goal of research translation together, emphasize relationship building, budget time for partnerships, clarify assumptions of research, and share power.

Process promising practices

The six promising practices to establish collaborative processes are to:

- **Establish partnership structures, roles, and procedures.**
- **Plan for proactive engagement.**
- **Interactively frame the problem that research can address.**
- **Establish clear shared vocabulary and communication procedures.**
- **Co-design research translation as equal partners.**
- **Collectively plan for impact.**

What is "process" in Embedded Research Translation?

Process is how you work together in research translation; it is the technical and operational aspects to maintain a partnership. The ERT model emphasizes establishing a collaborative partnership process in which researchers and practitioners have a solid foundation on which to work together effectively on research for development. It ensures that after partners are brought together in a team, they are able to build a strong foundation to work effectively together to achieve their common goals. Bringing the "right" partners together will not be enough to address complex problems; the partnership needs to be transformed into an ongoing working relationship. Two examples of how LASER PULSE projects have established collaborative processes are highlighted below. More detailed information on all of LASER PULSE projects is available on the *LASER PULSE website*.

Examples of collaborative processes in LASER PULSE projects

- While in COVID-19 lockdown, the *Applied Nutrition Research Capacity Building* (ANRCB) project is providing partners with a modest internet data subsidy to support their work with us while they are at home.
- *The Be Well, Teach Well project* established an Expert Advisory Group (EAG) including government officials, academics, and local institutions. Among other tasks, the EAG provides input on policy briefs and assists in identifying audiences for research findings.

What does the literature say about collaborative processes for research translation?

Our analysis of the literature found that establishment of a research translation process includes all the collective planning, managerial, and logistical steps to foster strong partnerships, engage stakeholders, and plan for research uptake. An important part of establishing collaborative processes is to first establish the partnership for a successful working relationship (Cornish et al 2017). Relationship building involves understanding each other's personal qualities and characteristics, such as working and communication preferences, how individuals are accustomed to making decisions, and whether partners are dedicated, self-motivated and critical thinkers (Preyde et al. 2013; El-Masri et al. 2019). Partners working together will likely discover that processes differ due to different perspectives and working styles. Partners need to agree on a set of processes that will work for every stakeholder involved at different stages of the project. Agreeing on how partners will mitigate risk, attend to administration tasks and agreements quickly, and be able to make sound judgements and negotiations under strict timelines is crucial. Addressing key questions such as protocols, overcoming challenges, and decision-making norms is all part of establishing a smooth and transparent process (Cornish 2017, 48).

Furthermore, through proactive engagement the evidence collected, and the research translation products will be a synthesis of the partners' and stakeholders' varied knowledge and expertise. This is referred to as knowledge co-production, which means a beneficial partnership with a bidirectional exchange of ideas, information, and knowledge so that those involved become more effective agents of change (Jull et al. 2017, 8; Nguyen et al. 2020, 3). Collectively envisioning how changes might occur throughout the process will help determine what stakeholders will be key to the project and at what stage of the process they will garner the most influence (Georgeou and Hawksley 2020, 26).

To plan for impact, teams need to have a clear vision of the desired changes and decide together how to plan to take the steps needed to achieve the change (Georgeou and Hawksley 2020, 24). In some cases, partnerships can be unequal between partners when one partner has more decision-making power or influence than others in the partnership. In other cases, partnerships can have permeable boundaries between organizations in which ideas and information flow freely among partners; this approach can lead to greater mutual trust and contextual understanding (Chambers and Ramalingam 2016, 8). Collaborative partner processes encompass more than sharing research outputs through seminars, workshops, or knowledge products. Instead, a collaborative approach to partnerships includes "adopting research users as co-investigators, supporting resource needs for active participation of research users and other stakeholders, and allowing space for activities that support innovation, reflection, and ownership (e.g., learning events)" (Savage 2017, 9).

Promising practices for establishing an ERT process

After analyzing the academic and practitioner literature, LASER PULSE identified six promising practices for collaborative processes and suggestions for specific tools to support the practices.

Establish partnership structure, roles, and procedures.

In order to achieve partnership success, it is essential to have a flexible two-way exchange between researchers and research end-users (Savage 2017, 9). By building relationships with all relevant stakeholders, collaboration will foster equal decision making and research processes by creating a systematic project design. This strategy enables a range of stakeholders, research beneficiaries and research influencers throughout the various stages of a research project, including after the research project has ended (Georgeou and Hawksley 2020, 8). The tools listed below offer templates and guidance for how to co-design the roles and procedures for the research translation partnership.

Tools & Resources:

- A checklist for research partnerships *(Winterford 2017, 35)*
- Establish a partnership agreement *(Hanley and Vogel 2012, 22)*
- Partnership agreement *(Winterford 2017, 22)*
- Partnership agreements *(Brouwer and Brouwers 2019, 94)*
- Who is implementing the research? *(Cornish et al. 2017, 37)*
- Set decision rules *(Brouwer and Brouwers 2019, 129)*

Plan for proactive engagement.

After collectively deciding who to involve in the project, the next step is planning how to keep all parties engaged. When working with partners and stakeholders, collaboration requires engagement and the definition of roles at different stages throughout the research process. Many decisions are considered in the design of the process, including the purpose, the time frame, and the relationships between the participants and their degree of collaboration (Taylor et al. 2017, 17). One way to engage with stakeholders is to invite them to be part of an advisory committee that can give feedback and advice during the research process. *The case study on inclusive solid waste co-management* demonstrates how a research project planned for proactive engagement and established an advisory committee.

Tools & Resources:

- Mapping actors *(Cornish et al. 2017, 9)*
- Stakeholder engagement pyramid *(Georgeou and Hawksley 2020, 27)*
- Advisory committee - Terms of Reference Template *(Georgeou and Hawksley 2020, 28)*
- Stakeholder map *(Cordeiro et al. 2020, 53)*

Interactively frame the problem that research can address.

When working in an interdisciplinary team it is recommended to interactively frame the problem that research can address (Cochrane et al. 2017). Realigning research projects to be more problem focused and outcome oriented enables participants to create their own solutions for change (Gutberlet 2015) and generate locally relevant options for community action (Beh et al. 2013). Through discussions with key actors, the research problem can be collectively agreed upon. *The case study on an Indonesian sanitation program* illustrates how a problem and solution can be decided upon with a diverse group of people. In this case, the research users, community, parents, school children, government staff, and health workers were included in the co-design process.

Tools & Resources:

- Exploring options for change: circle of concern, circle of influence *(Hunjan and Pettit 2011, 37)*
- Different perspectives on what constitutes a research question *(Cornish et al. 2017, 34)*
- Understanding research and evidence *(Cornish et al. 2017, 12)*
- Problem-driven political economy analysis *(Cordeiro et al. 2020, 51)*

Establish shared vocabulary and communication procedures.

Dialogue between researcher partners and users is particularly important. Research collaborations often involve people from different sectors, disciplines, and institutions, a combination that can be challenging to merge due to specific terminology and jargon (Taylor et al. 2017, 17). A promising practice is to ask questions and define frequently used jargon words. By having a two-way exchange, partners can establish a strong culture of feedback loops to work together collaboratively (Mendizabal et al. 2011, 6). Establishing strong communication ties at the beginning will set the groundwork for successful collaborations that utilize a diverse array of strengths, perspectives, and experience to achieve maximum results (Cornish et al. 2017). Having openness in communication and joint problem-solving among researchers and knowledge users fosters trust among them (Fabricius and Pereira 2015). Examples of relationship building through communication include encouraging knowledge users to openly inquire about research processes and results, sharing funding with practitioners and allowing them to manage their own budget, and talking about role clarity and expectations of the research implementation (McIsaac et al. 2018; Preyde et al. 2013; El-Masri et al. 2019).

Tools & Resources:

- Ways of communicating within the partnership *(Cornish et al 2017, 28)*
- Are we speaking the same language? *(Winterford 2017, 24)*
- Conduct partnership health checks *(Winterford 2017, 32)*
- An introduction to effective communication in partnership and capacity strengthening *(Catholic Relief Services 2014)*

Co-design research translation as equal partners.

Co-designing research and working with local communities should include everyone as an equal partner, with participatory discussion and collaborative final decision making during the project design phase (Georgeou and Hawksley 2020, 3). Several scholars and practitioners reviewed found that increased, meaningful participation from relevant stakeholders will improve the potential to produce relevant research and adoption of the outcomes (Kreindler 2018; Graham et al. 2018; Kothari and Wathen 2013; Walton et al. 2018; Gutberlet 2015; Beh et al. 2013; Gagliardi et al. 2016). This type of collaboration requires sharing power, funding, and decision making with research participants and other stakeholders. It is recommended to review the promising practices from the partnership pillar: emphasize relationships, budget time for partnerships, clarify assumptions, and share power. There are often multiple interests at stake when parties gather, bringing a wide range of perspectives to the table. However, this co-design research process opens the door to incorporate knowledge (from local community members) that is often left out of research (Golden et al. 2015; Cochrane et al. 2007; Pfadenhauer et al et al 2017).

Tools & Resources:

- Ethical community engagement practices *(Carter et al. 2019)*
- Spider web *(Cornish et al. 2017, 39)*
- Evidences practices flower *(Cornish et al. 2017, 36)*
- Who produces evidence? Knowledge mobilisation, brokering And co-creation *(Shucksmith 2016, 23)*
- Participatory approaches and managing bias in research *(RDI 2021)*

Collectively plan for impact.

When building a partnership work plan, it is essential to align project timelines with calendars. Work planning means taking into consideration different strategies and methods to achieve the research goal for the project. Think about the end user as you start planning the project and the outcomes you hope to achieve (Georgeou and Hawksley 2020, 26). When building out the project, many decisions are considered in the early design phase. The relationship between the project participants and their commitment to the project will determine how evidence will be applied and used (Taylor et al. 2017, 17). It is a promising practice to envision changes that might occur in the research project to determine what "stakeholders are most central to influencing these proposed changes" (Georgeou and Hawksley 2020, 26).

Tools & Resources:

- Fast track impact *Planning Template (Georgeou and Hawksley 2020, 22)*
- Mapping the five facilitators for enhancing research impact *(Georgeou and Hawksley 2020, 12)*
- Checklist of questions for research merit and integrity *(RDI 2021)*
- Guidance on using the logical framework *(DFID 2011)*

Case studies to establish collaborative processes for research translation

The two case studies below illustrate how the research translation process has been carried out in projects with different contexts, actors, goals, and impacts. These case studies exemplify five promising practices: establish partnership structures, plan for proactive engagement, iteratively frame the problem that research can address, co-design research translation, and collectively plan for impact. The case studies illustrate how research teams can take an innovative approach to supporting partnerships and enhancing collaborative processes.

Case Study 3:
Sanitation program in East Nusa Tenggara, Indonesia

A partnership with World Vision Indonesia and the KOHLER company, used a Human Centered Design approach to increase handwashing among school children to reduce the spread of diarrheal diseases. The partnership fostered a collaborative approach to develop innovative, child-friendly handwashing facilities, and programs for a primary school located in Indonesia. The project relied on active engagement from stakeholders and community members in three main phases: inspiration, ideation, and implementation.

During the inspiration phase of the project, research users (community, parents, school children, government staff and health workers) were asked to share their current knowledge and practices of hygiene and sanitation, and their aspiration for hygiene and sanitation conditions for themselves and their community. In the ideation phase, stakeholders (village authorities, teachers, and students) came together to discuss the data and to create handwashing and sanitation facilities. In addition, they created an education program to promote proper handwashing techniques. Prototypes were tested with primary school students. The implementation phase brought together school staff, village government representatives, school officers, local entrepreneurs, and villagers to build the new wash facilities. Student ideas informed the education program as they developed a series of visual reminders around toilet and handwashing facilities (Georgeou and Hawksley 2020, 35 and 29). The access to handwashing stations directly outside classrooms improved handwashing practice among students. The establishment of collaborative processes enabled the project to reach the desired goals of reducing the spread of diarrheal diseases.

This case study demonstrates three promising practices: proactive engagement of stakeholders including children, co-designing research translation as equal partners, and collectively planning for impact.

Case Study 4:
Inclusive solid waste co-management in Brazil

Waste management in Brazil is typically led by engineers and rarely includes the informal sector in making formal decisions. Between 2005 and 2012, Canadian researchers, Brazilian researchers, development practitioners, and members of 32 recycling cooperatives in São Paulo worked together to design and implement a participatory sustainable waste management plan to increase the effectiveness and income generation of waste recycling (Gutberlet 2015).

The project had a participatory management structure with a directing committee and an advisory committee. The directing committee, made up of two representatives of the recyclers movement, three university professors, an NGO representative, and two project administrators, was responsible for the implementation of project activities. The advisory committee was made up of 10 regional representatives of recyclers and 6 municipal governments and met three or four times a year. The directing committee and the management council meetings were considered a collective process, with all sides being reflexive and analytical in the decision-making. For example, all parties were involved in deciding how resources would be made available, what rules to apply in resource usage, and who should be held responsible for resource management. Different stakeholders communicated perspectives that were not usually heard, resulting in a redistribution of decision-making power. The participatory management structure contributed to the establishment of partnerships between recycling cooperatives and city administrators and "contributed towards higher levels of cooperative organization" (Gutberlet 2015, 242). The outcome of the project was the integration of the cooperative recycling sector into formal waste management systems. Collectively they created "laws and other tools to guarantee participation and fair treatment of the recyclers" (Gutberlet 2015, 240). As a result of the project, the recyclers were empowered through the collaborative process of engagement and knowledge co-production, in which they successfully organized for safer and better paid work.

The case study demonstrates one way to establish partnership management structures with a directing committee, proactively engage stakeholders through an advisory committee, share power in decision making, establish communication procedures, and collectively plan for impact.

Product promising practices

The six promising practices to create applicable products are to:

- **Agree upon purpose, evidence, and product design early.**
- **Invest in understanding context.**
- **Engage with the audience early and often.**
- **Co-design research translation products.**
- **Decide how evidence will be represented.**
- **Develop several products to influence change.**

What are Embedded Research Translation products?

A product is what you translate research into; it is an accessible format to communicate evidence, research findings, and recommendations. The Embedded Research Translation model emphasizes that while innovative and evidence-based research is important, it ultimately needs to result in co-designed translation products that inform policy and/or practice. The aim of ERT is to improve and increase the use of evidence in policy and practice. Research evidence is frequently only published in academic journals, which are commonly inaccessible for development practitioners. The Embedded Research Translation model strives to overcome this gap by promoting the translation of evidence into readily accessible and adaptable products. Translation products, such as briefs, training guides and videos, should deliver practical, research-driven solutions to global development challenges. Several examples of research translation products from LASER PULSE projects are listed below. For additional examples, see the *LASER PULSE website*.

Examples of research translation products from LASER PULSE projects

- Private Sector Engagement Evidence Gap Map *(2020)*
- Block chain technology app for African Indigenous Vegetables supply chains - *Improving food security*
- *Policy brief:* Successfully Scaling and Transitioning Kenya's Tusome Early-Grade Reading Program
- Data set and training manual to present the current and future states of water resources based on water budgets, forecasts, and analysis of shocks - *Data-Driven Decision Support for Improved Water Security in East Africa*

What does the literature say about translating evidence into accessible products?

Our analysis of the literature found that academic articles generally did not focus on how to develop products, but that the practitioner resources did provide recommendations for developing products to increase research uptake. We found that it is recommended to invest time and resources in collectively planning the purpose, style, audience, and content of research translation products to increase likelihood of research uptake. Academics and practitioners (the private sector, NGOs, community organizations, or government agencies) may have different interests, goals, and ideas about what constitutes 'evidence' and how it should be collected and used (Shucksmith 2016, 7). Scholars may assume that collecting evidence and summarizing research findings in plain language is enough to inform policymakers and practitioners (Shucksmith 2016, 16). However, "evidence is only one part of a non-linear, power-infused, complex policy process" (Shucksmith 2016, 34). While evidence is important, it is more likely to inform practice or policy change if it is accessible, valued, and understood by practitioners (Newman, Fisher, Shaxson, 2012). This is the role of research translation products, to transfer evidence in accessible formats for a specific audience and change attitudes, beliefs, or behavior (Breckon and Roberts 2016, 49). The type of evidence gathered, and the type of research translation products produced will have different strengths and weaknesses. It may be most influential to develop several different research translation products to influence change (Ademoukon 2016, 114).

Products should be selected based on the audience, your research goals, and influence aims (Georgeou and Hawksley 2020, 33). Examples of research translation products and potential target audiences are in the table below (adapted from Georgeou and Hawksely 2020, 32). Research translation projects generally have more than one product since there are different expectations from academics, policymakers, NGOs, and stakeholders (Winterford 2017, 28).

RESEARCH TRANSLATION PRODUCTS	POTENTIAL TARGET AUDIENCES
Art, theater, posters, illustrations	stakeholders, public
Evidence summaries	government, researchers, practitioners, donors
Illustrated, jargon free one-pagers	stakeholders, public
Policy brief	government, researchers, donors
Report	government, researchers, practitioners, donors
Verbal presentation, workshop, training	stakeholders
Video	stakeholders, public, donors
Journals, articles, books	public, researchers, practitioners, stakeholders
Website, blogs, social media	public, researchers, practitioners, stakeholders

Promising practices to develop ERT Products

After analyzing the academic and practitioner literature, LASER PULSE identified six promising practices and suggestions for specific tools to support the action.

Agree upon purpose, evidence, and product design early.

Evidence utilization for program, policy, or social change should be planned from the beginning of a research translation project (Breckon and Roberts 2016, 46). The uptake of research is slower if stakeholders lack interest, the products are irrelevant, or the findings replicate data they know (RDI 2017 in Georgeou and Hawksley 2020, 12). When designing research translation products, it is necessary to consult widely, agree upon practical changes, make a plan for how the changes might occur, and identify the stakeholders most influential to the changes (Georgeou and Hawksley 2020,19). Researchers, practitioners, and stakeholders need to work together to develop a shared understanding and purpose for evidence collection. Once the goal of the research is established, all partners in the research should identify what kinds of data are needed, and how to utilize the research evidence so that it can be applied more readily (Anastopoulou et al. 2010, 15). Any research translation product "is only as good as the research it is based upon; [... and] also depends to a large degree on how the results are presented" (Anastopoulou et al. 2010, 15).

Tools & Resources:

- What is evidence-informed decision-making, and why focus on research? *(Breckon and Roberts 2016, 6-12)*
- Creating a theory of change *(Nesta 2013)*
- Assessing common evidence products *(Ademokun et al. 130)*
- Evidence trees *(Cornish 2017, 11)*
- What evidence should you choose? *(Breckon and Roberts 2016, 18-28)*

Rationales for evidence and types of evidence required for policymakers *(Breckon and Roberts 2016, 50)*

Invest in understanding context.

Understanding the context of a project can increase research uptake. For example, although agricultural technologies and innovations can have significant impact as research translation products, there can be shortcomings to innovations if researchers do not take the local context into account when developing them (Fowler and Rockstrom 2001). By understanding people, values, systems, processes and context, the process can flow more smoothly, creating a stronger outcome (May, Johnson, and Finch et al. 2016; Jull et al. 2019). Projects should be agile and reflect and adjust where political economy or other challenges might diminish the likelihood of uptake (Savage et al. 2018, 11). Understanding culture and cultural differences is complex, which requires time (RDI 2021). It is important to invest time

and resources into understanding the cultural, political, and economic context of a research project. All actors can bring different knowledge, perspectives, and experiences to a project and the differences must be respected. *The participatory bean breeding case study* exemplifies how a research team invested in understanding context by including farmers in the research. The research findings surprised the academic researchers because the farmers were able to include valuable information on marketing pressures for specific agricultural products. The farmers did not choose the high yield plant, but instead the plant that would improve their livelihoods the most.

Tools & Resources:

- Positionality *(Georgeou and Hawksley 2020, 6)*
- Everyday political analysis - questions *(Hudson et al. 2016)*
- Institutional and context analysis *(UNDP 2012)*
- Cross cultural competency in research *(RDI 2021)*
- Peeling the onion: identifying dominating forms of power in external environment *(Hunjan and Pettit 2011, 30)*
- Factors involved in the use of research evidence: systemic, organization, and individual factors *(Ademokun et al 2016, 32)*

Engage your audience early and often.

Early engagement with the audience can increase ownership, which can both deepen your research analysis and enhance the likelihood that your research has an impact (Breckon and Roberts 2016, 11). Consider the audience you intend to reach and what information your audience will respond to best. The tools below provide exercises and guidance in how to determine the most appropriate audience. By understanding your audience, you can frame the research in a way that responds directly to their needs (Cornish 2017, 42). Think about how the research might be used and include them in decision making about the products (see co-design research translation products below). The research might be used by the government, but it could also be used by communities with limited access to resources (Georgeou and Hawksley 2020, 5). Refer to the promising practice of involving diverse perspectives because a more inclusive audience can ensure all stakeholders can use the research translation products.

Tools & Resources:

- Know your audience *(Ademokun et al. 2016, 153)*
- Actor Maps *(Cornish 2017, 11)*
- Stakeholder Mapping and Analysis *(Georgeou and Hawksley 2020, 16)*

Co-design research translation products.

The co-design of research translation products between researchers and identified stakeholders is advantageous because it incorporates technical and practical knowledge with experiential insight (Shucksmith 2016, 26). Actively engage stakeholders who can influence adoption or scale to define and co-design research translation products. Include diverse stakeholders to generate strong local ownership of the research findings and related development initiatives and strengthen community influence on policy making at various levels (Swiderska and Tenzing 2017, 3). Practitioners and other stakeholders can have strong contextual knowledge based on their lived experiences. *The Traveling Together case study* demonstrates how the co-design of research translation products between academic researchers, people with disabilities, city planners, and engineers are relevant to different audiences and can be used by key decision-makers who need to enact changes.

Tools & Resources:

- Agreeing what should be communicated *(Cornish 2017, 44)*
- Taking stock of the resources we bring *(Cornish 2017, 21)*
- Define research outputs *(Winterford 2017, 27)*
- Authorship and ownership of research outputs *(Cornish 2017, 50)*
- Prioritizing and ranking *(MSP 2021)*

Decide how evidence is represented.

Different evidence will be helpful at different times to address development challenges (Breckon and Roberts 2013, 14). Moreover, the way data is represented also affects its power to convince different audiences and in different settings (Cornish 2017, 48). For example, a single statistic can be written or spoken, framed in a specific way, presented in a chart or pictogram, or situated within a policy brief, journal article, documentary film, conference, event, or performance. Each of these circumstances may impact its significance. The choices of how, when, and to whom research is communicated is both practical and political (Cornish et al. 2017, 42). For example, a policy brief is an appropriate display of evidence for policy makers, but not for other audiences such as farmer's cooperatives. Furthermore, scholarship on collaborative research projects demonstrates the need for involvement of non-academic partners in discussions of what the data collected means (Cornish et al. 2017, 44). It is recommended to set aside time for all partners to collectively decide how to engage with and represent the data to the desired audience.

Tools & Resources:

- Nesta innovation spiral *(Breckon and Roberts 2016, 14)*
- Evidence body maps *(Cornish 2017, 43)*
- Evidence practices flower *(Cornish 2017, 36)*

Develop several products to influence change.

Each product developed has different strengths, weaknesses, and potential impacts. It is more influential to develop several different research translation products to influence change based on the research purpose and evidence collected (Ademokun 2016, 112). If you are working at a university or for a large international NGO, you may also have access to dedicated expertise in the form of communications specialists who can assist you to produce professional targeted outputs using photographs, graphics, charts, maps, and other illustrations (Georgeou and Hawksley 2020, 32). There are plenty of tools to reference as you co-design research translation products. To determine which type of product to make, refer back to the promising practices of agreeing upon purpose, evidence, and product design. Additionally, it is a promising practice to co-design the products for increased ownership.

Tools & Resources:

- Consider the need and value of multiple research outputs *(Winterford 2017, 28)*
- Tools and techniques to enhance research impact *(Georgeou and Hawksley 2020, 33)*
- Evidence informed policy making Toolkit: Assessing Common Evidence Products *(Ademokun et al. 2016, 113, 181)*
- The Policy Brief: Project Identity *(Martin et al. 2010, 25)*
- How to influence policymakers *(UKRI 2021)*
- The Website: An interactive platform *(Martin et al. 2010, 27)*
- The Project Flyer *(Martin et al. 2010, 28)*
- The Project Brochure *(Martin et al. 2010, 29)*
- Infographics, multimedia, and data visualizations *(Ademokun et al. 2016, 175)*
- How to develop a brief or a memo *(Ademokun et al. 2016, 165)*
- How to organize and event *(UKRI 2021)*
- How to develop and maintain a website *(UKRI 2021)*

Case Studies for research translation products

The case studies below provide detailed examples of how the inclusion of experiential knowledge through research co-production leads to combined evidence and knowledge to co-design impactful research translation products. Multiple promising practices are applied in the two case studies below: agree upon purpose, evidence, and product design early, invest in understanding context, actively engage your audience early and often, co-design research translation products, decide how evidence will be represented, and develop several products to influence change.

Case Study 5:
Travelling Together: disability Inclusive Road Development

Papua New Guinea (PNG) has little public transportation infrastructure and roads are the main form of transportation, including for pedestrians (Muirhead et al. 2017, 87-88). The PNG government and development organizations are increasing investment in road construction; however, many road projects focus on the needs of vehicle traffic and neglect issues such as maintenance or inclusiveness for women and people with disabilities. About 15% of the PNG population is living with a disability and road projects can worsen access for people with disabilities because of the increased quantity and speed of vehicle traffic (Georgeou and Hawksley 2020).

The Travelling Together project researched how to improve and construct new roads by integrating people with disabilities into the research. The research team included people with disabilities, engineers, and planners to work together to design the research project, collect and analyze data, and share findings. The research analyzed particular issues such as the positive and negative impacts of roads on the lives of people with disabilities and how people with disabilities are currently involved in road and transport planning. The research found that addressing barriers like lack of crossing, narrow bridges, or open drains on the sides of roads, are simple and low-cost interventions that help reduce road accidents and subsequent health care costs. They recommended approaches for engaging people with disabilities in road planning, repairs, construction and management.

The research planned for impact from the beginning and collected data relevant to the research goal. The research team co-created two products: (1) guidelines for road planners on how to effectively build roads for and with people with disabilities and (2) guidance for the PNG Assembly for Disabled Persons on how to use research findings for their advocacy work. The research contributed to changes in road construction in two provinces and ongoing evidence-based advocacy.

This case study demonstrates how multiple, targeted research translation products can be co-produced so that they are relevant to different audiences and can be used by key decision-makers who need to enact changes.

Case Study 6:
Participatory bean breeding: linking small farmers to formal research

A twenty-five-year partnership between smallholder maize and bean farmers, a Honduran nongovernmental organization, and Canadian researchers resulted in increased yields, improved livelihoods, and women's empowerment. One of the products from the partnership was the co-production of a resilient and high-yield bean variety through a participatory breeding process.

The farmer-led research was conducted in north-east Honduras, where there is a rapidly growing population farming on high altitude, fragile, and steep hillsides. The goal was to research rapid seed improvement to improve farmers' livelihoods and also meet scientific scrutiny (Humphries et al. 2005, 2). This approach to co-production was facilitated by a non-profit research and development foundation called *La Fundación para la Investigación Participativa con Agricultores de Honduras* (FIPAH) and a self-selected group of farmers called Local Agricultural Research Committees (CIAL in Spanish). Over four years, CIAL, supported by FIPAH agronomists, farmer-facilitators, and academic researchers, carried out experiments in the search for a new bean variety particularly well adapted to their particular ecological niche (Humphries et al. 2005, 3). Commercial bean varieties did not produce high yields and received a lower market price than locally produced varieties. Through randomized-comparative trials with 16 bean varieties in four communities, farmers selected a varietal release that they named Macuzalito (after the highest point in the municipality). Then forty-two trials of Macuzalito were conducted in high-elevation communities in two neighboring municipalities. Farmers had support to follow formal scientific procedures including carrying out comparative and verification trials, using controls and replicates, and learning how to work with segregating materials (Humphries et al. 2005, 7).

What is clear is that "farmers' preferences may not be the same as those selected by the breeder on their behalf" (Humphries et al. 2005, 9-10). Because the farmers were involved in the research, they could combine the evidence on crop yields with their knowledge of consumer preferences for darker beans which would permit access to higher prices. The low adoption rates of improved varieties attest to the fact that breeders may not be able to put themselves into the shoes of very poor farmers (Humphries et al. 2005, 10). There are many impacts from this participatory research project including increased personal learning, improved sense of team achievement, women's empowerment, increased social bonds between CIAL members, strengthened linkages with the Ministry of Agriculture, and the institutionalization of research NGOs (Humphries et al. 2005, 10 and Humphries 2012). The collaboration co-produced an impactful research product, the Macuzalito bean varietal, and also many other immeasurable impacts as part of the research process. The authors call for donors to fund three-way partnerships between farmers, NGOs, and academics to be able to engage with the contextual nuances of social change and the barriers that hinder sustainable improvements in the quality of lives of smallholder farmers.

This case study demonstrates several promising practices: engagement with the product audience early and often; agreement on the purpose, evidence, and product design collectively; and investment in understanding context of the farmers and market to enable an impactful research translation partnership.

Dissemination promising practices

The six promising practices to enhance dissemination are to:

- **Co-design a dissemination plan early.**
- **Invest adequate time and resources in dissemination.**
- **Create a mixture of targeted dissemination approaches.**
- **Disseminate to a wide range of people and institutions.**
- **Monitor how evidence translates to impact.**
- **Build long-term trust and relationships for evidence uptake.**

What is dissemination in Embedded Research Translation?

Dissemination is "why" you share your research. LASER PULSE seeks not only to increase research capacity, output, and translation, but also research dissemination and use. Including a dissemination plan enables wider application and scale-up beyond the initial translation partnership and toward a larger uptake of relevant findings in the field or region. Examples of dissemination channels from LASER PULSE projects are listed below. For additional examples, see the *LASER PULSE website.*

Examples of dissemination from LASER PULSE projects

- Webinar of how to use Evidence Gap Map recorded and uploaded to YouTube - *Private Sector Engagement*
- Webinar of research results for 200 USAID staff - *Self Reliance Learning Agenda*
- Two TV broadcasting environmental programs on national educational and cable channels- *Decentralized Water Resource Circulation as a Sustainable Solution for Plantation*
- Multimedia modules, documentary videos, and e-learning modules targeting key decision-makers, youth and women in the study area, policy makers at various tiers, researchers, and pastoral training centers - *Youth Empowerment through Livelihood Transformation in Agro-Pastoral Areas of East and West Hararghe Zones, Oromia Regional State, Ethiopia*

What does the literature say about dissemination in research translation?

Our analysis of the literature found that it is important to align the needs of the end users, the products created, and the dissemination plan to achieve research impact, uptake, and use. Scholars and practitioners interested in research impact find that it is important to "plan to generate evidence with impact in mind, direct evidence to the right stakeholders, and communicate the evidence appropriately so as to ultimately lead to adoption, impact, and change" (Georgeou and Hawksley 2020, 40). It is necessary to plan for research dissemination and impact before, during, and after the research (Georgeou and Hawksley 2020, 20). In the past, underutilized research was considered a dissemination failure, meaning that the end-users simply were unaware of the research. However, scholars now suggest that research underutilization is a failure to produce research that addresses a problem identified by end-users (Graham et al 2018, 2). Therefore, it is recommended to conduct a stakeholder analysis, identify the end-users, develop an impact plan, and plan for dissemination and uptake from the beginning of the research translation project (Georgeou and Hawksley 2020, 11). In brief, it is necessary to unify the needs of the end-users with the research translation products, the relevant dissemination formats, and the impact goals agreed upon by the research team (see the Promising Practice from the process pillar on *collectively planning for impact*).

Dissemination in research translation is more than the production of peer reviewed articles or research translation products; dissemination is planning and facilitating the implementation of knowledge with a particular audience (Graham et al. 2006, 20-21). Scholars and practitioners now focus on research impact, uptake, and use, which refers to complex processes over time in which research outputs are "adapted, built upon, and operationally applied" (Kung et al. 2018, 8). This type of dissemination requires creativity to move beyond publications and requires the investment of time and resources to engage specific audiences in the relevant mediums (Georgeou and Hawksley 2020, 42). If dissemination and adoption show fewer results than expected, or unexpected results, it could be useful to reassess the stakeholder map, the potential end-user's experiences, and external barriers (Graham et al. 2006, 21).

There are six broad categories of research translation impacts that can contribute to change; see the box below (Georgeou and Hawksley 2020, 11). Five out of six types of research impact have positive consequences; however, it is possible for research translation to have a "grim impact," referred to as a "grimpact" (Derrick and Benneworth 2019 in Georgeou and Hawksley 2020, 10). Grimpact is a concept that refers to the effects from research that is adopted in unanticipated ways (Derrick and Benneworth 2019 in Georgeou and Hawksley 2020, 10). For example, a research translation project could produce a policy brief on the need for water storage. The national government might then adopt the findings and evict people to make room for a dam. In this case, the research translation process might not have been inclusive and only listened to the needs of the national government (Georgeou and Hawksley 2020, 10).

Six categories of research impact, uptake, and use.
(adapted from Georgeou and Hawksley 2020, 11)

(1) Capacity building - contribution to the development of attributes, skills, and systems.

(2) Innovation - contribution of a new technology.

(3) Policy - contribution to new or changed policies at local, regional, national, or global levels.

(4) Practice - contribution to new ways of doing things.

(5) Social change - contribution to structural change such as economic growth or improved equity.

(6) Grimpact (grim + impact) - research adopted in unexpected ways with negative consequences (Derrick and Benneworth 2019 in Georgeou and Hawksley 2020, 10).

Promising Practices for ERT Dissemination

After analyzing academic and practitioner literature, LASER PULSE identified six promising practices and suggestions for specific tools to support dissemination.

Co-design dissemination plan early.

The work to co-design a dissemination plan should start with the evidence gathering process because "successful communication means really putting yourself in the shoes of your audience" (Breckon and Roberts 2016, 46). Communicating effectively with any audience, especially with policymakers, requires a clear strategy; therefore, a dissemination plan should be developed at "the beginning of a project and regularly reviewed" (Anastopoulou et al. 2010, 35). A dissemination plan should determine who the audience is, where your audience is, what messages the audience needs, how to best reach the audience, and what impact you aim to achieve. Co-producing the dissemination plan between researchers, practitioners, and stakeholders will increase understanding of barriers and facilitators for the context. *The case study on legitimizing local perspectives in conservation* illustrates how the project developed the idea to train photographers and organize an art exhibit for policy makers at the beginning of the projects with the Samburu people.

Tools & Resources:

- Planning for impact *(Georgeou and Hawksley 2021, 19)*
- Theory of change template: *(Nesta 2013)*
- Impact tracking - instructions and template *(Georgeou and Hawksley 2020, 21)*
- Dissemination strategies *(Cornish 2017, 46)*
- Communications Strategy Template *(LASER PULSE 2020)*

Invest adequate time and budget in dissemination.

The most cited barrier to dissemination is time and budget. Allotting resources for dissemination is critical and should be integrated throughout the co-production process (Georgeou and Hawksley 2020, 32). One way to set a reasonable and appropriate budget is to commit a percentage of the overall budget to research uptake (DFID 2016, 3). As mentioned, sometimes dissemination and uptake are more time consuming than knowledge generation (Grandin 2003, 223). The best times to disseminate research must be reflective of partners' schedules - national holidays, teaching semesters, funding, reporting cycles, conferences, meetings of policymakers, or global events (Cornish 2017, 42). If a training is the best dissemination format, the training should be supported with the appropriate resources to ensure the lessons can be implemented in practice (Kung et al. 2018, 4). *The case study on translation research for obesity prevention* illustrates that the project spent 30 hours to support the creation and dissemination of a policy brief.

Tools & Resources:

- The communication path *(Cornish et al. 2017, 47)*
- The labor and skill of communicating research *(Cornish et al. 2017, 49)*

Create a mixture of targeted dissemination approaches.

Research dissemination and uptake is an iterative process between stakeholder engagement, product development, and communication (Kung et al. 2018, 3). Dissemination should be planned strategically and adapted to the context over the course of the research translation project (ibid). The three key ingredients of communication and dissemination are audience, message, and channel (Ademokun et al. 2016, 153). Therefore, it is recommended to create a mixture of products and dissemination approaches to engage the targeted audience and end-user. Additionally, the research translation dissemination should be a mixture of interactive approaches rather than a lecture (Breckon and Roberts 2016, 46). Furthermore, research suggests that dissemination should include guidelines to assist end-users with uptake, implementation, and adoption (Gagliardi et al. 2011, 30). Each research partner and audience will have different expectations of dissemination and impact. For example, academic researchers may be reluctant to release evidence until they are published in a peer-reviewed journal, whereas practitioners may need results from the project swiftly in a high-profile event (Cornish et al. 2017, 46). It is important to talk through the relevant dissemination approaches and requirements so there is clarity on timing and content (Cornish et al. 2017, 46).

Tools & Resources:

- Designing effective messages *(Ademokun et al. 2016, 158)*
- Presenting key messages to your audience: oral communications *(Ademokun et al. 2016, 172)*
- Policy panels and briefing sessions: focused and target communication *(Martin et al. 2010, 32)*

- How to organize an event *(UKRI 2021)*
- How to do media relations *(UKRI 2021)*
- How to influence policy makers *(UKRI 2021)*

Disseminate to a wide range of people and institutions.

Successful dissemination and uptake often require a wide range of people. As mentioned in the other ERT pillars, it is important to identify and engage partners, stakeholders, and end-users throughout an ERT project. After you have completed a stakeholder mapping analysis, think about how to publicize the research project, and how to build a consensus about the possible adoption of the findings (Georgeou and Hawksley, 2020, 23). It is recommended to think about disseminating research products to powerful individuals, like national policymakers or international NGOs, along with those who may be perceived to have less power, like local community organizations or the people facing the development challenge (Breckon and Roberts 2016, 46). Without considering the multiple audiences with different needs in the stakeholder analysis, the ERT project could inadvertently contribute to ongoing inequality by focusing attention on the needs of one group over the other. *The case study on translation research for obesity prevention* illustrates how a project disseminated its research findings to multiple audiences, first by training government employees to write policy briefs and second by encouraging the employees to present the policy briefs to policymakers. *The case study on legitimizing local perspectives in conservation* details how an art exhibit was an impactful dissemination plan because it connected youth to policy makers in a visual format.

Tools & Resources:

- Know your audience *(Ademokun et al. 2016, 153)*
- Actor maps *(Cornish 2017, 11)*
- Add communications path *(Cornish 2017, 47)*
- Communication methods onion *(Cornish 2017, 45)*
- Beneficence and communicating findings to research participants *(Winterford 2017, 29)*
- Justice in research dissemination *(RDI 2021)*

Monitor how evidence translates to impact.

Research impact is difficult to measure as a change in policy or practice generally does not result from one specific cause, or there may be multiple explanations for why things change (Breckon and Roberts 2016, 14). Despite this complexity, planning for impact can help to identify potential risks to research adoption and focus the research team on appropriate outputs (Breckon and Roberts 2016, 15). Monitoring evidence use will determine if the products and dissemination

were "sufficient to bring about the desired change or whether more [...] may be required" (Graham 2006, 21). It is recommended to evaluate whether the ERT project made a difference in development outcomes. "Evaluating the impact of knowledge use is the only way to determine whether the efforts to promote its uptake were successful and worth it" (Graham 2006, 21). If a project defines how evidence was translated to impact, then this increases accountability by showing that the evidence was the tool used to make a difference and take things to scale – and can potentially be successfully copied in other locations (Breckon and Roberts 2016, 15).

Tools & Resources:

- Monitoring and evaluation *(DFID 2016, 13)*
- Learning loop *(NESTA 2013)*
- Evaluating knowledge exchange *(UKRI 2021)*
- Monitoring and evaluation (M&E) *(Georgeou and Hawksley 2020, 40)*

Build long-term trust and relationships for evidence uptake.

Researchers found that trust between those producing and disseminating research and those intended to use the research is critical to the uptake of the research (Kung et al. 2018, 3). This includes the relationships of the research team with the local staff, policy community, international NGOS, and local NGOs (Georgeou and Hawksley, 2020, 25). Consider how dissemination will fit into your partnership. Identify commonalities in priorities and define strategies that could lead to better harmonization (Adolph 2009, 6). Partners in an ERT project should work to build meaningful relationships over time to deepen channels for dissemination and uptake. It is recommended to "seek out opportunities to form and maintain personal connections consistently throughout a research process, or even over a career" (Kung et al. 2018, 3). The building of reciprocal, lasting partnerships can assist in enhancing research impact because it strongly reflects ethical research approaches and "ongoing loops of relationships, trust and the enabling of future co-production" (Georgeou and Hawksley 2020, 39).

Tools & Resources:

- Capturing learning *(Cornish et al 2017, 55)*
- Legacy table *(Cornish et al 2017, 54)*

Case studies of research translation dissemination

The following two case studies demonstrate how research impact was planned for from the beginning of the projects, so that dissemination successfully reached the relevant audiences, and the research was leveraged to enact change. The dissemination strategies the research teams used represent multiple products and dissemination approaches: trainings, policy briefs, and art exhibitions. In the case studies, the dissemination purposefully aligned with the audience and impact goals of the projects.

Case Study 7:
The translation research for obesity prevention in communities project

In Fiji between 1993 and 2004, the region experienced a rise in obesity among the adult population, with rates doubling in adults and tripling in children under 18-year-olds (Muirhead et al. 2017, 58-63). As a region that relies heavily on food imports, poor nutrition and limited access to healthy food has led to diabetes, cardiovascular disease, and death.

The Translation Research for Obesity Prevention in Communities (TROPIC) project (2008) was a 3-year project focused on capacity strengthening for evidence-informed policy decision-making. Rather than carrying out new primary research, TROPIC tested research translation approaches to get evidence on the drivers of obesity in Fiji into the hands of policy makers. TROPIC addressed two problems: (1) that the Fiji government had limited resources, systems, and capacity to access research and translate it to decision-making, and (2) policy and advocacy organizations did not appreciate the role that evidence could play in decision-making.

The TROPIC team recruited high-level officials from four government departments and two NGOs (n=49) to develop skills to acquire, assess, adapt, and apply evidence. Participants attended workshops, small group meetings, one-on-one mentoring to prepare policy briefs, and training on how to develop templates and secure access to database resources. On average, the TROPIC team members spent 30 hours per participant over the 12–18-month intervention period. As a result, TROPIC participants prepared and presented 20 policy briefs to high-level officers within their organizations (Waqa et al. 2013, 1).

Some policy briefs led to key changes. For example, one contributed to the creation of a 32% import tariff on palm oil imports into Fiji with the goal to reduce purchase of processed foods that contributed to obesity. The TROPIC project "provided a win-win situation, with participants expanding skills in EIPM and policy development, organizations increasing EIPM capacity, and researchers providing data to inform policy" (Waqa et al. 2013, 10).

TROPIC was a success because they co-created products and dissemination strategies with end-users. This case study demonstrates the need to invest time and resources into product development and dissemination.

Case Study 8:
Legitimizing local perspectives in conservation

The Samburu rangelands of East Africa are home to endemic animal species who co-habitate with people who rely on livestock rearing and safari tourism. The arid region has two community wildlife conservancies that employs more than 100 rangers. To preserve the land, it is crucial to legitimize local perspectives of environmental concerns and conservation needs.

Beh et al. (2013) selected and trained 26 Samburu people, from schoolteachers to park rangers, who regularly participated in land use decision-making but were often denied opportunities to address conservation planning. Photography enabled each participant to document, discuss, and display photos to convey a need, a concern, and a hope through visual images. Additionally, researchers captured interviews with the participants in a local dialect to tell their stories that were later translated into English.

A final gallery exhibit pulled together the interviews, photos, and storyboards to capture themes, concepts, and voices. Each photo served to ignite action through effective messaging so that policy makers would absorb the message and implement lasting change. The entire project was decided by the participants, where each person chose the final prints to be displayed and messages to be shared, balancing power equally among the participants. The exhibit blended traditional and scientific knowledge to share insights with local leaders, government officials, traditional chiefs, and other community members.

Based on the concerns about unregulated deforestation raised in the exhibit, a local primary school decided to plant a 200-sapling educational tree nursery with plans to develop two additional nurseries in neighboring schools. Additionally, park rangers distributed cameras to take pictures while on patrol and capture long-term monitoring of ecosystem health. Lastly, an education fund was established to address the need for secondary school support to youth, with a focus on girls' education. Furthermore, a peer reviewed article was co-authored by the Wildlife Conservation Society, a U.S. scholar, and a Kenyan scholar. This demonstrates how different knowledge and experiences shaped the research and dissemination of the research through the co-authoring of a peer-reviewed paper.

This case study demonstrates three promising practices: creation of a mixture of targeted dissemination approaches, dissemination to a wide range of institutions (government, NGOs, and community), and establishment of trust for evidence uptake as rangers use community distributed cameras to monitor conservation areas.

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