



Locally-Led Development: Effective Problem-Solving by Increasing Capabilities of Local Networks

Insights Paper 2017



Global Knowledge Initiative

Introduction

At the Global Knowledge Initiative (GKI), we believe many of the world's most pressing challenges (climate change, food security, public health, education, etc.) are complex and require the engagement of individuals with diverse strengths, values, resources, and interests. We believe that addressing these challenges requires a networked approach to problem solving.

We have dedicated seven years to studying and supporting networks as agents of change. With partners ranging from universities, to agricultural cooperatives, to small businesses, we use human centered design approaches to guide local communities to new solutions.

Take the challenge of post-harvest food loss in Africa as an example. GKI's Social Innovation Lab with The Rockefeller Foundation brought together over 120 stakeholders from across Africa to understand the state of post-harvest food loss and clarify the diversity of innovative local approaches being used to tackle it across the continent. This process elicited 10 "big wins" that unleashed a \$130 million Rockefeller Foundation initiative to reduce post-harvest loss by 50% in key value chains. This initiative, called Yieldwise, will scale the innovations and networks that GKI's Social Innovation Lab organized. Today, within Yieldwise, GKI is equipping local problem-solvers with tools and processes for collective action and improved innovation decision-making sufficient to make the scaling goals achievable.

In this concept note, we provide a short overview of network-based problem solving and propose a set of activities that we believe succeed in bringing together local communities into strong problem solving networks. We specifically hope to start a conversation with other innovative development organizations about these novel approaches to local network development and strengthening.

Network-based Problem Solving

Networks—formal and informal structures of interlinked actors sharing common interests or values—hold tremendous potential for unlocking transformative change. They present diverse actors with opportunities to effectively pursue shared ends. Networks can facilitate trust and idea sharing among diverse actors. They can create efficiencies in the movement and allocation of resources^{1,2}. While the effectiveness of a networked approach to problem solving can be substantial, networks often fail to live up to this promise. The question is: why?

Network failure can have many explanations. Often it results from challenges around the convergence of goals and values, negotiation of relationships and power, management of resources and knowledge flows, or failure to maintain communication channels³⁻⁶. In developing countries, network gaps and weak linkages also contribute to network failure⁷. These failings are said to be manifestations of a "limited

DEFINITIONS:

Context: *A specific environment coupled with the conditions that underpin and produce the environment.*

System: *A set of actors, interactions, and phenomena that form a coherent whole and have a boundary that sets it apart from the rest of the world.*

Networks: *Formal and informal structures of interlinked actors sharing common interests or values.*

Understanding Local Networks in Local Systems: *Structures of interlinked actors who share common interests or values, who are from/indigenous to, and who operate within, a locality. Actors who make up these local networks are seen to emerge from a larger set of local actors who are themselves framed by the boundaries, interactions, and phenomena that comprise and characterize the locality.*

understanding about how to conceptualize, develop and follow through on the strategic intentions of a network”⁸. Although some networks possess the functionality to accomplish their goals, more often, network challenges must be explicitly addressed for networks to wield their potential for problem solving.

Ultimately, for a network to succeed in problem solving, it needs to be strong. Strength in terms of connections, trust, focus, and resources underpin a network’s ability to deliver. Network strengthening is gaining recognition as an effective approach to building local capacity for problem solving. How one goes about strengthening a network points to routinely ignored gap: facilitation. Approaches to strengthening networks in many developing country contexts typically involve remedying weak linkages. The next section present an alternative strategy for network strengthening that GKI has honed through experience globally: developing network stewards.

Network Stewards

While networks often exist with flat structures and little governance, problem solving networks are different. Problem solving networks typically require a central actor or actors to guide them toward reaching their goals. This actor functions as a “network steward” whose primary method of operation is facilitation. A variety of names have been used to characterize this role—“intermediary”, “neutral broker”, “network manager”, and “boundary spanner”¹⁰⁻¹³. Network stewards facilitate collaboration among network actors by convening

Learnings from GKI’s LINK Rwanda Program

- Networks based in developing countries can effectively take on complex challenges with sufficient support and incentives.
- Context research and systems analysis are key to understanding what is possible and what constraints may arise.
- A key role for network stewards exists in problem solving networks—in LINK this was GKI. This should be localized, however, for sustainability. It is more efficient for a local actor to take the role of steward compared to an international organization.
- While international resources were key to LINK in Rwanda, for development to be locally led and sustainable (and to avoid donor-driven distortions) it is optimal that both the network’s leadership and most of the resources used in the network be local.
- Purpose-driven networks must be flexible and able to shift focus based on emergent needs—this requires strong feedback mechanisms.

See next page for full LINK Rwanda case study.

actors, maintaining network integrity, sharing information, and serving as a catalyst for identifying and realizing problem solving opportunities¹⁰⁻¹³. By understanding the needs, structure, and objectives of the network, stewards can guide members in focusing network efforts.

GKI has found the network steward model plays a crucial role in enabling networks in resource-constrained contexts to realize their intended impact. Through GKI’s LINK (Learning and Innovation Network for Knowledge and Solutions) program, we stewarded a network of over 30 organizations to identify and address a taste defect threatening the specialty coffee industry in Rwanda. We designed and implemented an iterative process involving the identification of challenges, recruitment and management of network actors and relationships, identification of resources, and collaborative problem-solving within the network (see next page for a case study of LINK). Initially, GKI served as the network steward. However, we provided training to a cohort of local actors who were

central to the network. With time, the network steward role devolved from GKI to others.

GKI believes establishing local community members as stewards of networks is optimal. However, in instances in which such actors do not yet feel ready to play the multi-faceted role of a network steward, explicit training on Network Facilitation can be offered. To date, GKI has trained dozens of problem solvers in a range of sectors on the key skills underpinning effective Network Facilitation.

While GKI's efforts in this domain have been cutting edge, two cases from the literature highlight the potential of this approach and its early adoption by others.

Local Network Stewardship in the Tibetan Plateau of China: Hopping et al¹⁴ provide an exploration of how local networks enable their communities to adapt their pastoral and herding practices to achieve greater resilience to the impacts of climate change. In this case, village leaders functioned as stewards of their local networks through the preservation and transfer of local ecological knowledge and brokerage of relationships. In this case, the network stewardship models were patterned on existing social hierarchies. This choice preserved the normative power structures, making networked problem-solving processes less democratic and sometimes encouraging tendencies toward elite capture. Nonetheless, this case draws attention to the types of activities a local network steward might undertake.

Local Network Stewardship in Peru: Hellin¹⁵ presents an example of how local actors chosen by their communities, and trained by the NGO Practical Action, function as local extension agents, and began to take on a network stewardship role. They facilitated two-way knowledge-transfer relationships between local farmer communities and external actors; coordinated problem-solving activities among local farmers to generate innovations that address local agricultural and veterinary challenges; fostered group experimentation, learning and effective feedback loops; and, ultimately, supported farmers in taking collective action. Given the range of their activities, they helped to strengthen the local agricultural innovation system. While this case offers a compelling example of local network stewardship, it is unclear how this transition occurred or the mechanics of the stewardship activities observed. This is characteristic of much of the academic and practitioner bodies of knowledge on network stewards. In those cases in which network stewards' value is recognized, the story of how it was cultivated is not. We need to build this knowledge, if we hope to identify good practices around strengthening local networks.

GKI's LINK program and the two cases provide insight into how local network stewards can propel problem-solving within communities. They also suggest the need to build and codify knowledge about how local network stewardship boosts actors' propensity to collaborate successfully. The LINK Case Study offers insight.

LINK Rwanda Case Study

Background and Program Design

Starting in 2011, GKI began working with the Carnegie Corporation of New York on a LINK (Learning and Innovation Network for Knowledge and Solutions) pilot program. Their purpose was to answer a thorny question: “Why do challenges—in health, education, agriculture, and other areas—often stymie networks that hope to solve them?” Social and economic development challenges are complex, and they result from multiple, compounding causes. While some general approaches to confront them may exist, effective solutions are often context-specific, and require diverse, specialized knowledge and resources. GKI hypothesized that failures to tackle these challenges through networks lay in *how* individuals and resources—technologies, expertise, finances—were connected to fill these gaps. Achieving impact would require developing and supporting problem-solving networks that were as multi-faceted as the challenges they target.

GKI's first test of this model took place in Rwanda. Dr. Daniel Rukazambuga, a University of Rwanda (UR) entomologist won the competitive LINK program in 2011 with a challenge in Rwanda's coffee sector. Rukazambuga and GKI built a problem-solving network aimed at addressing the potato taste defect (PTD) in coffee, a challenge threatening Rwanda's coffee industry. UR and GKI collaboratively analyzed the institutional, industry, and country-level contexts pertinent to solving PTD. GKI designed and facilitated trainings for the LINK winner on Collaborative Innovation, and connected the LINK team with more than 30 collaborators. Over the course of three years, Rukazambuga's team and a growing network of partners went through the following steps. Note that, while these are presented as linear below, in practice LINK—a flexible process—often moves back and forth between steps.



Evidence of Antestia bug.

- **Identifying Challenges:** Dissected and mapped challenges that were ripe for solutions. Through stakeholder workshops, we used an array of innovation and design tools to frame and explore the PTD challenge. We also trained the community on the use of these facilitation tools.
- **Managing Networks:** UR created a purpose-driven network by establishing a shared vision. GKI trained network members in collaboration skills. In an effort to build stewardship capability, we trained both local and international partners in collaboration skills: building and managing networks, prototyping, monitoring and evaluation, and scaling sustainable solutions.
- **Identifying Resources:** Together, we jointly analyzed existing local resources that could be applied to the challenges and we mapped those partners already active in this space. GKI worked with UR and its network to take stock of baseline resources available



Making sense of the science, technology, and innovation context of Daniel's coffee challenge entailed substantive interviews and field visits, like this one to a coffee cupping laboratory in Kigali.

and needed to address the PTD challenge. Sources for needed resources were also identified.

- **Facilitating Collaboration and Problem Solving:** As a network steward, GKI organized distributed efforts through a “Collaborative Innovation Strategy” for network members; evaluated progress; tested and refined solutions until they achieved success as defined previously in the process. Over time, these functions became competencies of the network.

Outcomes of LINK Rwanda

- Through LINK, UR built a network of over 30 organizations working together to identify the cause of and potential solutions for PTD.
- Network members published papers and, through co-created research, built a consensus on the cause of PTD.
- The LINK network influenced the Rwandan government's approach such that they more aggressively and directly endorsed problem solving on PTD.
- Network members leveraged \$1.8 million USD in additional funding for PTD research.
- 10,000+ farmers were trained on pest management and strong private sector-community linkages developed through network efforts.

Insights from the Global Knowledge Initiative

Reflecting on our LINK program, our Social Innovation Labs, and the experiences of others, a number of insights can be offered. Chief among them, the network steward role presents a strategic point of intervention for the strengthening of local networks. Network strengthening involves building the capacity of local actors—usually NGOs, councils, or individuals—chosen by network members to steward a local network. GKI's approach to network strengthening, facilitation, design, and development is underpinned by a range of key learnings:

- **A Systems Perspective:** Development challenges are inherently complex and often difficult to define. This complexity can lead to the framing of problems in terms of issues that are peripheral to the core challenges. Therefore, network actors interested in driving change must be able to effectively read the dynamics of the systems that shape their context. Systems—comprised of the actors, interactions, and phenomena that form a coherent whole—are complex and dynamic. The relationships among a system's

actors, interactions and phenomena are usually not readily comprehensible and typically evolve. Adopting clear processes that support reading local systems can strengthen the abilities of local actors to identify challenges and channel their diverse perspectives toward developing solutions relevant to specific contexts.

- **Iteration and Feedback:** The dynamic nature of the systems in which development challenges occur requires an iterative approach to problem solving. The incorporation of feedback loops into the problem-solving process allows network actors to learn, build and adaptively manage their activities toward identifying effective solutions.
- **Collaborative Innovation:** This is the act of combining efforts and sharing complementary resources with partners to create, test, or implement innovative ideas. Given the complexity of development challenges often extends beyond the capacity of single actors, the emphasis on collaboration is key where complex problem solving is in play. Where actors are able to harness a diversity of perspectives and resources, they are often better able to identify and create solutions with the potential for big impact.
- **Tools and Processes:** Complex development challenges often defy more ad-hoc problem-solving processes. GKI employs creative and human-centered design strategies that draw on best-in-class tools to introduce rigor, generate insights, build skills, methodically transition from concept to practice, create an environment where actors move beyond existing, and often less effective, approaches to problem-solving.
- **Network Facilitators' Training:** Rare among trainings, GKI's Network Facilitators Training offers a practical set of tools and methodologies designed to impart the how-to of effective network stewardship to those who've never explicitly learned how to facilitate. Recognizing the powerful influence network stewards' capabilities have on the problem solving of networks, neglect of their skillsets and aptitudes imperils the success of the networks.

The network steward role presents a strategic point of intervention for the strengthening of local networks.

Building on these learnings, GKI believes a capacity building model for local network stewardship should focus on developing competencies in the aforementioned areas. One approach to such a model is presented below. It draws on three key assumptions: (1) network strengthening is a critical component to effective and sustainable development; (2) network stewards play a vital role in the success of effective networks; and (3) there are ways to support and strengthen networks through building the capacity of local network stewards. Adapting these recommendations to local context is imperative, however.

Network Strengthening in Practice: A Suggested Approach

A rigorous approach to local network strengthening should be rooted in an understanding that networks exist within systems. Such an approach recognizes that networks must explicitly grapple with the actors, interactions, and phenomena that make up the systems in which they exist, if these networks hope to effectively address complex challenges.

Therefore, rigorous local network strengthening approaches directed at network stewards should focus on equipping them to become more adept at understanding and navigating the systems in which they operate. Practically, this could involve building skills and providing tools that enable them to facilitate networks within their broader systems¹⁶. Below is a framework of what such an approach might entail, presented in the form of a three-stage action research project.

Proposed stages for researching and developing network stewardship approaches:

Stage 1: System Landscaping and Local Network Steward Identification

Before building a problem solving network, it is critical to understand the landscape in which this network will work toward addressing challenges. Therefore, this stage first focuses on understanding the system in which a new initiative will take place. This involves an exploration of the actors, interactions, and phenomena that characterize the system. Specifically, a rich picture of a local system can be developed through: (1) identifying actors within the system and discerning critical system actors; (2) understanding interactions within the system, including a consideration of how trust is built within the system and how collaboration occurs; and (3) exploring system phenomena such as identifying existing resources and endowments and determining what factors might serve to support or hinder collaboration among system actors.



GKI trained future network facilitators to use a challenge identification tool at a workshop in Malaysia.

Stage 2: Network Strengthening through Building the Capacity of Local Network Stewards

Building up a network's problem-solving capabilities is an effective approach to network strengthening. This stage focuses on building the skills and capacity of the local network stewards to strengthen the problem-solving capabilities of their local networks. Training on the fundamental skills that enable network facilitation and collaborative innovation enables these local stewards to fulfill their promise within local contexts. This stage involves:

1. **Identifying challenges:** Local network stewards can help networks understand and communicate challenges. Network stewards can be trained to assess and map cause-and-effect pathways that create local conditions (including local challenges and the environment in which development efforts will occur). Through this exercise, network

stewards are expected to become better equipped to clarify the root causes of challenges, and identify the best points for intervention. Tools and processes that may be used to support challenge identification include: high-level context analysis tools and systems mapping and sense-making methods that offer a rich picture of the critical system features, actors, etc.

2. **Managing the network:** Network stewards can assist local networks to identify resources required to address the root causes of the challenges their communities face. Network stewards can be trained to develop a network strategy to increase mobilization of locally owned resources and address development challenges. Network stewards are supported and equipped to work with the tools that best fit the current challenges in their local community. Tools and processes that might support this activity include: network visioning to gain buy-in and trust from local actors around a vision for networked problem solving; and network building activities that support the development of formal and informal linkages among actors.
3. **Identifying resources:** Network stewards can assist local networks to identify resources required to address the root causes of the challenges their communities face. Key to this objective, network stewards test methods and work with local resource holders to share and identify mechanisms to incentivize resource sharing. Tools and processes that might support this activity include: resource diagnostic tools such as GKI's THICK (Technology, Human, Institutional and Infrastructural, Collaboration and Communication, and Knowledge-based resources) Methodology that take a broad systems approach to identifying resources needed for problem solving and innovation¹⁷; and actor-resource mapping to identify the resources local actors are able to pool or transfer within the network.
4. **Facilitating collaboration and problem solving:** Network stewards can assist local networks as they collaboratively develop solutions to identified challenges. Network stewards can be trained to become facilitators, guiding other local network members through a solution design process, using resources within the system to support these solutions. Tools and processes that might support this activity include: strategy shaping tools that help users methodically develop road maps to take on shared challenges; and iterative feedback loops that leverage local network learning and ensure continuous improvement with frequent feedback points.

As network stewards advance through this process, the focus turns to building capacity within the network through identifying the tools best situated to support network strengthening in a specific setting. These tools have been implemented effectively in examples such as LINK Rwanda (see case study on page 4), LINK Uganda, and elsewhere. However, there continues to be a need for testing to assure their use in varying contexts using different actors to ultimately move from "best practice" to "best fit"¹⁶.

Stage 3: Network Strengthening for Effectiveness and Sustainability

Effective and sustainable networks possess the capacity to follow through on their strategic intentions. In this stage, network stewards help identify the mechanisms and resources for long-term support they might need to effectively facilitate local networks. Once identified, there is a need to discern how additional trainings and support can be provided. This stage

should also include the critical step of integrating feedback loops to ensure there is continuous progress toward desired outcomes.

It is understood that actors within a network will bring distinctly different experiences, values, and expectations. Effective networks draw on the different perspectives and diversity of resources collectively available. It is in this context that the network steward plays the critical role of converting a functioning network into an effective, sustainable network able to better demonstrate resilience within dynamic systems. GKI proposes an approach amenable to testing in an iterative action research format, incorporating rapid feedback loops to learn and improve while doing¹⁸.

What's new in our proposed approach?

While the LINK program provides insight on what is possible in terms of network stewardship and resource mobilization, several key differences exist between LINK and the network strengthening model suggested.

Local network stewardship: In LINK, GKI initially acted as the network steward, mobilizing resources, collaboratively identifying challenges and providing the tools for networks to develop potential solutions. We believe the approach—recognizing the complexity of problem solving and fostering a collaborative community-approach to addressing those challenges—is correct. However, by providing training on network facilitation prior to the formation of a network, the opportunity to immediately rely on local network stewards can be taken. GKI's expertise in the facilitation, design, and development of networks provides a strong foundation for testing out this approach to network strengthening.

R&D for network strengthening: We see a need for a rigorous, research-based and tested approaches to strengthening networks through local network stewards—something that goes beyond the mandate of LINK. We are interested in exploring the question: how might these network stewards facilitate locally-led problem solving, strengthening networks to thrive in complex systems? Our working hypothesis is that they might be seen to do so through supporting local networks in undertaking key problem-solving activities with the aid of new, context appropriate tools and processes. Ramalingam's¹⁶ call to instill as much rigor into identifying and transitioning from “best-in-class” tools to “best fit” contextually-specific solutions is timely. A learning-while-doing strategy suggests that “best fit” may look markedly different in addressing similar challenges within and across systems as actors change, processes are transformed, and boundaries shift. GKI's experience in taking context-agnostic network strategies, contextualizing them for effective use among diverse stakeholders in a range of geographies, and translating knowledge into practice are well aligned to knowledge building needs in this area.

Combining a systems approach and network theory: Taking a systems approach to network strengthening is not new in theory. Our approach suggests that the components and tools implemented to build capacity and sustainability within a network can be rigorously and intentionally tested from a systems perspective. We propose building on the research and experience already available and implementing rules and principles around complexity; and getting closer to strengthening networks within the dynamic complexity of systems. Highlighting the importance of connecting historical research, initiatives, and tools to the innovation and scholarship of today, Brinkerhoff and Jacobstein¹⁹ from USAID state:

"The score of what USAID seeks to capture through systems thinking is in many cases much broader than earlier efforts; for example, holistic perspectives that bring together sustainability, resilience, and country stakeholder engagement while still aiming for measurable results."

It is in this context that the opportunity to rigorously test the robustness of network strengthening through a local lens should be pursued. GKI advocates and applies a systems approach to our work because the nature of the challenges we seek to address requires us to take a multi-dimensional perspective on the actors, interactions and phenomena that frame challenges.

Conclusion

Effective local networks possess the potential to identify, define and solve local problems. This paper argues that local networks become more effective at solving their problems when critical actors within the system are better able to (1) identify challenges, (2) manage their networks, (3) identify resources, and (4) collaborate. Local network strengthening, through building the capacity of local network stewards to support local systems, presents an effective and sustainable approach to helping local networks effectively solve their problems.

In this paper we present an approach to supporting local networks to effectively solve development challenges. This approach views network stewards as critical actors in strengthening local networks. However, it needs to be tested. We need to understand whether it works and whether a capacity-building approach built on utilizing context-appropriate tools will help us strengthen networks. We suggest that testing is conducted in the form of action research. Taking an iterative adaptation approach will enable us to address a problem, iteratively learn using feedback loops, and ultimately identify effective approaches to network strengthening.

Although there is no single approach to solving complex development challenges, systems thinking provides both the challenge and the opportunity to acknowledge the complexity of working within a shifting construct of dynamic boundaries, actors and processes. The ability for local communities to effectively build, sustain, and optimize networks relies on taking a systems perspective and strengthening the role of local network stewards who work within systems.

Prioritizing context and challenging the ability of "best-in-class" tools and processes to affect sustainable development is not new. The development community increasingly demands new tools and techniques to better grapple with complex challenges. However, there has been a lack of organizational or industry-wide initiatives intent on amalgamating information around a network steward. Consequently, there is a need to rigorously test this network-strengthening model. Ultimately, we seek to contribute to knowledge and practice on how local networks can thrive in their abilities to effectively solve local problems.

About the Global Knowledge Initiative

The Global Knowledge Initiative (GKI) is a non-profit organization committed to leveraging networks and best-in-class research, scientific expertise, and technologies to address challenges facing the world's poorest and most vulnerable populations. GKI-supported networks engage diverse participants, including companies, governments, universities, and local communities in pursuit of diverse objectives. These objectives include boosting smallholder productivity in Uganda's banana value chain; addressing community-based water challenges in Malaysia; and reducing post-harvest food loss in Sub-Saharan Africa, among others.

Heralded as one of the next century's 100 most innovative organizations by The Rockefeller Foundation, GKI addresses complex challenges through:

- Building the capacity of problem solvers to innovate and collaborate more effectively;
- Informing national policies and strategies that promote research and innovation for development; and
- Researching and evaluating systems that impact innovation in developing countries;
- Running social innovation labs that engage stakeholders and envision bold solutions to pressing development challenges
- Supporting and developing problem-solving networks that pool resources from diverse fields, sectors, and geographies.

See the map below for an overview of some of the 50 countries in which we've worked, followed by a snapshot of our network and solution design, facilitation, co-creation, and implementation activities.



Global Knowledge Initiative Core Competencies

Systems Research and Evaluation

- Analyzing system features and dynamics that bear on innovation activities in a place or sector
- Recommending ways to improve innovation outputs and outcomes amid complexity

Network Facilitation and Design

- Building, managing, and sustaining global problem solving networks that pool resources and expertise
- Addressing needs at multiple levels of a system, as we believe that is the most effective way to bring about long-term change

Capacity Building and Training

- Developing curricula and delivering trainings on collaborative innovation tools and approaches for researchers, entrepreneurs, students, policymakers, and others
- Training trainers and network facilitators capable of leading and training others

Policy and Strategy

- Studying innovation-related policy structures and advising on policy reform strategies
- Designing and facilitating stakeholder engagement within policy review and reform processes

Social Innovation Labs

- Using stakeholder input to rapidly prototype solution design options
- Rapidly collecting and analyzing stakeholder feedback on specific issues and challenges

References

1. Ynalvez M. A. & Shrum, W. M. Professional networks, scientific collaboration, and publication productivity in resource-constrained research institutions in a developing country. *Res. Policy* 40, 204–216 (2011).
2. Calton, J. M., Werhane, P. H., Hartman, L. P. & Bevan, D. Building Partnerships to Create Social and Economic Value at the Base of the Global Development Pyramid. *J. Bus. Ethics* 117, 721–733 (2013).
3. Swan, J. & Scarbrough, H. The politics of networked innovation. *Hum. Relations* 58, 913–943 (2005).
4. Rodríguez, C., Langley, A. & Denis, J. Governance, Power, and Mandated Collaboration in an Interorganizational Network. *Adm. Soc.* 39, 150–193 (2007).
5. Lind, F. Goal diversity and resource development in an inter-organisational project. *J. Bus. Ind. Mark.* 30, 259–268 (2015).
6. Sandberg, J., Holmström, J., Napier, N. & Levén, P. Balancing diversity in innovation networks. *Eur. J. Innov. Manag.* 18, 44–69 (2015).
7. Ramalingam, B. Mind the network gaps. *October* 20 (2011).
8. Creech, H. & Willard, T. *Strategic intentions: managing knowledge networks for sustainable development.* (2001).
9. Gilchrist, A. *The Well-Connected Community: A Networking Approach to Community Development.* (2009).
10. Weber, E. P. & Khademian, A. M. Wicked Problems, Knowledge Challenges, and Collaborative Capacity Builders in Network Settings. *Public Adm. Rev.* 68, 334–349 (2008).
11. Reficco, E. & Marquez, P. Inclusive Networks for Building BOP Markets. *Bus. Soc.* 51, 512–556 (2012).
12. Williams, P. We are all boundary spanners now? *Int. J. Public Sect. Manag.* 26, 17–32 (2013).
13. Janssen, W., Bouwman, H., Buuren, R. van & Haaker, T. An organizational competence model for innovation intermediaries. *Eur. J. Innov. Manag.* 17, 2–24 (2014).
14. Hopping, K. A., Yangzong, C. & Klein, J. A. Local knowledge production, transmission, and the importance of village leaders in a network of Tibetan pastoralists coping with environmental change. *Ecol. Soc.* 21, (2016).
15. Hellin, J. Agricultural extension, collective action and innovation systems: Lessons on network brokering from Peru and Mexico. *J. Agric. Educ. Ext.* 18:2, 141–159 (2012).
16. Ramalingam, B., Laric, M. & Primrose, J. From best practice to best fit: Understanding and navigating wicked problems in international development. 1–46 (2014).
17. Sukhdeep Brar, Sara E. Farley, Robert Hawkins, C. S. W. *Science, Technology, and*

Innovation in Uganda: Recommendations for Policy and Action. I, (World Bank: Washington, DC, 2011).

18. Andrews, M., Woolcock, M. & Pritchett, L. Escaping Capability Traps through Problem-Driven Iterative Adaptation (PDIA) Working Paper 299 June 2012. *World Inst. Dev. Econ. Res.* 24 (2012). doi:10.1016/j.worlddev.2013.05.011
19. Brinkerhoff, D. W. & Jacobstein, D. Systems Thinking and Institutional Performance: Retrospect and Prospect on USAID Policy and Practice. *Int. Dev. Gr. Work. Pap. Ser. RTI Int.* 2015-2, (2015).



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