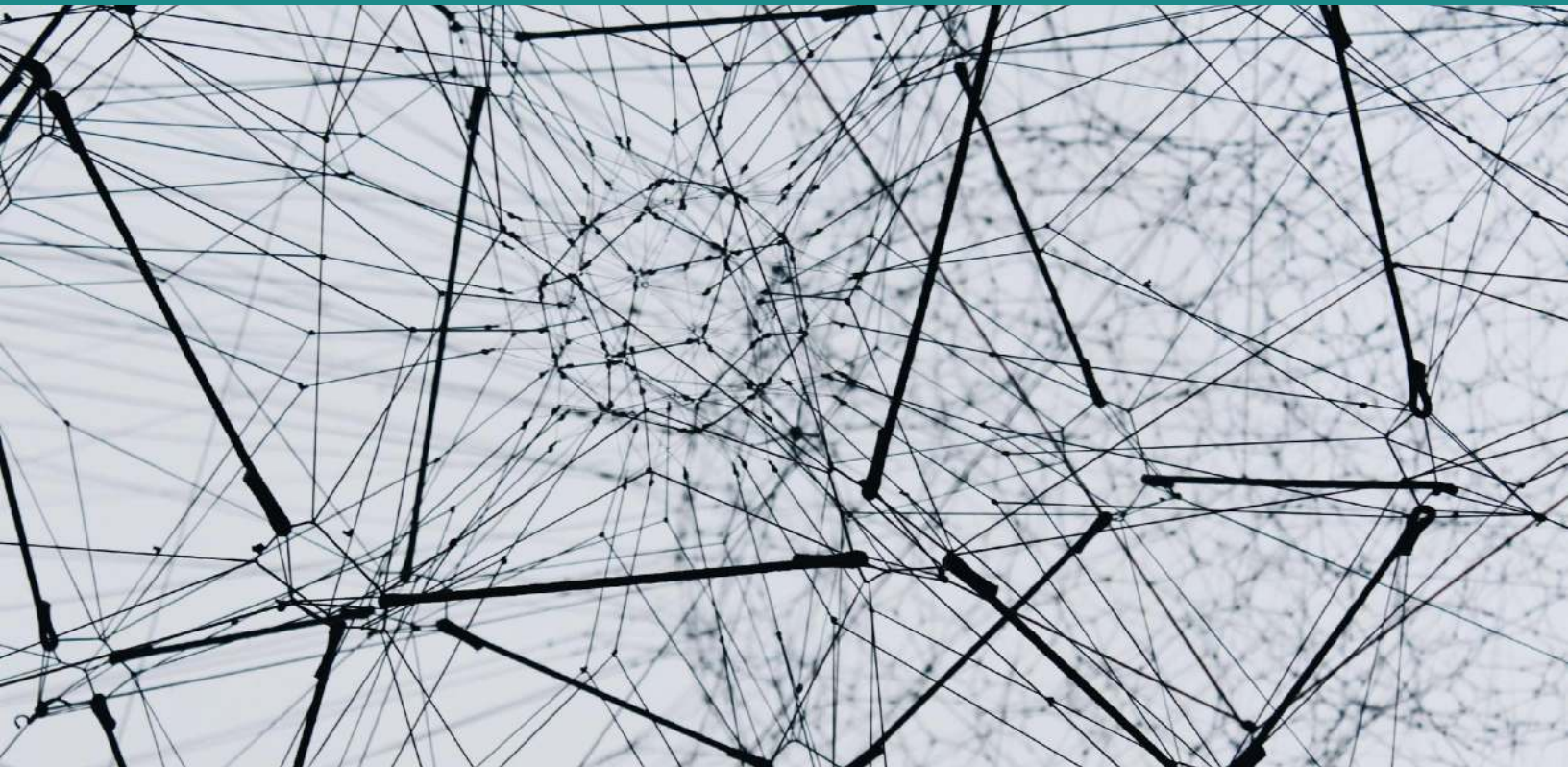


Analyzing Complex Systems: GKI's Learning Journey



**Global
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Acknowledgements

Our hope is that this primer can be used to support the work of other social impact organizations looking to bring a systems approach to their strategy and programs. This primer was designed for the support of the Polaris Project.

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Systems Practice: Overview

Systems thinking is an interdisciplinary practice of viewing the world as an interconnected whole. Through the 'systems lens,' systems thinkers are able to see problems with more clarity, check assumptions about the way things work, identify the underlying causes of problems, and ultimately generate more innovative ideas for how to drive change. Systems thinking is rapidly growing in the social impact sector as individuals, teams, organizations, and networks grapple with complex challenges.

GKI's approach to developing capacity in systems thinking focuses on three interrelated pillars that enhance people, teams, organizations, and diverse networks to apply systems methods to their work or communities. The pillars are: learning a systems **toolset**, developing a systems **skillset**, and cultivating a systems **mindset**.

Learning a Systems Toolset

Learning a systems toolset is the most readily achievable goal for those at the beginning of their systems thinking learning journey. A number of tools and methodologies are available to aspiring systems thinkers. For capacity development it is often best to begin with one or two tools to focus on. By applying these tools, new systems thinkers can explicitly engage with the underlying theory of systems thinking. Through applied learning they can start to see their problems with more clarity and begin to see the utility in these methods.

Developing a Systems Skillset

Developing a systems skillset is an important bridge between the tools and the mindset. The skillset provides new systems thinkers the ability to apply tools with confidence either independently, or as part of a team. It also opens up the ability to continue one's systems thinking learning journey in a self-directed way. By applying these ideas to a near infinite array of challenges, and seeking out new tools and approaches to use in the process, those with a systems skillset can better engage in the exploratory mode of learning and analysis exemplified in a systems thinker.

Cultivating a Systems Mindset

Cultivating a systems mindset is the ultimate goal of systems thinking capacity development. However, altering and adapting one's world view is a process that takes time and practice. In contrast to learning a new analytic tool, the mindset is not a static element with a clear end-date. It is a constant process of learning, adapting, and striving to achieve personal mastery of the theory and methods that underlie systems thinking. Individuals who possess a systems mindset are driven to understand why the world works the way it does, describe the relationships between seemingly unconnected parts, and identifying points of systemic leverage to help move the system toward a healthier state, and the outcomes we want to achieve.

Over the course of our engagement, GKI focuses on working with teams to develop the mindset and skillset through the application of the toolset. Teams can be groups of people, an organizations, or across organizations as long as they are collectively looking to understand a systems better in hope to create systems change. From GKI's perspective, the application of systems thinking through a discrete set of methodologies is foundational to learning the skills needed to apply systems thinking to real world problems independent from an external facilitator, and to cultivate and adapt one's world view to see problems more holistically and through the 'systems lens'.

Systems Practice: Cynefin Framework

Systems thinking can help us understand and explain unknown situations. We can use it to examine the root causes of poverty, problems with our sleep cycles, or the workings of a power plant. When we view the world in this way we see that systems are everywhere. However, systems do not all exhibit the same characteristics. There is a gulf between a single celled organism and the human body, which is composed of more than 37 trillion cells, yet we can use systems thinking to understand both!

One common approach to distinguish between types of systems and identify the context we are operating within or analyzing is the Cynefin Framework (pronounced ku-nev-in). Cynefin breaks real-world situations into 4 types: **Simple**, **Complicated**, **Complex**, **Chaotic**. A fifth, **Disorder**, is used to describe situations where we are not even able to tell which type of context we are in.

Simple Systems

- Easily understood.
- Stable, with clear cause-and-effect relationships.
- Contain definitive answers.

Example:

A simple machine, like a key. We know how this works or could learn very quickly.

Complicated Systems

- Not easily understood, but learnable with the adequate resources.
- Consist of relationships that are best understood by experts.

Example:

A complicated machine with many parts, like a car. We may not know how a VW Bus works, but we can find answers.

Complex Systems

- Not fully knowable, but can be analyzed to make informed decisions.
- Characterized by dynamism and emergence, meaning that these systems change over time.

Example:

Traffic, which is composed of a mosaic of individuals with their own goals and objectives, moving in coordinated ways at varying times.

Chaotic Systems

- Unknowable and unpredictable situations.
- Characterized by turbulence and indeterminable cause and effect relationships.

Example:

A war zone, or an area in the midst of a natural disaster. It is impossible to know what will happen next.

Systems thinking is particularly important to our ability to analyze **complex** systems and make informed decisions about how to act within them. The topics we work on in the social impact sector, such as climate change, poverty reduction, or human trafficking, exist in the realm of the complex. This means that our traditional models of analysis (e.g. log frames and if-this than-that planning) are not only likely to be ineffective, but can actually have unintended negative consequences.

To deal with complexity well, we need to view the big picture that surrounds the problems we're trying to solve. By understanding how relationships between parts drive the patterns of behavior that we observe, we can act more strategically to solve them. Using the systems lens to do this will also help us to identify our organization's constraints—what we can move in the system and what we can't—and to develop partnership strategies that can foster collective impact.

Systems Practice: Phases of a Systems Analysis

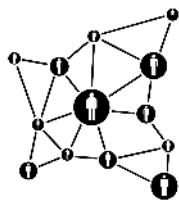
A Systems analysis consists of 3 phases aimed at engaging and collecting insights from a variety of stakeholders with iteration occurring throughout the process. Each of these steps can be conducted through research-based methods or in a participatory manner. The following pages outline

Understand the Context



Understanding the context begins by collectively defining the challenge and its boundaries. Research and data is then collected through multiple paths including literature review, surveys, qualitative interviews or by facilitating insight gathering from key stakeholders in a workshop.

Visualize Connections



Choose system visualization method(s) based on the goals of the systems analysis and dynamics of the system. Drawing from the context analysis, systems maps are co-created with with partners and stakeholders. Potential systems visualization methods are described on the following page. At the conclusion of systems map this phase, the team should plan for iteration and validation.

Strategize Differently



For systems to inform strategy, we need to consider what the map is telling us and come to a determination about how we think we can best effect change. Many tools, such as leverage point analysis, and patterns of behavior, can assist you in analyzing the systems map you have created, and the insight that it conveys. Employing the adapted Donella Medow's Framework found in the annex can help you determine the type of intervention to take at each leverage point.

Systems Visualization: Approaches

GKI believes in a fit-for-purpose approach. Depending on the nature of the challenge, the complexity of the system, and the goals and needs of the client, GKI will determine with the client the appropriate systems mapping approach(es). Below is a snapshot of systems mapping approaches that GKI commonly employs. Often there is benefit to using multiple mapping approaches together to understand systems dynamics. .

Causal Loop Diagram is a systems map that illuminates the feedback loops that underlie the systems function. CLD offers users the ability to visualize the relationships between parts of the system, and understand how they drive the patterns of behavior exhibited by the system and the people within the system. CLD offers the ability to understand where interventions are needed on a more strategic level while other techniques, such as systemigram, might offer greater insights into what those interventions might be.

Systemigram is a depiction of a system that presents the actors, resources, and interactions which contribute to the overall function of the system. A systemigram focuses on the strength of interactions in the systems more than cause and effect. The resultant diagram provides insight into a system's architecture, its boundaries, and phenomena that may affect its function. Systemigrams are generally used in the early stages of problems formulation, while other techniques might be used later in the design process. Because a systemigram focuses on architecture and interactions it is less useful when trying to understand how human behavior affects the system.

Stakeholder Mapping focuses on actors and their place within a system. They are often employed to gain a preliminary understanding of the most effective means of engagement with each stakeholder. Techniques can range from basic "community mapping" processes conducted with a group of stakeholders assembled together in a room for just a few hours, to highly sophisticated quantitative network analysis employing enumerators, analysts and taking place over the course of several months. Stakeholder mapping does well to highlight key actors, enables the mapper to identify prominent features, potential resources, and bottlenecks within the system. It, however, requires a high degree of contextual knowledge of the system, is subject to the biases of those participating / leading, and success rates will often depend upon levels of participation.

Social Network Analysis (SNA) is a form of stakeholder mapping that visually represents the structural characteristics of a network. SNA employs quantitative data to depict actors, their relationships, and the factors that influence their interactions. SNA is most helpful to identify central actors within a network, provide data on network density, show if an actor is a broker or a bridge to other actors, if there are clusters or communities within the broader network, and the type of information being shared across the network. These insights can help you understand power structures, network stability, and identify methods for network strengthening.

Systems Visualization: Steps to Visualize the system

- 1 Determine Sprint vs Pilot approach
- 2 Confirm the boundary of the system you are mapping.
- 3 Identify 6-8 priority Themes in the system you are mapping.
- 4 Determine key actors and resources in the system
- 5 Create systems map(s)
- 6 Determine a goal and approach for validation
- 7 Identify systemic leverage points through patterns of behavior

Method of Engagement: Sprint

Systems Sprint

GKI's Systems Sprint combines design thinking and systems thinking into a 3-day rapid design and learning process. Sprints are a common approach to co-creation as it unlocks creativity, innovation, and productivity for participants due to the time and resources constraints. The Systems Sprint is designed to build collective learning across individuals, organizations, or a diverse network. Participants gain an understanding of a systems mapping method, application on the Kumu Platform, and how this map might inform strategy or the design of an intervention.

Key Components

- Build common language, tools, and vision around the use of Systems Thinking.
- Develop a working draft systems map for a system as defined by the team.
- Create a plan for socializing and validating the draft map to include multiple stakeholder perspectives.
- Foreshadow how the systems map and other systems tools can inform interventions and strategy.

When and Why to Use?

- Sprints are best for fueling quick knowledge transfer and buy-in from participants in a high energy and collaborative environment.
- This method gives space to focus on mapping the system with less external distraction.
- The rapid process does not provide a comprehensive depiction of the system. It is only able to provide the perspective of the participants involved in the mapping process. The sprint process works best when the participants are diverse, open to engage, and have detailed knowledge of the system.

Resources Required



3 days to 1 week
of mapping
workshops



Deep
expertise in
the systems



Access to a platform
that will allow the team
to record their maps



1000 post-it
notes for
mapping

Method of Engagement: Pilot

Systems Pilot

GKI's Systems Pilot is held over the course of 2-3 months. It is designed to build systems-focused skills across a team, organization or diverse network. GKI provides extended coaching and support to the pilot team as they build the systems map(s). At the conclusion of the pilot, participants will gain an understanding of the systems architecture, potential systemic leverage points, and methods for conducting research, external input, and stakeholder validation.

Key Components

- Build common language, tools, and vision around the use of Systems Thinking.
- Simulate a realistic process for developing a systems map and incorporating systems thinking into a systems change strategy.
- Develop a comprehensive systems map for system as defined by the team, organization, or network.
- Identify potential systemic leverage points and key stakeholders to engage, partner, or contend with.
- Understand how other systems tools might compliment the systems map.
- Build cohesion across the team around the challenge, the goals, and the pathway to change.

When and Why to Use?

- The pilot is a team-led process with weekly coaching provided by GKI systems advisors. This method allows the team to build their confidence and ability to apply a systems practice within their work.
- This format allows time for research and validation, pulling in varied data sources to refine and improve upon the map.
- The pilot can also be complimented by the facilitation of stakeholder input and engagement as part of the creation process. Systems thinking emphasizes the importance of multiple perspectives in creating a more accurate depiction of the system.

Resources Required



4 hours per week to engage in systems analysis



Basic to intermediate expertise in the system



Access to a platform that will allow the team to record their maps



1000 post-it notes for mapping

Understanding the Context: Determining a Boundary

Systems are a set of interdependent components that form a coherent whole and perform a specific function(s).

Systems can be understood by looking at the interactions between the system's components.

In social systems, these components consist of actors and enabling environment factors.

Components exist within a boundary that sets the system apart from the rest of the world.

Leveraging these four components, we can use systems thinking to describe nearly anything we encounter in the world.



Boundaries: Parameters and limits that distinguish what's inside the system from what's outside the system (e.g., national, regional, sectoral)



Actors: Formal and informal elements within a system (e.g., individuals, institutions—companies, research institutions, government bodies, etc.)



Interactions: Simple and complex relationships and their consequences (e.g., interconnections and feedback loops)



Enabling Environment: Interrelated conditions that impact actors within a specific boundary (e.g., infrastructure, policies, culture, history, geography, etc.)

Pro Tip!

When grappling with complex challenges you may encounter hazardous moral terrain. For example, topics like race and class are important components of many conversations, but are difficult to speak openly about.

Rather than try to navigate around these issues, confront them head on. We may not like it, and may strive to build a world that does not behave this way, but manifestations of inequality play a role in the system and it is important to fully understand them.

Understanding the Context: Boundaries as Heuristic Tools

While we can use systems thinking to describe and explain a wide array of phenomena, systems thinking also gives us the insight that everything is interconnected to at least some degree.

This is why the practice of setting a boundary is a critically important first step in an applied systems practice.

Using systems thinking, and techniques like systems mapping, our goal is to develop a model of reality that is simple enough for people to readily understand.

Setting a boundary at the outset of a project using applied systems thinking will help us to establish guideposts for exploration of the system of interest.

It is also important to recognize that setting a boundary in one way or another is not a indicator of the value of what is being included versus what is being excluded. Rather it is a determination of the practical utility that is needed to analyze with complex issues effectively.

Pro Tip!

When setting a boundary, try to ask the following questions:

- Does this boundary allow us to consider a system with a recognizable function, or functions?
- Where does my system of interest begin to overlap with other systems?
- How would we need to shift the system boundary to include all of the elements contributing to the function of the system?

Understanding the Context: Enablers & Barriers

Once you have decided the approach, Systems Sprint, Pilot or combination the systems map creation follows the same steps with altered timeframes. The next step in the process is to identify key systems themes. Themes represent clusters of systems enablers and barriers that drive the behavior of a system.

You can find key themes using the SAT framework¹ which looks at the Structures, Attitudes, and Transactions. This framework ensures you consider a wide range of potential components that may be helping or hindering the system, and thus helps illuminated unexpected and less obvious themes.

Structures:

the physical and social environment in which people live; includes the natural and built environment; and political, social, and economic institutions.

Attitudes:

widely held beliefs, values, norms and intergroup relations that affect how large groups of people think and behave.

Transactions:

the processes used by, and the interactions among key people as they deal with important social, political and economic issues.

Using this framework, go category by category and brainstorm the **enablers** (elements contributing to positive outcomes) and **barriers** (elements contributing to negative outcomes) in the system. Write down enablers and barriers for each category, and go for volume—as many as you can think of.

Understanding the Context: Enablers & Barriers Example

After ample brainstorming time, the team should begin to cluster similar or related enablers and barriers into categories. Give each cluster a title that captures its essence. These titles will serve as your systems themes. As a team, vote on top systems themes, prioritizing 6-8 themes. Below is an example of the drivers for themes that emerged in the Polaris Project.

Example Theme: Immigration & Visas

S: Visas are tied to a specific employer	A: Visa gender discrimination	S: Policies favoring Agro-Businesses
A: Belief that immigrant workers take jobs from US workers	A: The idea of the "American Dream"	T: Support & immigration remedies for trafficking victims
T: Level of Immigration enforcement	S: Structure of temp visa programs	A: Political momentum on immigration reform

Pro Tip!

Themes are the foundation of a systems map. Invest time and thought to ensure the themes you choose form a comprehensive picture of the system. To prioritize themes think about this: "You cannot understand the systems unless you understand _____." When trying to find themes, consider::

- What are the enablers and barriers in the system? We tend to focus on barriers and forget about the enablers.
- What level of abstraction do you want the map to portray? If the map is high level then it might apply to all trafficking systems, if it is too detailed it might be missing the larger systems perspective. All themes should exhibit a similar level of abstraction.

Visualizing Connections: Inclusive Mapping Practices



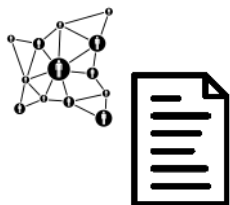
Co-create with diverse stakeholders:

Systems Mapping is not just about the output of the map itself but about the process of co-creating the map with diverse stakeholder groups. Use inclusive design techniques that allow mappers to gain awareness of their own mental models, as well as of their fellow mappers. The presence of skilled facilitators is critical to drive meaningful conversations among stakeholders. In order for mapping to be an effective stakeholder engagement tool, include mappers that are from different parts of the system.



Evaluate biases and document assumptions:

Due to the complexity of the social systems, there will be unknowns regarding human behavior, why certain perceptions exist, and why particular interactions persist. As a result of these unknowns, mappers will be required to make assumptions based on their own experiences and perceptions. When designing the mapping process, create spaces to document these assumptions and test them through the lens of various stakeholders.



Support all learning styles:

Non-visual thinkers can face challenges comprehending systems maps. Specifically, understanding a completed map can be overwhelming if one was not a part of creating it. We suggest developing a narrative to compliment the map.

Visualize Connections: Planning for Iteration

Remember that the systems is a living and adapting systems. Therefore the map should be adapted as additional insights are learned and as the systems changes.

The process of iterating is to simply share your teams interpretation of the system with others.

Socialization of the map can be used as means to spark conversations with other stakeholders in the system.

Pro Tip!

A iteration exercise should begin by answering the following:

- What is the purpose of this exercise?
- What is the boundary of the system being mapped?
- When is the point in time being mapped: Current or Future/ Aspirational State?
- Whose perspective is the map based on?
- What type of participants do you want to socialize your map with?
- What is the format you want to use: webinar, stakeholder interview, etc.
- Should participants validate the entire map or certain parts of the map that they are most poised to speak about?

Visualize Connections: Planning for Validation

Validation is a form of iteration where the objective is to increase the accuracy of the systems map which is generally informed by a diverse set of stakeholders. Validation consists of 3 primary steps with iteration occurring throughout the process.

Research



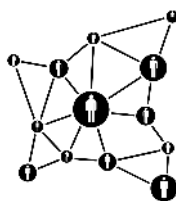
Desk research and a literature review is the lowest risk first step for validation of the systems map.

Internal Validation



Talk the team members not involved in the creation of the map through the map's logic.

External Validation



Conduct stakeholder interviews and/or presentations to elicit feedback on the map.

Example validation questions to consider:

- Is any additional verbal explanation required for the cause and effect to be understood?
- Is the connection between cause and effect convincing at “face-value”?
- Is this a “long link” (i.e. missing intermediate steps)?
- What are the knowns, unknowns, assumptions (KUAs) of the map?
 - What do you know to be true on this map?
 - What do you know to be untrue on this map?
 - What assumptions are being made?
 - What assumptions are missing?

Strategize Differently: Leverage Points

Systems mapping, and systems practice more generally, are analytic tools to help us make sense of the world. They do not tell us what to do about it. For systems to inform strategy, we need to consider what the map is telling us and come to a determination about how we think we can best effect change. One of the tools that we have at our disposal to do this is to use a concept called *leverage points*.

Leverage points are areas where changes in one area of the system can deliver outsized results for improving the health of the system at large. Leverage points are often areas of a system that are highly connected to other components of a system. As such, changing something at a leverage point can trigger other impacts within the system. We can use the simple framework below to help us consider identify key systemic leverage points ¹.



Bright Spots

Places where positive change is already happening.



Mixed Bag

Places that could swing either positive or negative.



Ripple Effects

Places that have the potential to affect many other factors or dynamics downstream.



Energy

Places where energy is disrupting the status quo or trying to reorganize and cause new patterns to emerge.



Frozen

Places where system behavior is deeply entrenched and unlikely to change in the near future.

Strategize Differently: Looking Ahead

Together, systems thinking and an applied systems practice can help teams, organizations, and networks more accurately describe the problems they are trying to solve, and discover new and often unintuitive approaches for trying to solve them. By engaging with GKI's Systems Sprints, Systems Pilots, and Systems Labs, teams will learn an explicit toolset, and began to develop the necessary mindset and skillset, to engage in applied systems thinking. Looking ahead, there are some important considerations the teams will want to take into account as they continue on their Systems Thinking Learning Journeys.

Continuous Capacity Development

The process of developing the systems toolset, skillset, and mindset is never really over. But taking the first step on this journey is the most difficult. Sprint and Pilot teams are empowered with the skills and knowledge needed to take their own professional development forward independently, or as part of a cohort of systems practitioners within the organization. Teams who participate in this process may want to consider how they can continue the conversation around systems thinking with their teams.

Stakeholder Engagement & Collective Action

An applied systems practice allows organizations to communicate their perspective of the system to a variety of stakeholders within the systems and outside of it through a visual depiction. Socialization and validation through stakeholder engagement is useful for eliciting feedback and developing new partnerships that share learnings and resources across the system. Other tools such as the Influence and Incentives Matrix (I&I) provide guidance for stakeholder engagement. I&I is a simple form of stakeholder mapping that helps to identify, categorize, and prioritize key stakeholders within a system. The map analyzes actors' respective influence over the system, and their incentives to undertake an activity— be that research, regulation, distribution, etc. — aimed at addressing a particular problem. This tool's strength lies in its ability to provide users with easy-to-digest information in graph form. You can perform I&I at the systems level or at the level of a each leverage point. Refer to the Annex for instructions.

Moving from Leverage to Interventions

Systems maps and leverage points can direct us to areas of the system where interventions have the potential for significant impact. However, they don't tell us what to do at that leverage point. GKI developed a framework for strategic inquiry to brainstorm potential interventions, adapted from Donella Meadows' writings.² To help design, prioritize, and adapt interventions, we lean into best practices around Human centered design, co-creation, and adaptive learning. Additional information on this framework can be found on in the Annex.

Citations:

1. [Systems Practice, The Omidyar Group](#)
2. [Leverage Points: Places to Intervene in a System. Donella Meddows](#)

Additional Resources:

1. The Fifth Discipline: The Art and Practice of the Learning Organization (Senge 1990), Hitendra Wadhwa,, Institute for Personal Leadership.
2. [Systems Tools for Complex Health Systems: A Guide to Creating Causal Loop Diagrams](#)
3. [System Behavior and Causal Loop Diagrams. Chapter 1](#)

Join GKI's Systems Community by signing up for the [GKI Thinks Big newsletter!](#)



About the Global Knowledge Initiative

[The Global Knowledge Initiative](#) (GKI) is a non-profit organization based in Washington, DC. GKI builds purpose-driven networks to deliver innovative solutions to pressing global challenges. We use an integrated, systems approach to create the environment, the mindset, and the tools that enable problem solvers to innovate and collaborate more effectively.

Questions? Contact info@gkinitiative.org.

Annex:

Additional Tools & Frameworks for Consideration

Influence & Incentives Analysis

The Influence and Incentives Analysis can help a user:

1. Recognize key stakeholders with the influence necessary to either support or undermine innovation activity aimed at solving the given problem, depending upon their incentives to do so.
2. Understand which stakeholders wield the greatest power to facilitate or execute innovation-related activities applied to a specific aspect of the problem.

Tip Box

Every problem is an opportunity. Framing your challenge as a How Might We (HMW) question allows you to set yourself up for an innovative solution.

How-To Complete I&I:

Step 1: Create a How Might We (HMW) challenge statement for your intended systems change at the systems level or at each leverage point.

Step 2: Identify top systems actors based on your systems map. It is suggested that you choose at least 5 actors.

Step 3: Based on the challenge statement place the stakeholders on the map based their relative influence over the systems and incentive to change it.

Engaging with stakeholders based on their location:

This tool helps you to prioritize and decide which method you might use for engagement.

Q1: Engage Closely

These stakeholders are hoping for the same change you wish to enact in the system and will be your biggest allies. Strategies to consider include: (1) collaborating to work towards common goals, (2) working in a complimentary manner to create change in various parts of the system; (3) working in the same part of the system to create considerable change at one leverage point.

Q2: Align Goals

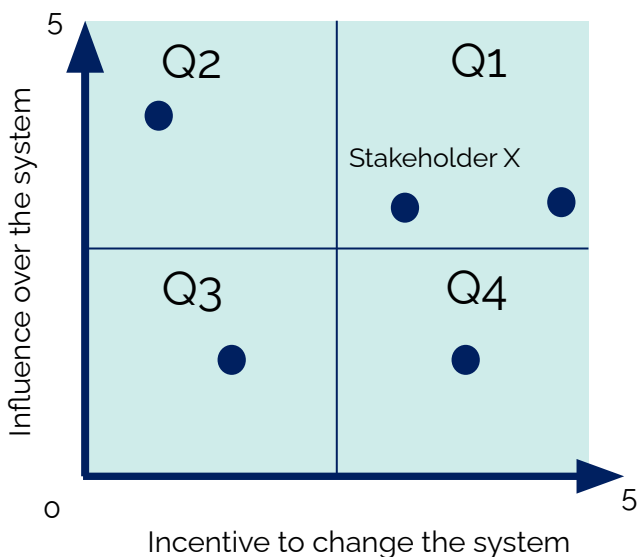
Think about how you might increase their incentive to achieve the intended systems change. Strategies for engagement might include: (1) illuminating different ways in which they might benefit from the change you are working towards; (2) compromising to make the change mutually beneficial.

Q3: Monitor

These are the stakeholders that will not help or hinder your efforts. Less effort is required for stakeholders in this quadrant.

Q4: Keep Informed

Listen to their needs and think about how you might increase their influence. Strategies to consider include: (1) collaborating to work towards common goals, (2) working in a complimentary manner to create change in various parts of the system; (3) working in the same part of the system to create considerable change at one leverage point. Examples include forming a cooperative or a union.



How leverage points inform intervention

To determine how you might intervene within a system, think about the following ways to engage in the system and what type of leverage point you are intervening at. The following framework for determining interventions is adapted from [Donella Meadows- Leverage Points: Places to Intervene in a System](#).

System Infrastructure

The change in physical leverage that is focused on changing the number of elements or connections in the system. Traditionally, this is where most interventions are focused, however, this is regarded as a little more than “tinkering with a broken system;”

- Adding constraints- Could a constraint alter the mixed bag leverage point in your favor?
- Increasing buffers- Could a buffer limit the extent to which a frozen part of the system continues?

Information Flows

The system can be stabilized or destabilized by altering information flows. Interventions at this level tend to focus on approaches to reduce delays and optimize the efficiency

- Modifying connections- Could you increase data sharing to alter or increase the accuracy of feedback?
- Altering communication systems- Are parts of the system frozen because people lack the information to think differently?
- Limiting influence of loops- How might the system resist the influence of balancing loops and strengthen positive (virtuous) reinforcing loops.

Organizing Principles

A social change in a system that alters its organizing principles: rules and goals. This will create a ripple effect, thus changing the physical and informational structures.

- Changing the rules of the system- Can you provide energy to the system by amending the laws and regulations that govern it? Potential incentives?
- Enhance the organization of the system- Could you build a network to support collaboration between systems actors, potentially breaking leverage points.
- Moving towards social goals- Can you shift the primary goal of the system from a purely economic goal to a social one?

Mindset Shift

Attitudinal leverage seeks to change the mindset out of which the systems arises. Change at this level requires one to challenge all assumptions about the way things are.

- Placing influential actors- Could you modify the beliefs that guide peoples behaviors by inserting new actors that hold different beliefs in positions of influence?
- Guiding change agents- Could you work with change agents to alter beliefs?