



Adaptive Evaluation A Technical Toolkit



What to expect?

This technical toolkit is designed to support adaptation, innovation, and scaling in complex systems. Whether you're diagnosing a difficult development problem, designing or piloting a solution, or scaling what works, it provides a structured way to integrate reflection and learning into action. With rigorous examples grounded in real work and a proven sequence of steps, the toolkit helps you navigate change and uncertainty with clarity and evidence.

What is the purpose?

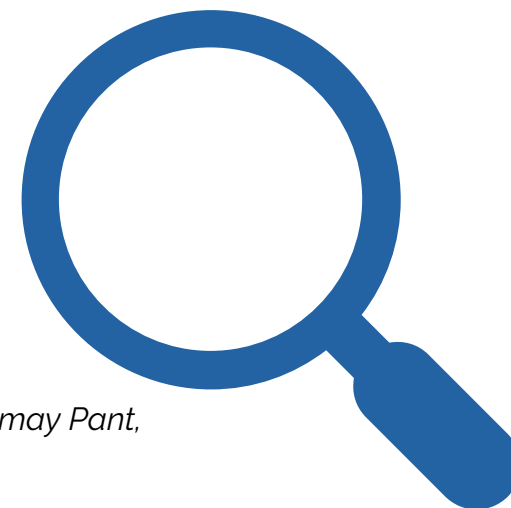
To help evaluators, researchers, and technical implementation teams within organizations strengthen their capacity to learn and adapt in complex, dynamic settings, especially when scaling impact

What is in the toolkit?

- An introduction to the principles and value of an Adaptive Evaluation
- A set of practical approaches that can be tailored to different contexts
- Guidance on when and how to use different tools

Citation: Gokhale, S. (2025). Adaptive Evaluation: A Technical Toolkit. Imago Global Grassroots

Acknowledgements: Special thanks to Michael Walton, Siddharth Yadav, Vivek Kaila, Navneet Bhatt, Atul Kumar, Chinmay Pant, Anishmita Barah, and Jossie Fahsbender for all the contributions to Adaptive Evaluation thinking and projects.



Why use this toolkit? What sets it apart?

- It **offers a simple and clear process to navigating change**—from systems diagnostics, to developing a theory of change, to testing it through process tracing, and prototyping areas for improvement
- It includes **not only what approaches to use but how to use them and when**
- Recommended **approaches are designed to handle complexity and adapt as evidence unfolds**—helping revise hypotheses and identify opportunities for experimentation
- It **brings structure to a highly nonlinear process without comprising rigor**
- It **enables participatory, empathetic engagement**
- It is **grounded not only in theory but in practical experience** of applying adaptive evaluation techniques **with 20+ organizations globally** across gender, health, education, and livelihoods sectors. All examples are inspired by, or adapted from, real development projects

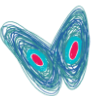


Table of Contents

Adaptive Evaluation

- [Motivation](#)
- [What is Adaptive Evaluation?](#)

Systems Approaches

- [System Actor Mapping](#)
- [System Dynamic Mapping](#)

Theory-Based Approaches

- [Process Tracing](#)

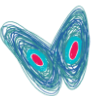
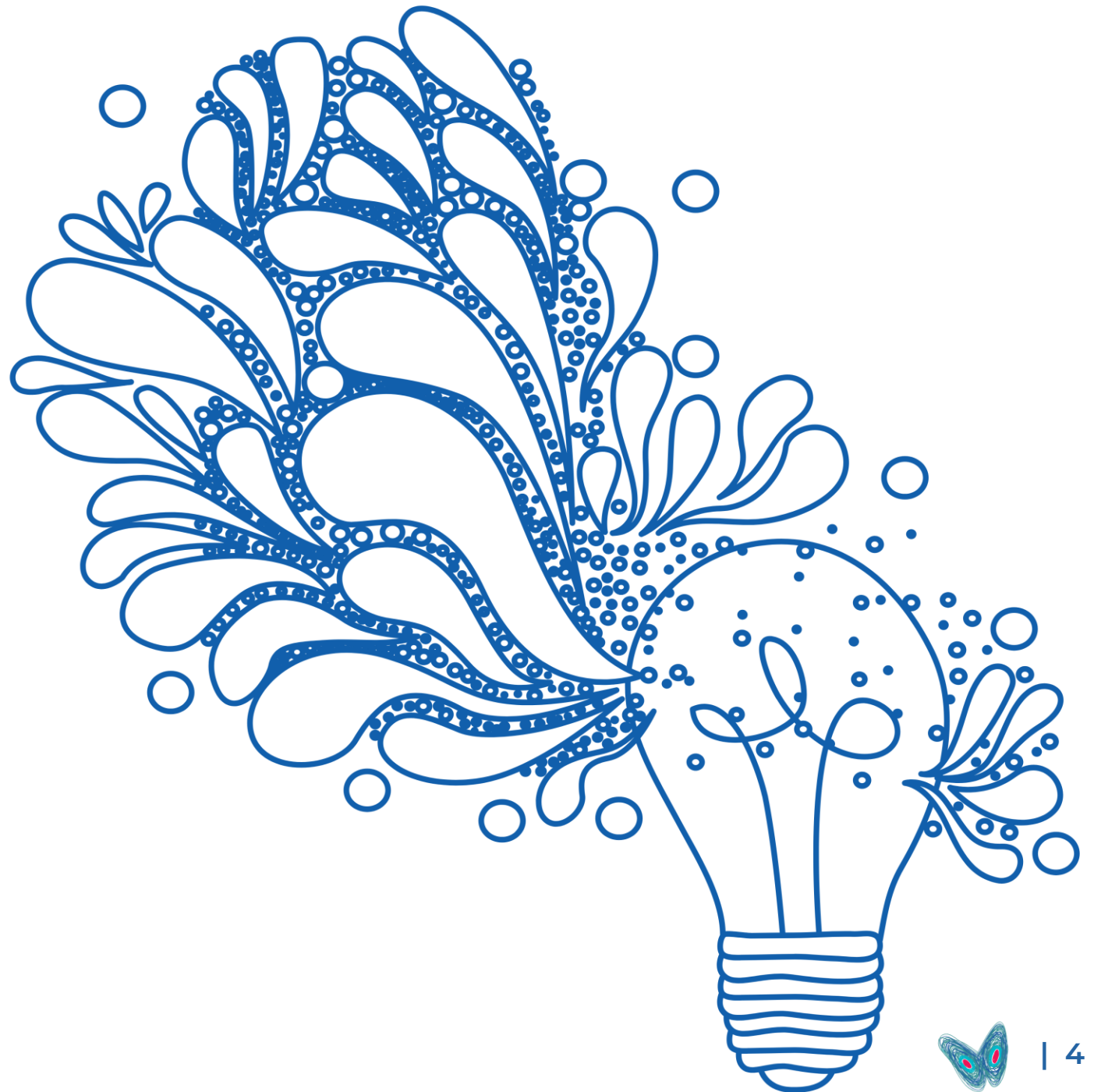
Iterative Approaches

- [Agile for Grassroots](#)

Adaptive Evaluations Tools

- [How to decide which tool?](#)

Resources



Motivation

An evaluation for organizations in innovation and scaling processes



Development isn't just the realization of positive outcomes for humanity—it's the **process of system change or transformation** that makes progress possible

Understanding **how** policies or interventions drive **change processes**—and through which mechanisms—is the real prize of an evaluation in development

Yet too often, existing evaluations (RCTs, quasi experiments) ask only if something works (statistical significance) and by how much (effect sizes)

Adaptive Evaluation reconstructs existing social science tools to guide actions that drive meaningful change, focusing on how change happens—not only what works

Innovation and **Scaling** are central **change processes** in development. **Adaptive Evaluation** is designed to support both.

Key Scaling Principles

Scaling is a journey

It often involves transformation within the system or of the system itself

Scaling takes place through stages with different requirements

Ideas → Innovation → pilots → intermediate scale → full scale

To scale, it's not enough to know **what works**—we must understand **how it works**

This process, recipe, blueprint, or generative mechanism is what can be taken to a new organization, entity, or region. The result alone is mute

Scaling must involve **people** closest to the experience of the problem

The poor are not 'mere spectators' but reservoirs of deep knowledge who need to be part of co-creating their own solutions for scale

Scaling happens in a **complex** environment

Behaviors, contexts, systems are constantly shifting and are different in new organizations, entities, or regions

Associated Adaptive Evaluation Principles

AE is a journey

It goes beyond a baseline-midline-endline and is a continuous process

AE uses a **variety of tools** depending on the stage of scaling up

This includes systems-based, theory-based, and iterative approaches, with qualitative and quantitative evidence informing one another

AE focuses on techniques to measure not only **what works** but also **how it works**

This can include RCT's/quasi-experiments (what works), but also includes process tracing, positive deviance (how it works and where).

AE is **participatory** with close links to intervention teams

Implementation and evaluation teams co-create questions of inquiry and hypotheses with beneficiaries and work as one collective unit

AE emphasizes **learning over testing**

Testing is a one-time activity. Learning involves repeated testing, and incorporating lessons from test into design and implementation



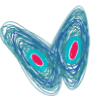
Why “Adaptive Evaluation”?

Organizations in innovation and scaling processes face:

- Shifting contexts, behaviors, and systems in which to navigate change
- A search & discovery process for what works and how
- Interventions that work in one entity, region, or context but not in another with the same fidelity
- Challenges in aligning interventions with political support & administrative feasibility
- Difficulties in continually capturing and applying learnings to inform decisions
- Difficulties in retaining organization values and culture as they scale

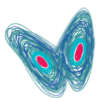
Adaptive Evaluation helps:

- Make sense and meaning of what is happening– at the level of the system, organization and people
- Notice what's emerging—beyond measuring pre-set indicators
- Examine and document processes and action, including what's working (or not), through which mechanisms, and for whom—while things are still in motion
- Engage teams, partners, stakeholders in reflection & learning from experiments and prototypes
- Inform decisions across the scaling journey and deploy appropriate tools



Why “Adaptive”?

- Development involves engaging with complex **adaptive** systems that are non-linear
- It emphasizes **continuous learning** and **iterative adaptation** to the end user's changing needs and contextual realities
- The evaluation itself is **adaptive**—methods and techniques used are intended to adapt to the nature of change and complexity of the system



What is Adaptive Evaluation (AE)?

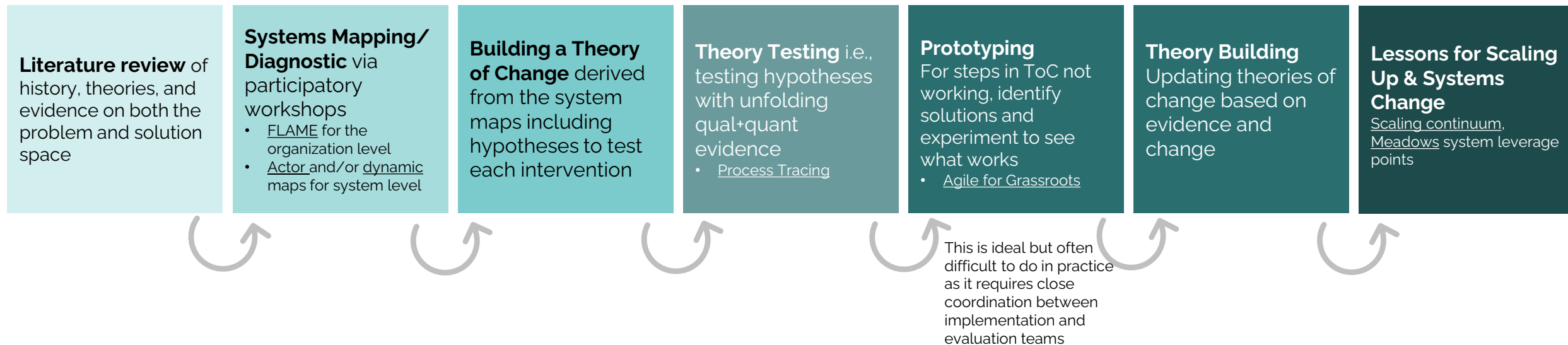
A set of tools and a process for systematic learning to support innovation and scaling change processes in complex systems

It builds on the theoretical foundations of **complexity and systems thinking**



The Adaptive Evaluation **Process** in **Practice**

Depending on the context and stage of scaling, an Adaptive Evaluation may follow some or all of these steps— in one or more iterations and with varying intensities for certain steps. At its core, however, any AE process must at least involve moving from a systems diagnostic to building and testing a theory of change, using a mix of tools and approaches.



For Innovation & Scaling
Rinse and Repeat all steps



Approaches in the AE process

Understanding change may involve testing the statistical effect of an intervention—RCTs or quasi-experimental designs are well suited and may be used for this purpose in an AE—but this is only a small part of how change occurs. Real change crucially depends on how the intervention interacts with its complex environment which requires additional methods and a broader, adaptive approach that integrates qualitative and quantitative evidence.

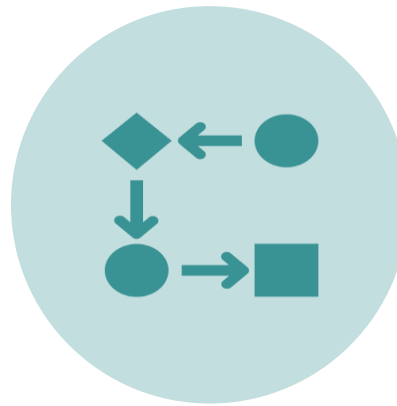
Systems-Based Approaches



How does the system function?
What is reproducing the problem? Do we need to change the system or work within the existing system?

System Actor and Dynamic Mapping

Theory-Based Approaches



What is the Theory of Change?
How does it work? Which parts work and through what mechanisms? For whom does it work?

Process Tracing

Iterative Approaches



How can the intervention design be made more responsive and improve over time as the system and context shifts?

Agile for Grassroots



The following sections delve into the **3 approaches** typically used in the **Adaptive Evaluation Process**

System Based Approaches

Actor Mapping
Dynamics Mapping



[Return to Table of Contents](#)

5 Essential Questions are crucial to designing any system mapping exercise—they inform the type of mapping, the system boundaries, and the nature of inquiry in participatory workshops



1. What is the primary purpose of system mapping?

The purpose should match your learning needs and stage in the scaling journey

To diagnose **why** a **problem is persisting**

To **understand the role of the intervention in the overall system** and where it resides

To understand the **blockages or leverage points of a specific intervention**

To clarify and **improve the model of an intervention**

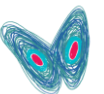
To develop non-linear **theories of (system) change**

To understand the **chosen path for scaling** or **discover new paths**

To understand **how a portfolio of interventions can help a common goal**

To **develop strategies** to build coalition for change or fundraising

To train **others to use systems tools**



2. What is your development goal and vision?

This helps shape the mapping to be most useful to primary goals of your organization.

3. What is the key problem to address? What are the key outcomes of interest? Who are the key users/beneficiaries?

The key outcome of interest is the starting point of a systems dynamic analysis, and the key users/ beneficiaries are the starting point of systems actor mapping.

4. What are the boundaries of the system for mapping?

This defines the mapping's scope and is partly shaped by earlier questions—purpose, goals, vision, problem, key outcomes, and beneficiaries.

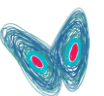


Practical Observation/Tip

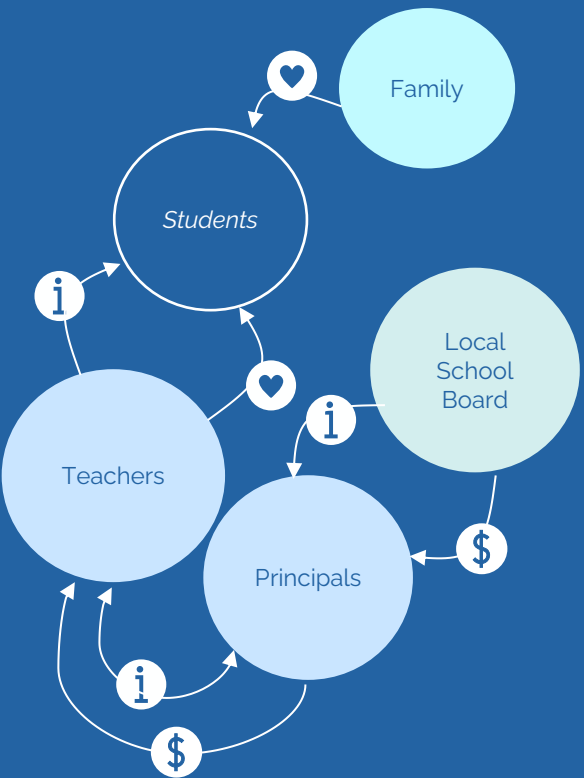
This is a key question for system diagnosis. Boundaries may be geographic, sectoral, or thematic, but must align with the purpose of the mapping—e.g., scaling or systems change requires broader boundaries than mapping a focused intervention.

5. What level of detail is needed in the mapping?

The level of detail determines the map's complexity and should align with its purpose. For example, if the goal of the mapping is to refine an intervention, detail actors and dynamics most relevant to the intervention. Conversely, if the goal of the mapping is scaling, it may be useful to include a broader range of actors that would unlock scale, such as, government departments, community groups, or private sector entities.



AE involves two types of system mapping. These are two prisms of examining the same complex system, and often complement one another

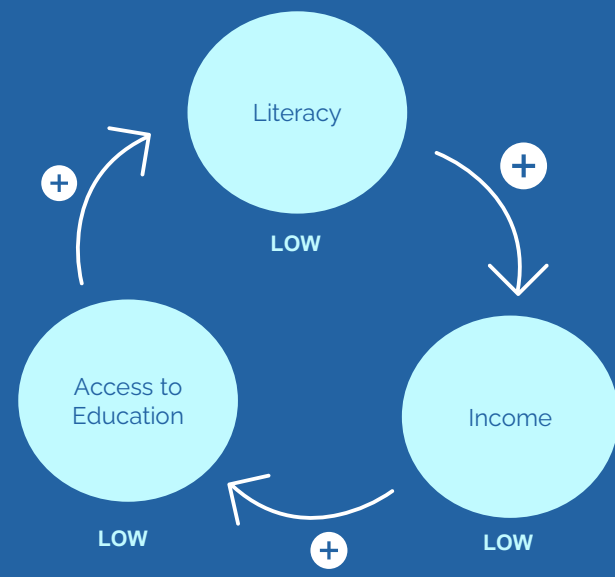


System Actor Mapping

A system actor map illustrates the **structure** of the system, highlights the **key actors & entities** relevant to the problem, maps their **inter-relationships**, and identifies the main **blockages**

System Dynamic Mapping

The system dynamic map structures the system into a set of **non-linear interconnections** between key variables, showing how **feedback loops** and multiple interactions **sustain or mitigate** the problem



Both can be used to develop an initial **Theory of Change**

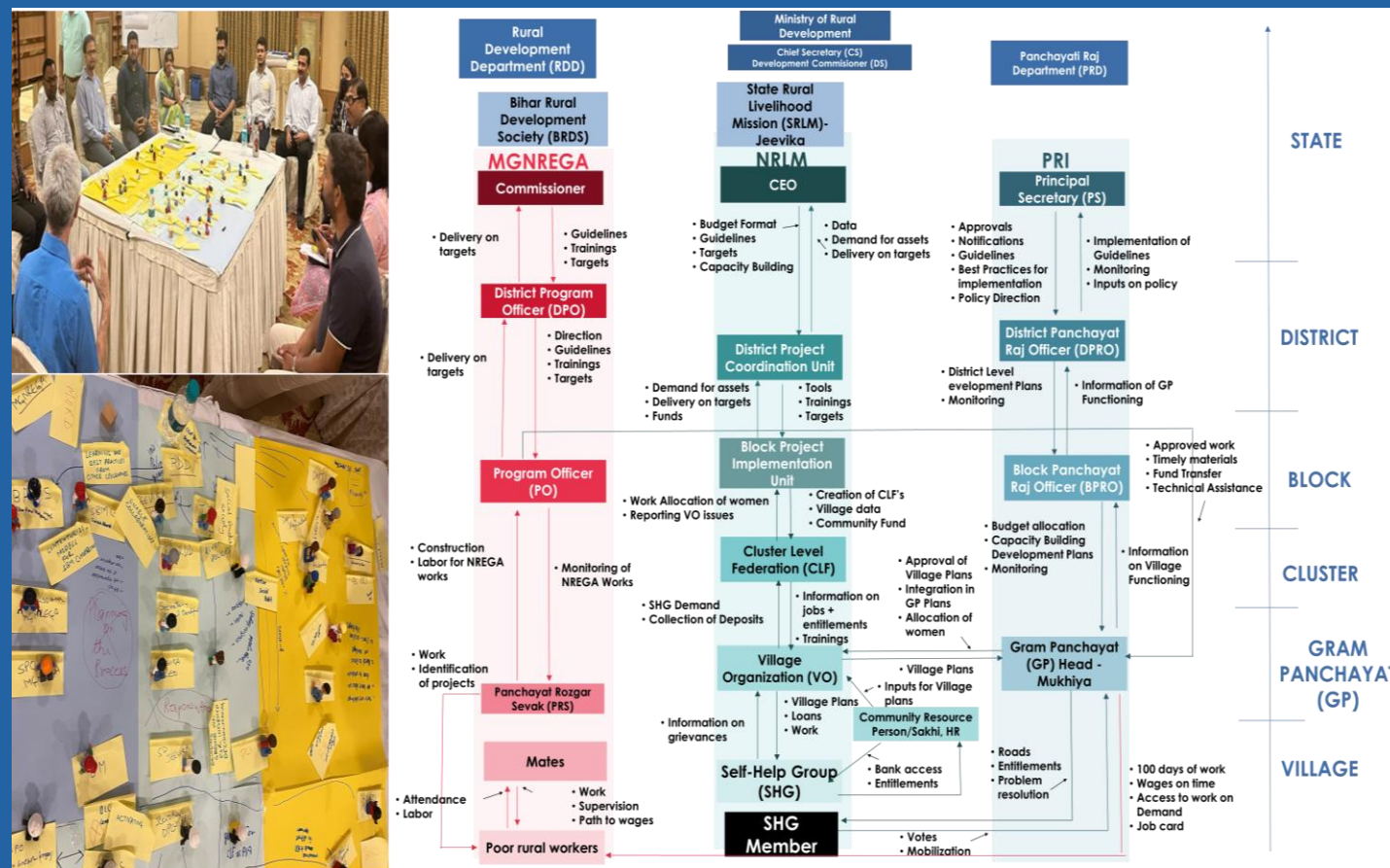
Actor Mapping

How to do Actor Mapping? This is best done through a participatory workshop, preferably in-person. Actors from different levels of the system identify key stakeholders and discuss how they are connected. The group then reflects on blockages and levers for change. Insights are captured using figurines, post-its, and markers, and later digitized for further analysis.

Applications

- Understanding how a complex system truly functions in practice
- Identifying enablers and resistors to a change or intervention
- Identifying actor and intuitional level blockages and leverage points
- Discovering pathways to scale an intervention's impact
- Incorporating system thinking in an organizations approach
- Building coalitions for change
- Building strategies for fundraising

Participatory design thinking can help develop a map of relationships of actors within a system—an example from an Adaptive Evaluation of a women's empowerment government program in Bihar



Source: [Enhancing Women's Empowerment Within India's Complex Rural Development System](#)
Based on Imago Global grassroots' work with the Gates Foundation in Madhya Pradesh



How to decide when to use Actor Mapping?

The key is to carefully consider the pros and cons relative to the purpose, context, and scope of the mapping

Pros

- Gives a visual of relevant structure of the system
- Gives a rich picture of interrelationships between actors in the system – including tensions dependencies, power dynamics and mindsets
- Allows identification of blockages and resistors of change
- Allows identification of levers and enablers for change
- It is inherently participatory and fun/insightful
- Can help identify pathways to scale
- Can be a first step in building a ToC
- Helps identify key actors to interview for different steps in a ToC (circular system interviews)
- Lends itself well to a roleplay of key actors in a specific blockage in the workshop setting

Cons

- Doesn't help identify intermediate and final outcomes and analytical/data requirements of a Theory of Change
- Workshop maps may be messy, and time is taken in digitizing maps
- Maps need updating and review
- Quality of mapping is dependent on the participation of a variety of actors from different parts of the system

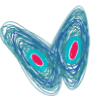
4 Steps for System Actor Mapping

Step 1 Identify the main user/end beneficiary at the center

Step 2 Introduce other key stakeholders one at a time, and solicit key reciprocal obligations with existing actors & entities to complete the map

Step 3 Pause the mapping, step back to look at the whole map, and then reflect in the group on blockages & levers

Step 4 (Optional) If there is an intervention focus, this can lead to an initial theory of change



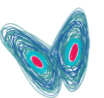
A Short Illustrative Example

Problem: Learning deficits in reading and math due to COVID-19 in Brazil

Existing Intervention Strategy:
Teaching at the Right Level
(developed by Pratham)

Source: [How Recife responded to the challenge of learning deficits in the post-COVID era: An adaptive evaluation of a complex intervention](#), Bellato et al, 2025

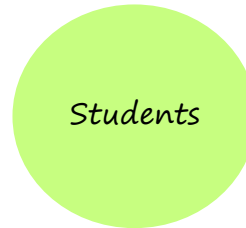
Based on Imago Global Grassroots' work with CAED and the Recife Department of Education in Brazil



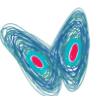
Step 1 Identify the main user/end beneficiary at the center

- Start with the user in the center as in human-centered design
- The main user should be relevant to the purpose, goals & vision of the organization and the key problem
- While facilitating, it's often useful to give the person a name, e.g., Maria, to humanize them

A circle, or **node**, represents an actor, entity or intuition



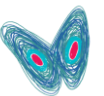
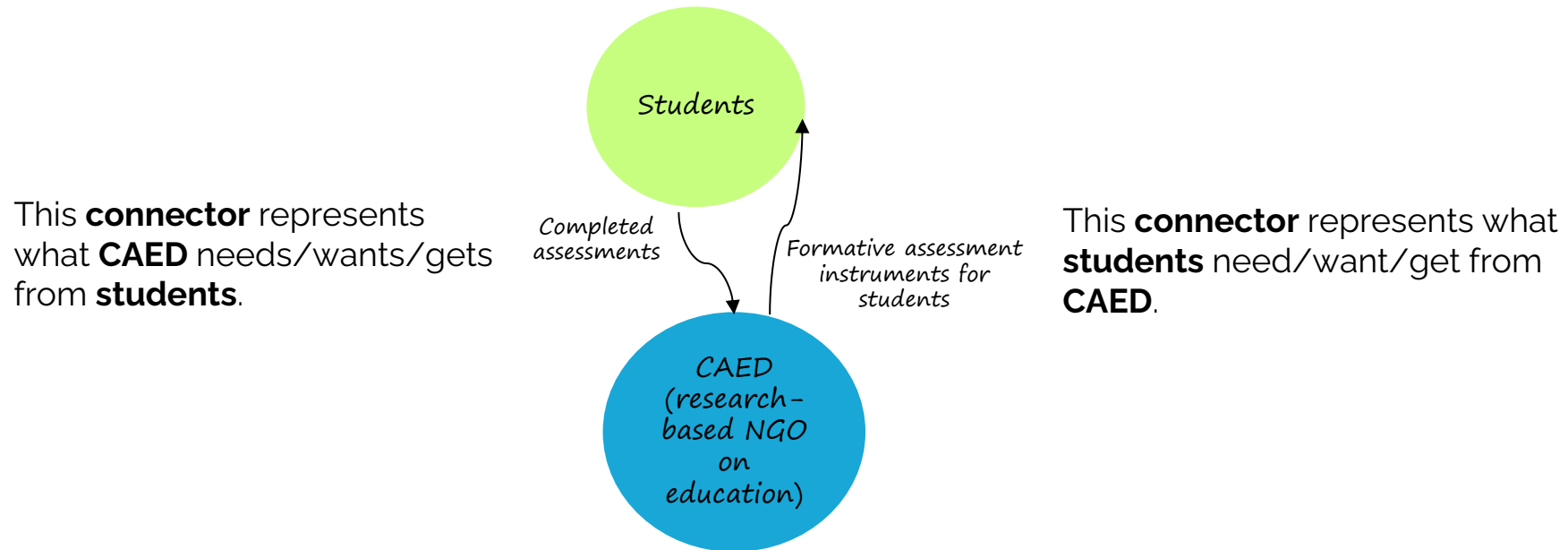
Observation/Tip:
For in-person applications, one can use figurines or legos, as the node.



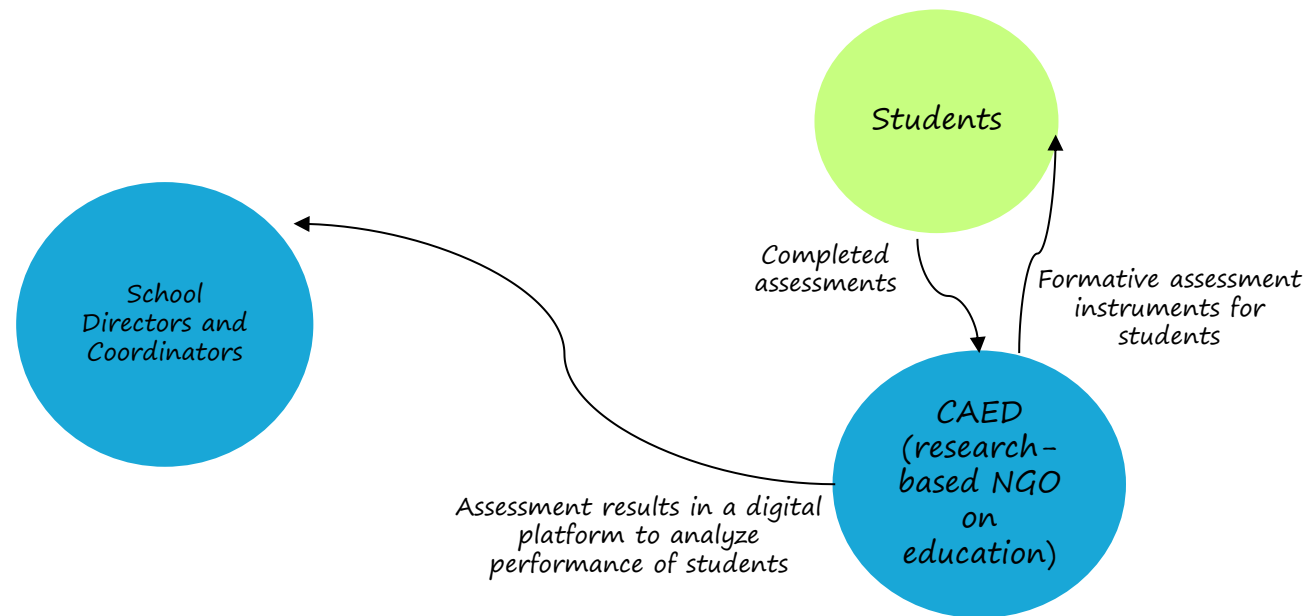
Step 2 Introduce other key stakeholders one at a time, and solicit key reciprocal obligations with existing actors & entities to complete the map

We typically ask the following questions to facilitate discussion and participation

- What does Maria need/want/get from the stakeholder (e.g. CAED)?
- What does the stakeholder (e.g. CEAD) need/want/get from Maria?



Step 2 Introduce other key stakeholders one at a time, and solicit key reciprocal obligations with existing actors & entities to complete the map

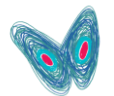
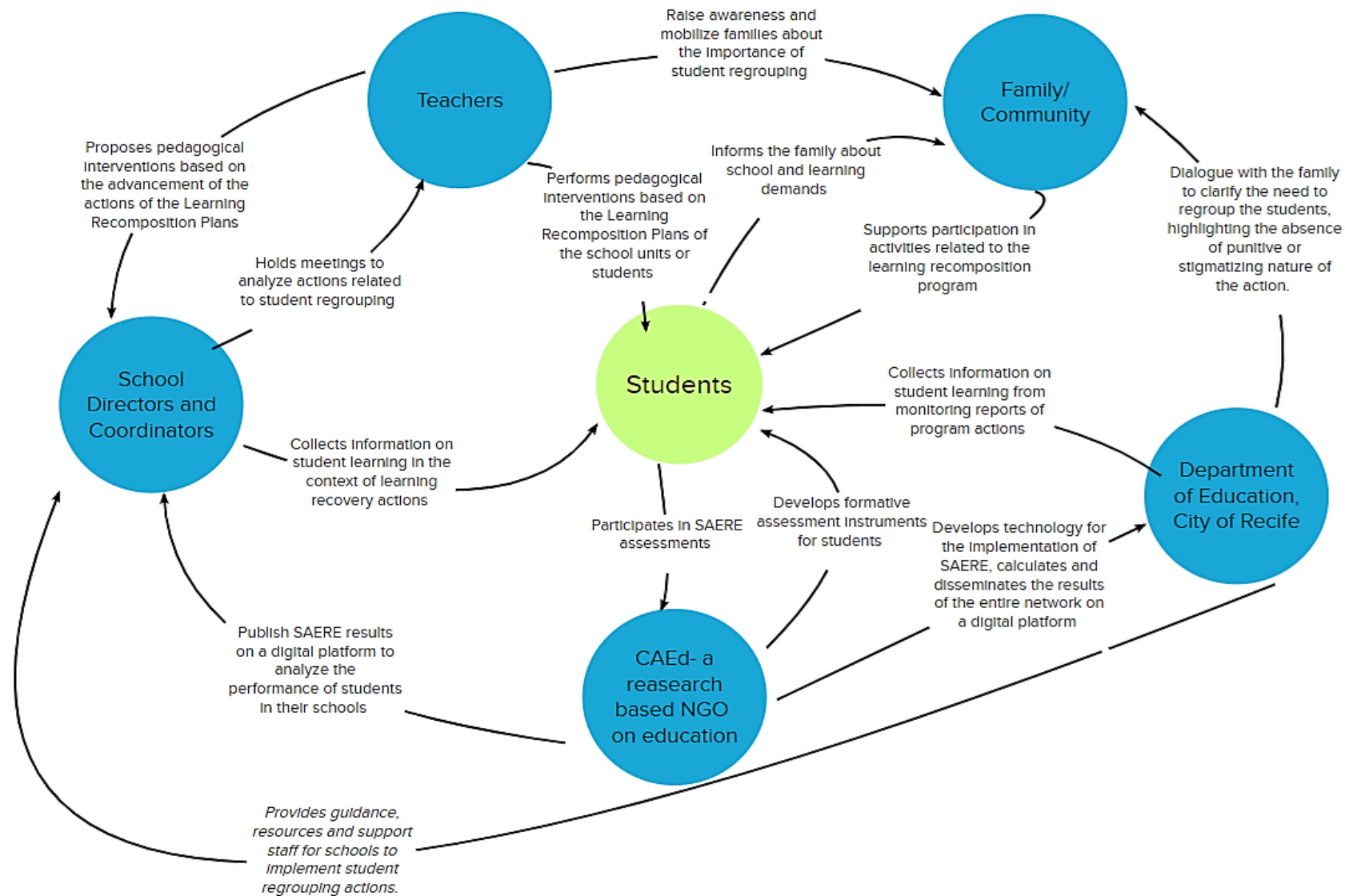


Observation/Tip:

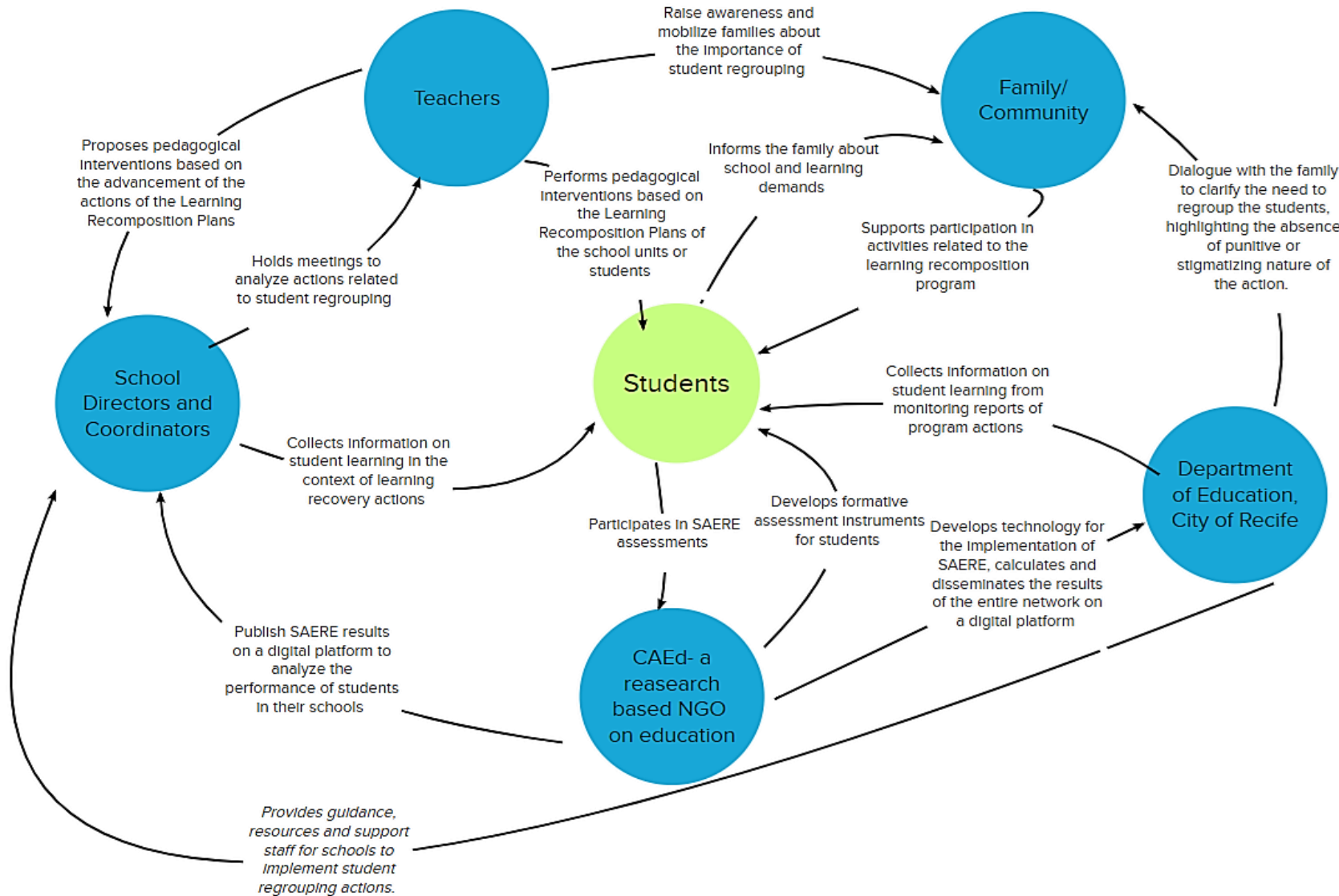
Use node colors to show key differences—such as actor type, sector, or role. Here, colors distinguish the central actor from end beneficiaries.



Step 2 Introduce other key stakeholders one at a time, and solicit key reciprocal obligations with existing actors & entities to complete the map



Step 3 Pause the mapping, step back to look at the whole map, and then reflect in the group on blockages & levers

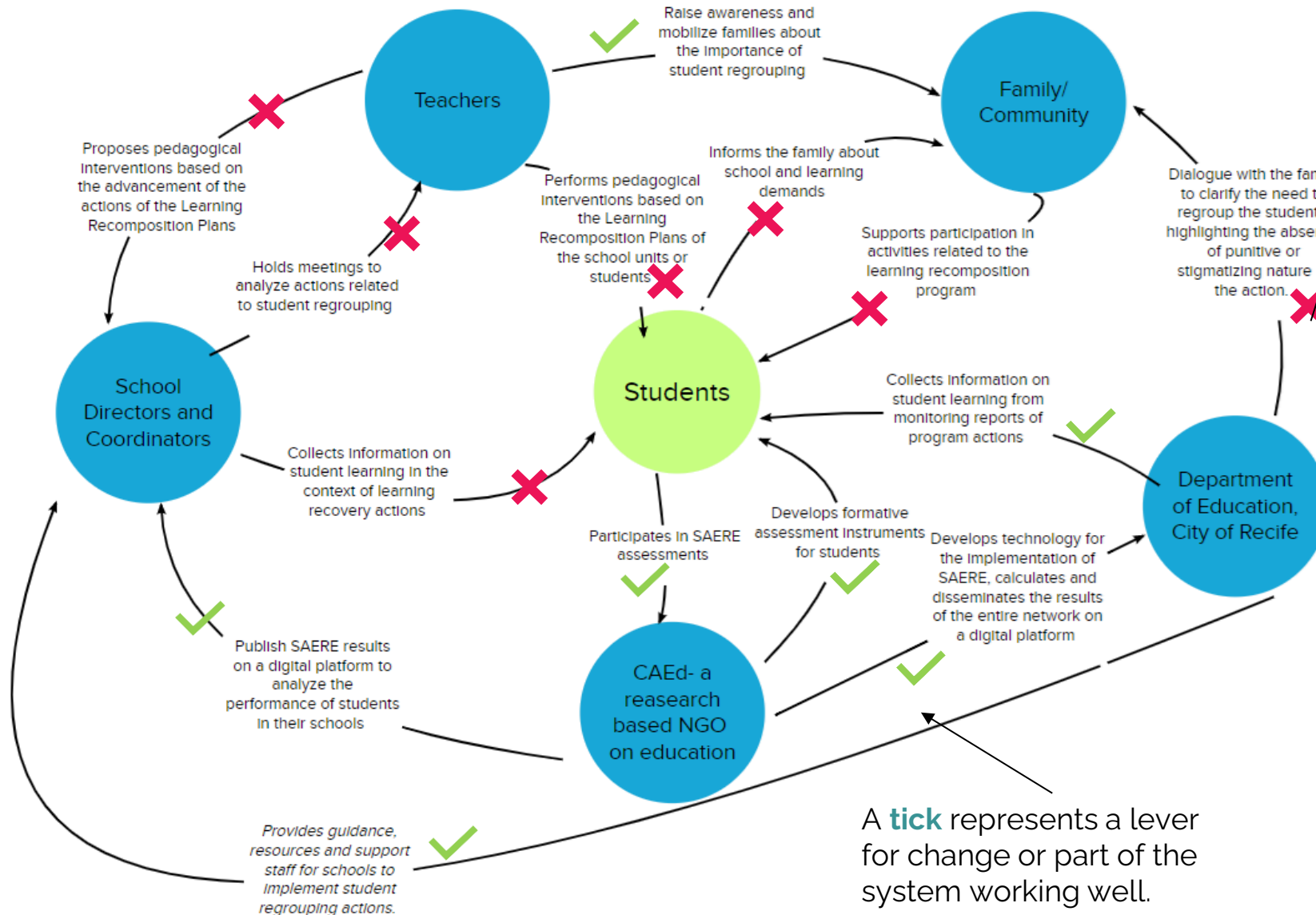


The questions should be tailored to the purpose but in general **initial questions include:**

- What patterns in the system do you see?
- What are you surprised by?
- What is missing?



Step 3 Pause the mapping, step back to look at the whole map, and then reflect in the group on blockages & levers



A **cross** represents a blockage or part of the system not working.

A central reflective activity is around blockages and levers for change, and enablers and resisters to change. Questions to ask include:

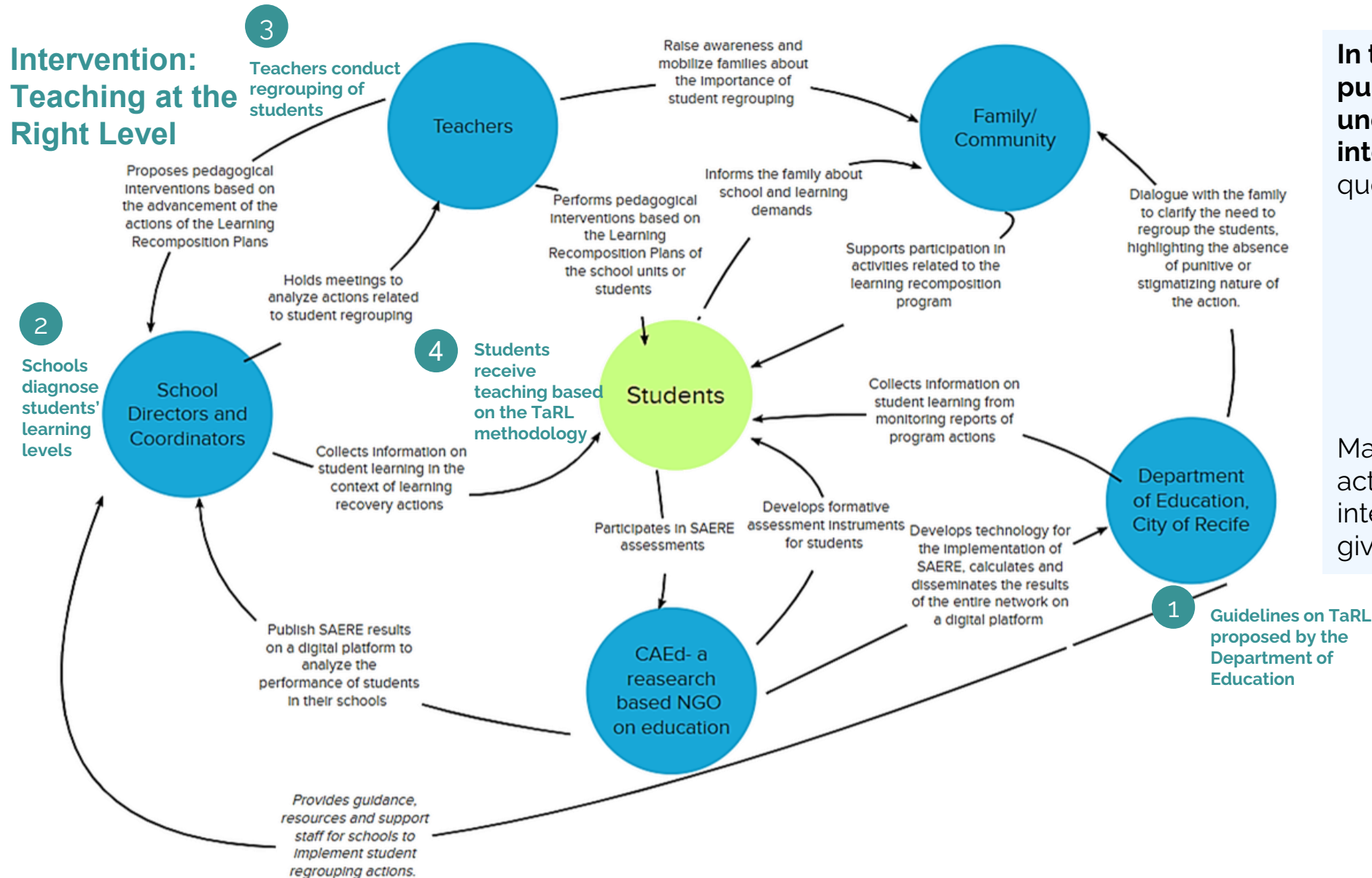
- What are some blockages (parts not working) in the system, and who are resisters to change?
- What are some levers for change (part working well that can be leveraged) in the system, and who are enablers of change?

Note each of these should be centered around the purpose

A **tick** represents a lever for change or part of the system working well.



Step 4 (Optional) If there is an intervention focus, this can lead to an initial theory of change



In this particular example, the purpose was actually to understand and improve an intervention. Some general questions to ask include:

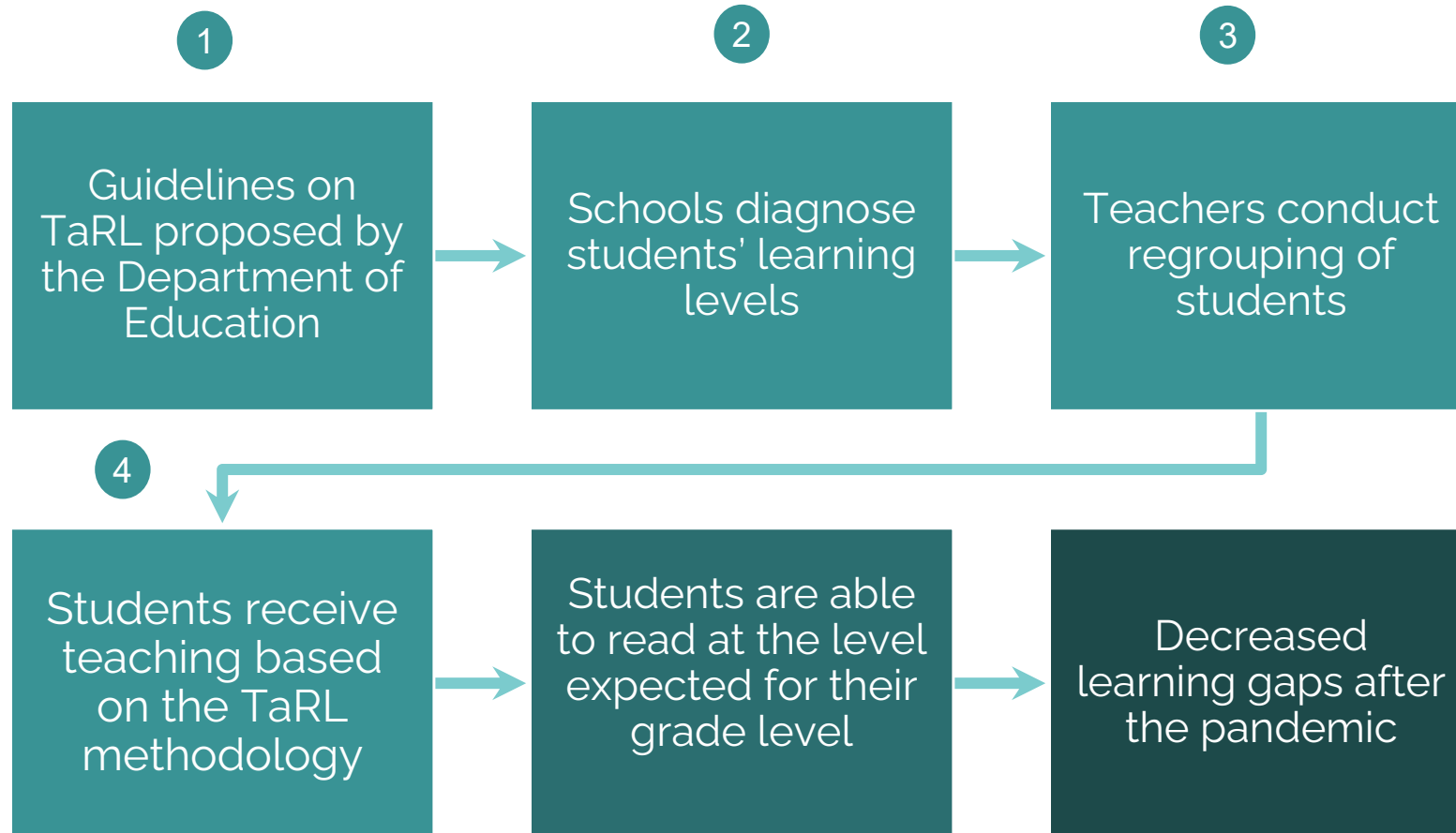
- How does the intervention interact with the system?
- What are the intervention's touchpoints and order of interactions to ultimately benefit students?

Mapping the exact order of actions required to conduct the intervention onto the map can give an initial theory of change



Step 4 (Optional) If there an intervention focus, this can lead to an initial theory of change

Intervention: Teaching at the Right Level



This Theory change comes from the order of steps of the Teaching at the Right Level Intervention the system map in the last slide.

It shows how different actors are involved in the teaching at the right level intervention



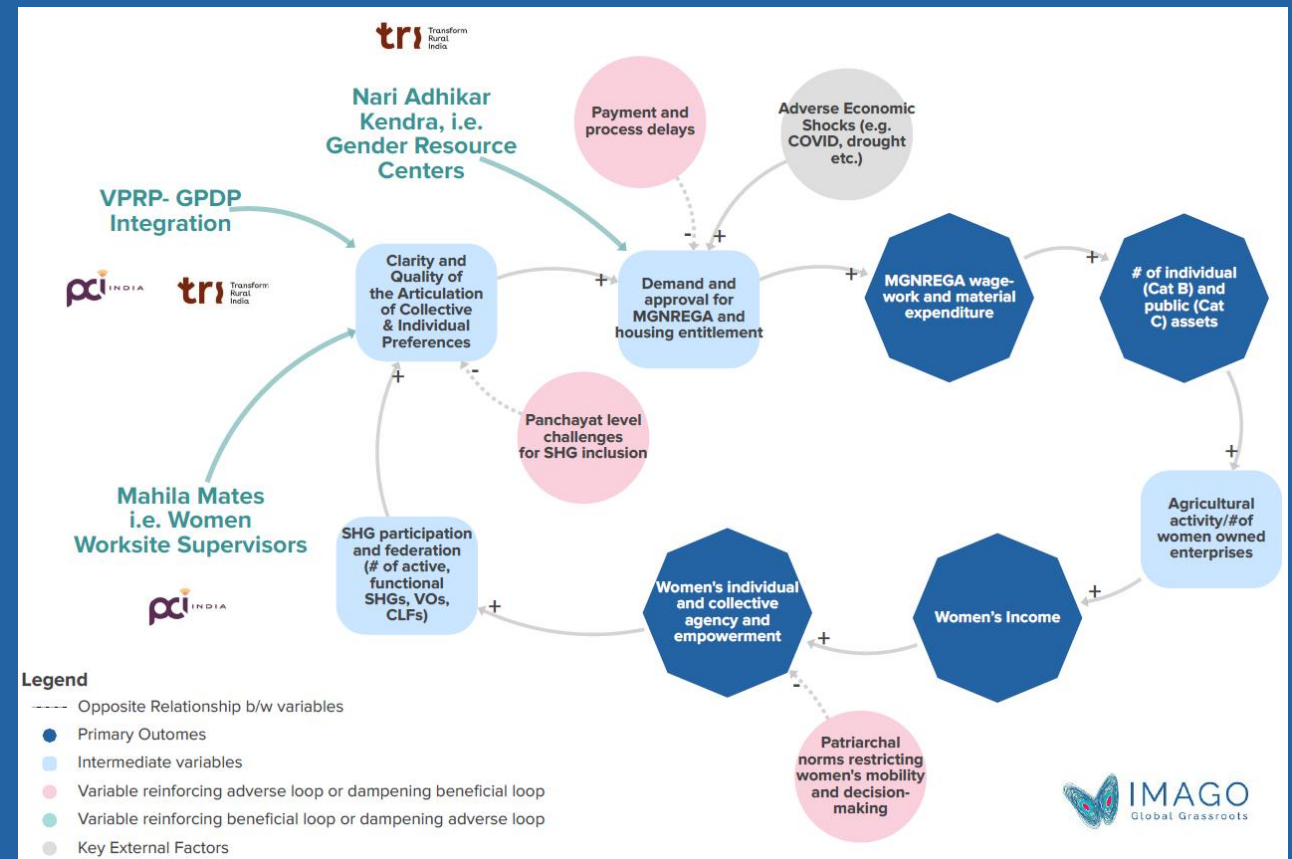
Dynamics Mapping

How to do Dynamic Mapping? This involves listing key outcome variables and intermediate variables associated with the problem, mapping inter-relationships between variables, uncovering feedback loops, and understanding how interventions influence those loops.

Applications

- Diagnose the problem, especially the adverse feedback loops that are perpetuating or sustaining the problem
- Understand how an intervention influences certain feedback loops and thus shifts the system
- Develop clear non-linear theories of (system) change
- Understand how a portfolio of interventions can help a common goal

A systems dynamics map illustrating how participatory village planning shapes government programs, enhancing entitlements and asset creation for rural women's economic activity—drawn from an Adaptive Evaluation of a women's empowerment initiative in Madhya Pradesh and Bihar, India.



Source: Enhancing Women's Empowerment Within India's Complex Rural Development System
Based on Imago Global grassroots' work with the Gates Foundation in Madhya Pradesh



Return to Table of Contents

How to decide when to use Dynamic Mapping?

The key is to carefully consider the pros and cons relative to the purpose, context, and scope for the mapping

Pros

- Gives a rich picture of key variables and how they are related
- Helps easily identify amplifying/stabilizing feedback loops explaining why root causes of the problem are so persistent in the system
- Naturally leads a simple analytic theory of change in terms of key variables
- Useful to analyze a portfolio of interventions, as opposed to single intervention

Cons

- More theoretical, less practical
- Doesn't identify tensions/dependencies between actors
- Not the best tool to find actors who are resistors/enablers to change
- The ToC produced misses important information on entities and their activities, these need to be fleshed out later
- May not be as participatory and requires some analytical experience (although it is learnable)
- Can be overwhelming to implementers and needs frequent socialization

6 Steps for System Dynamic Mapping

Step 1 Identify key outcomes and their indicative levels

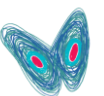
Step 2 Identify key variables for factors influencing these outcomes and their levels

Step 3 Map any known feedback loops, and develop new ones to explain root causes

Step 4 Map relationships between remaining variables

Step 5 Layer interventions to the immediate variable they affect to derive a high level Theory of Change

Step 6 Consider the leverage points the intervention affects



A Short Illustrative Example

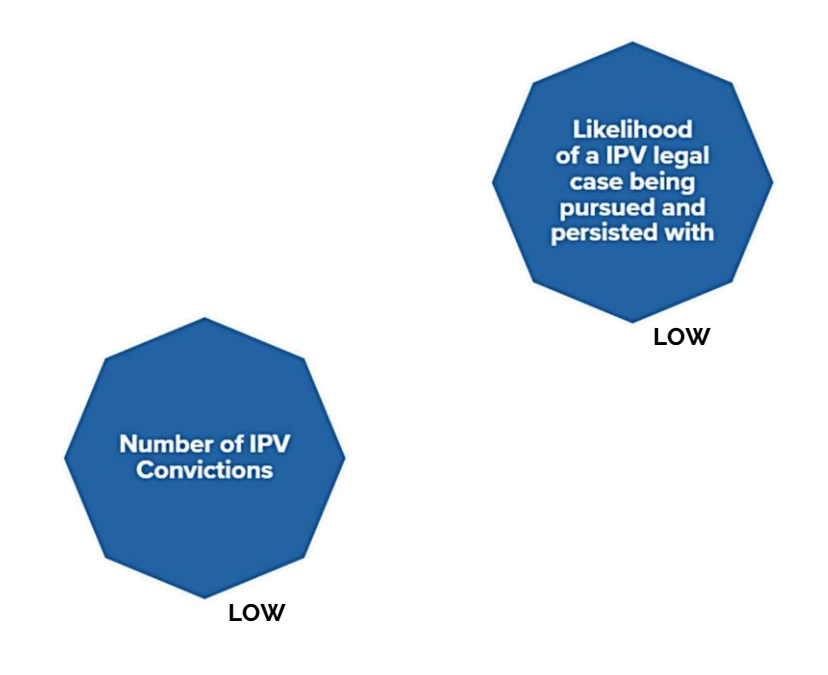
Problem: Intimate Partner Violence (IPV) in Tunisia

Existing Intervention Strategy:
A portfolio of siloed interventions for justice, security, women empowerment

Source: [Scaling Up Development Impact](#), Guerrero, et al., 2023
Based on Imago Global Grassroots' work with a multilateral organization

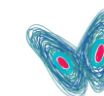
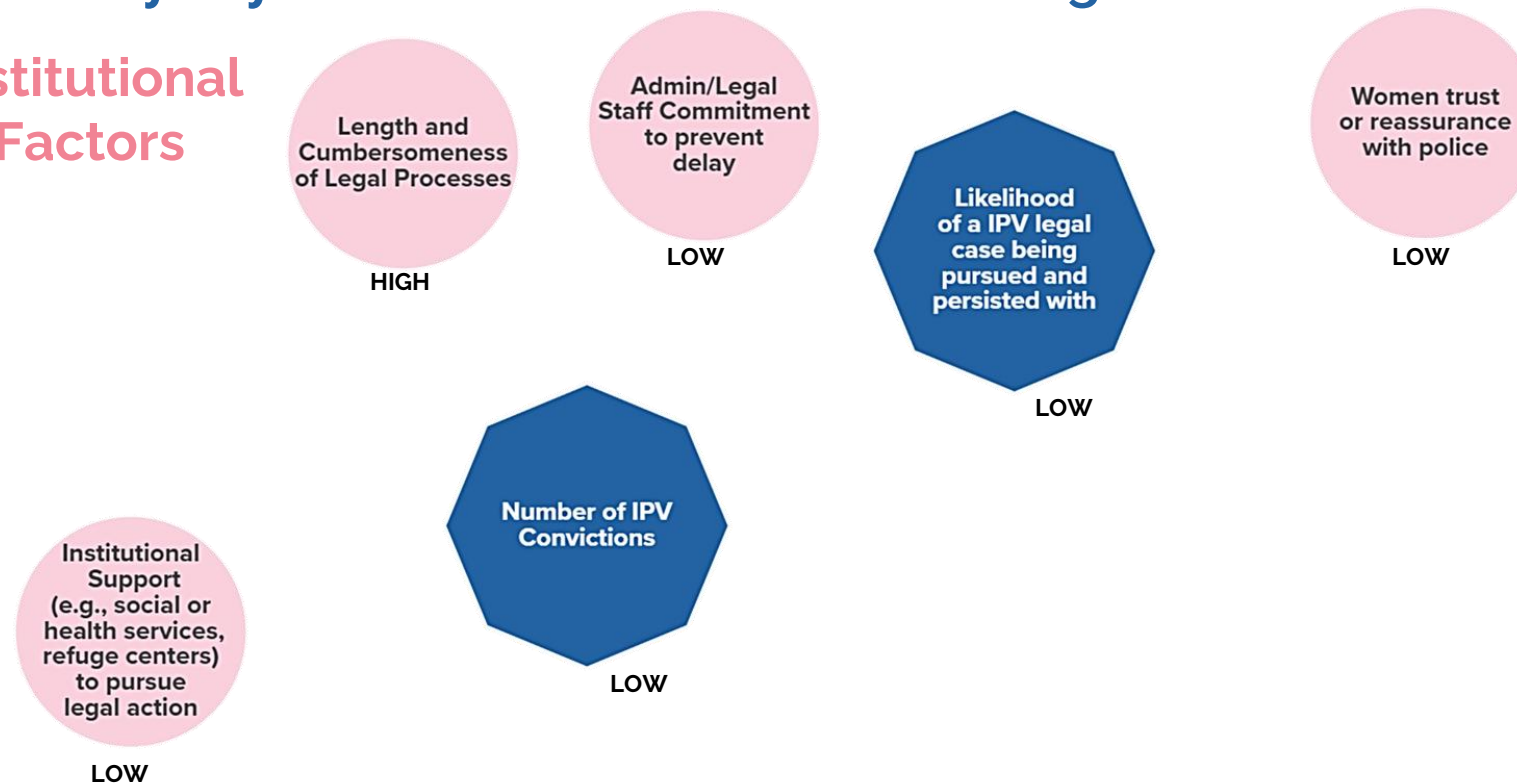


Step 1 Identify key outcomes and their indicative levels



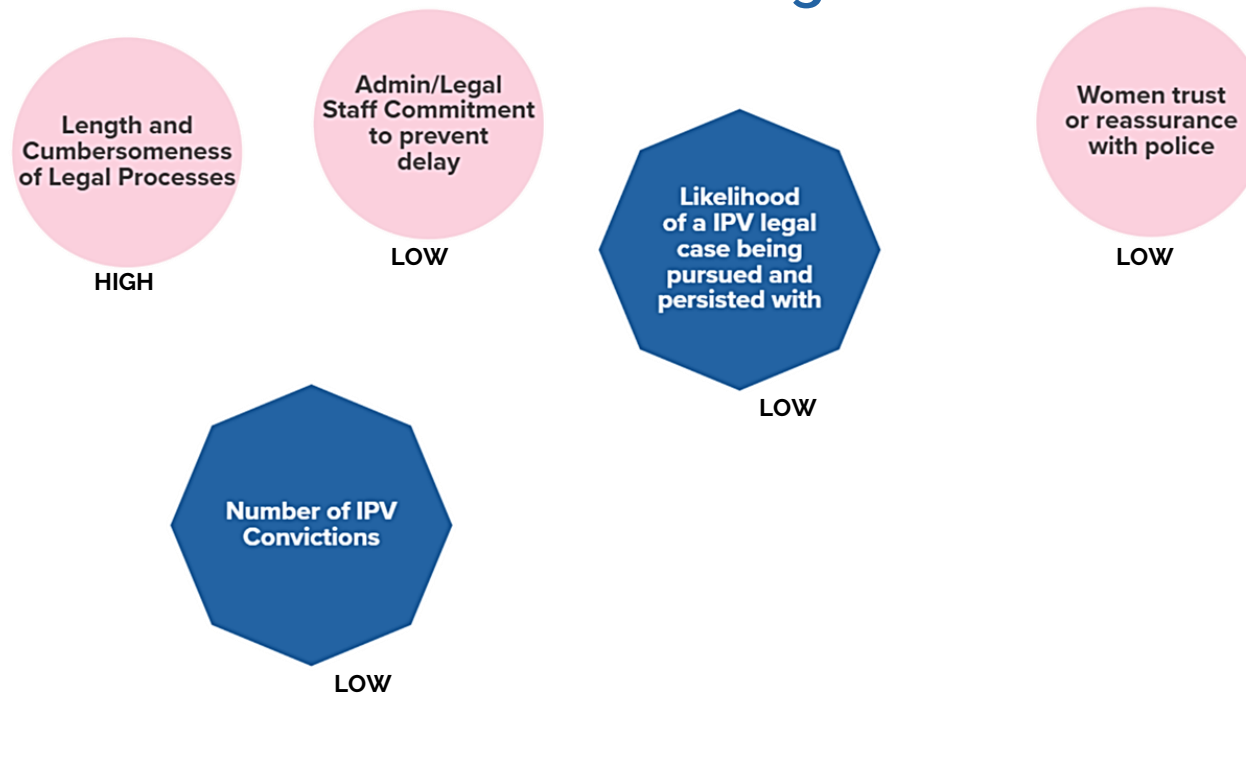
Step 2 Identify key variables for factors influencing these outcomes and their levels

Institutional Factors



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Institutional Factors

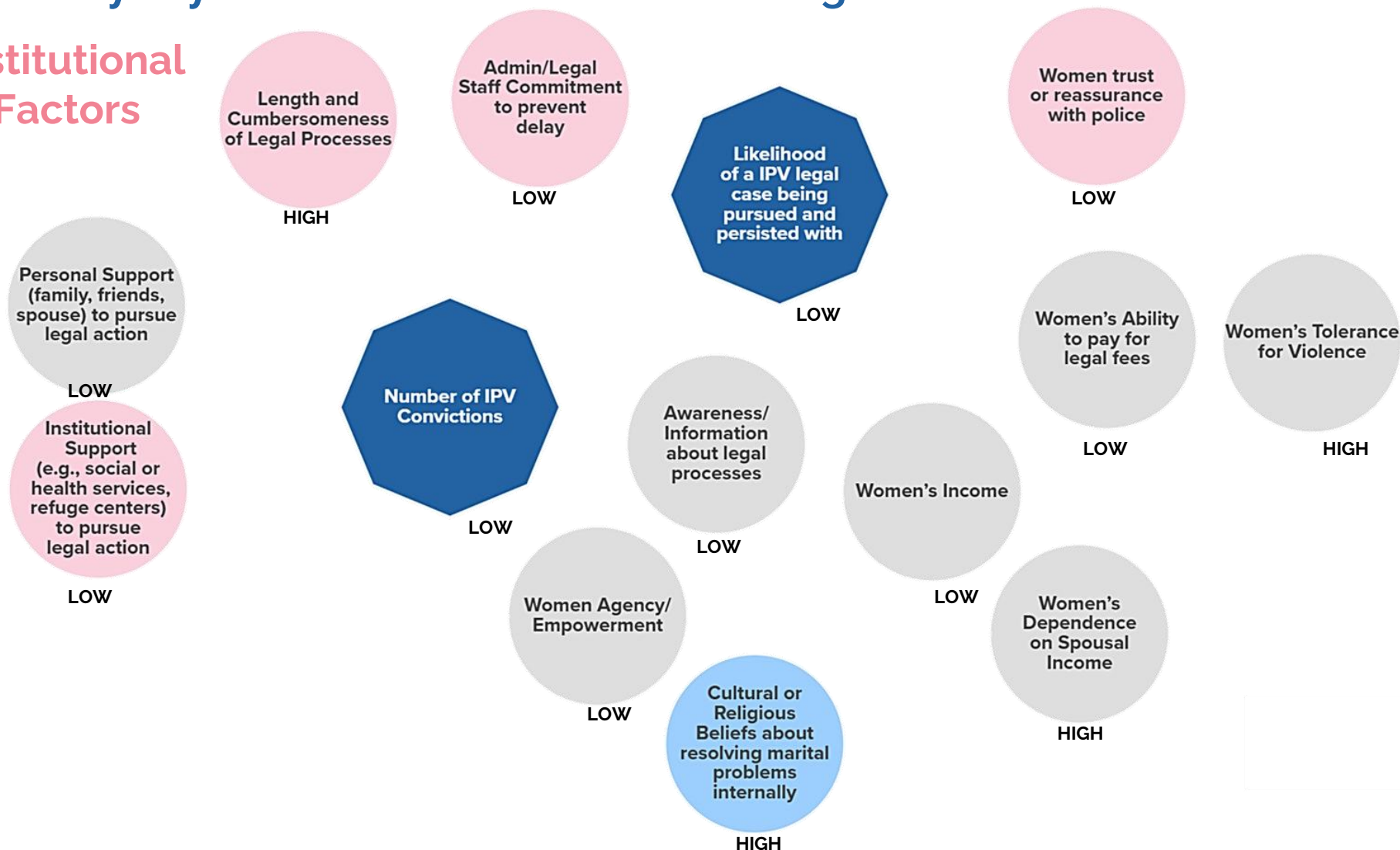


Societal Factors

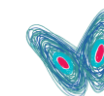


Step 2 Identify key variables for factors influencing these outcomes and their levels

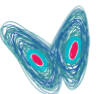
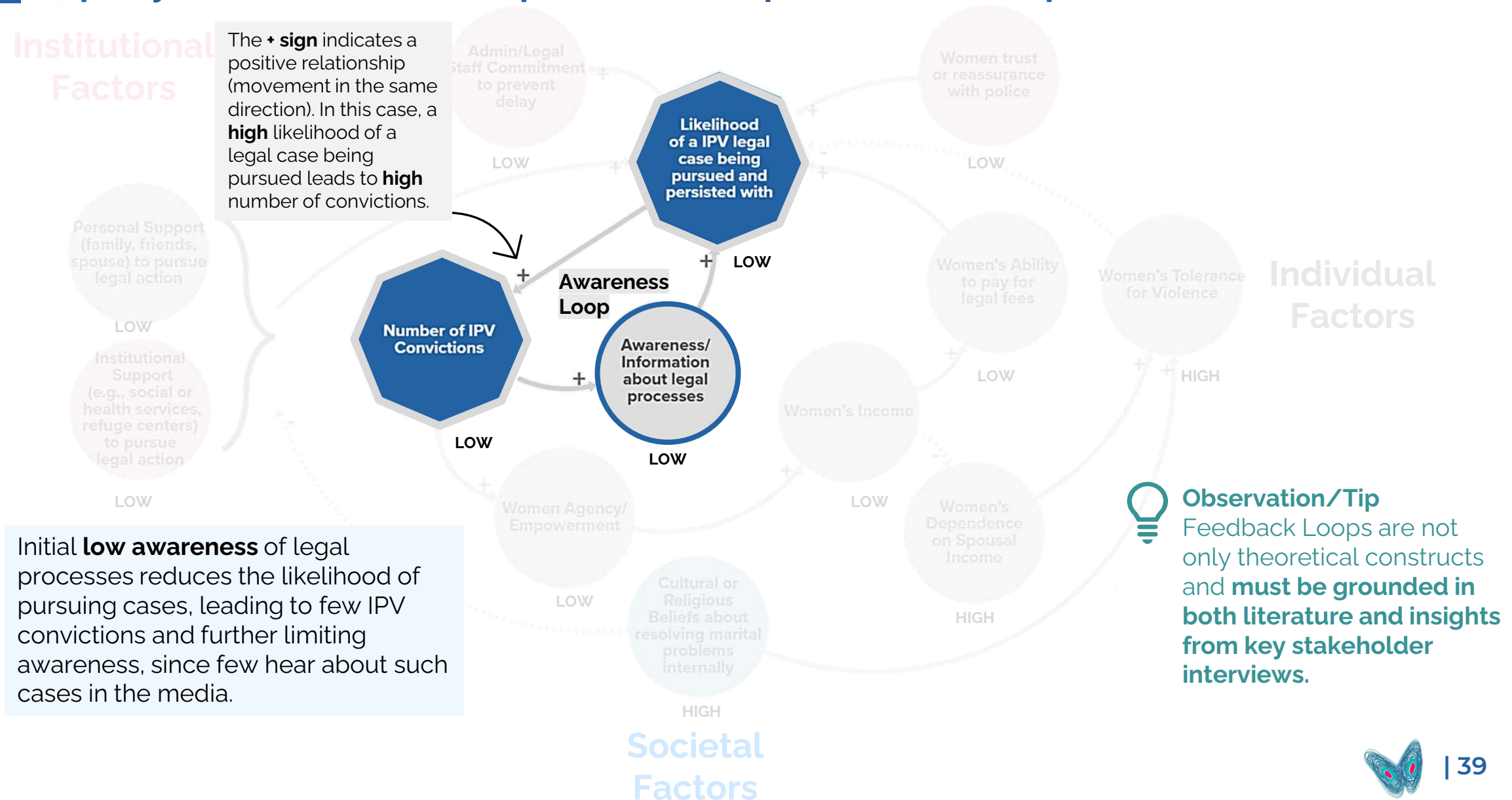
Institutional Factors



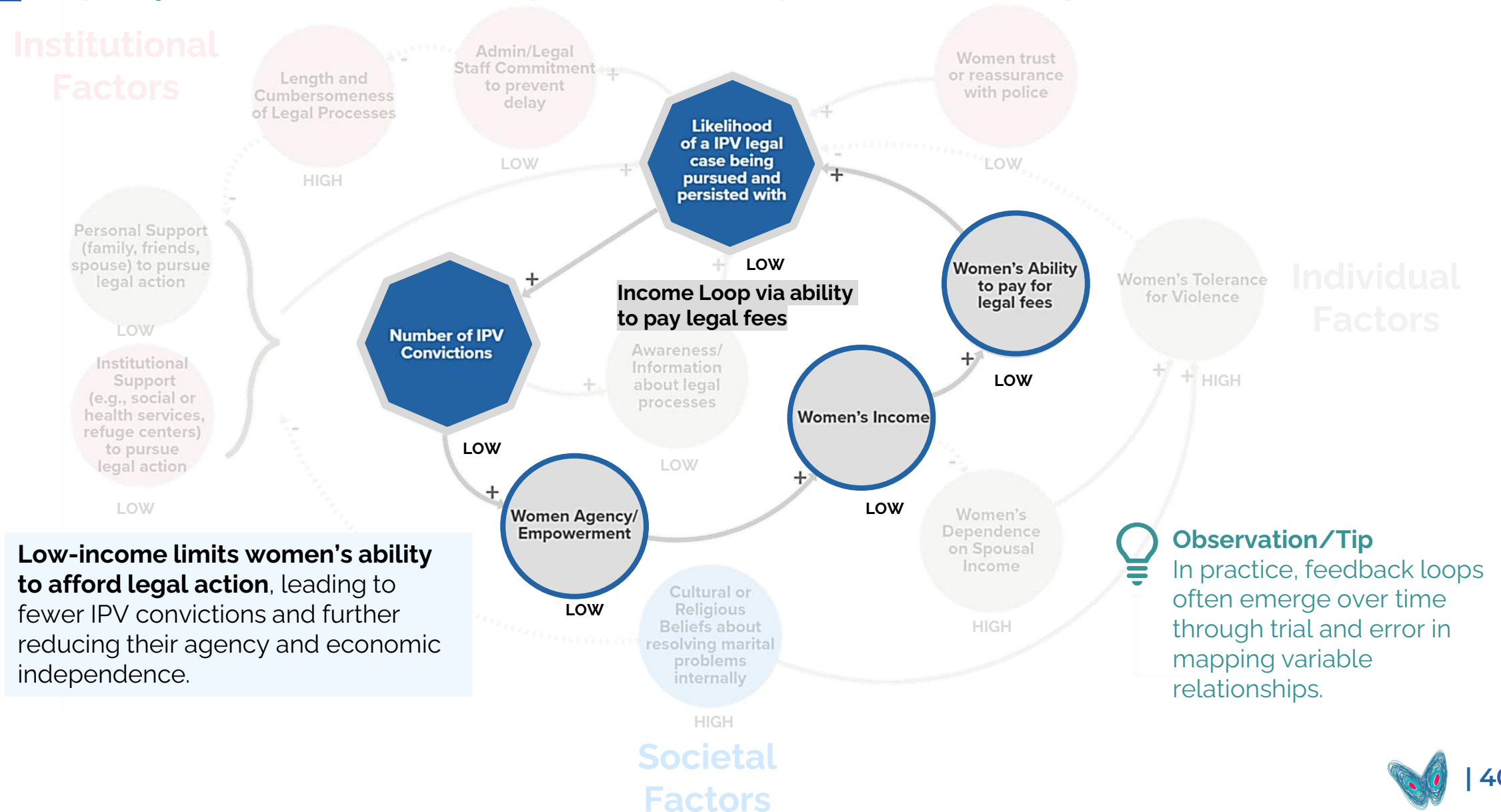
Societal Factors



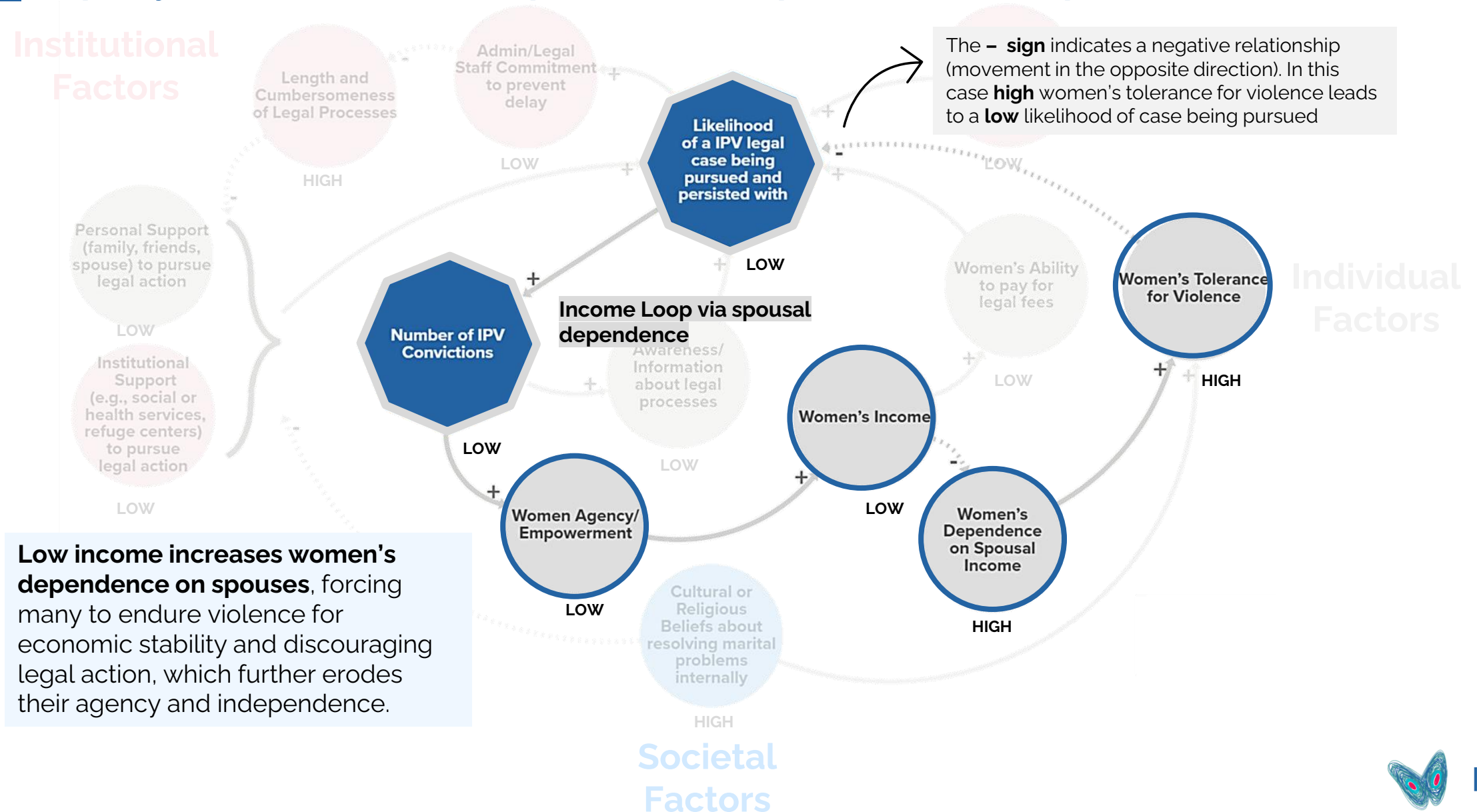
Step 3 Map any known feedback loops, and develop new ones to explain root causes



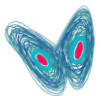
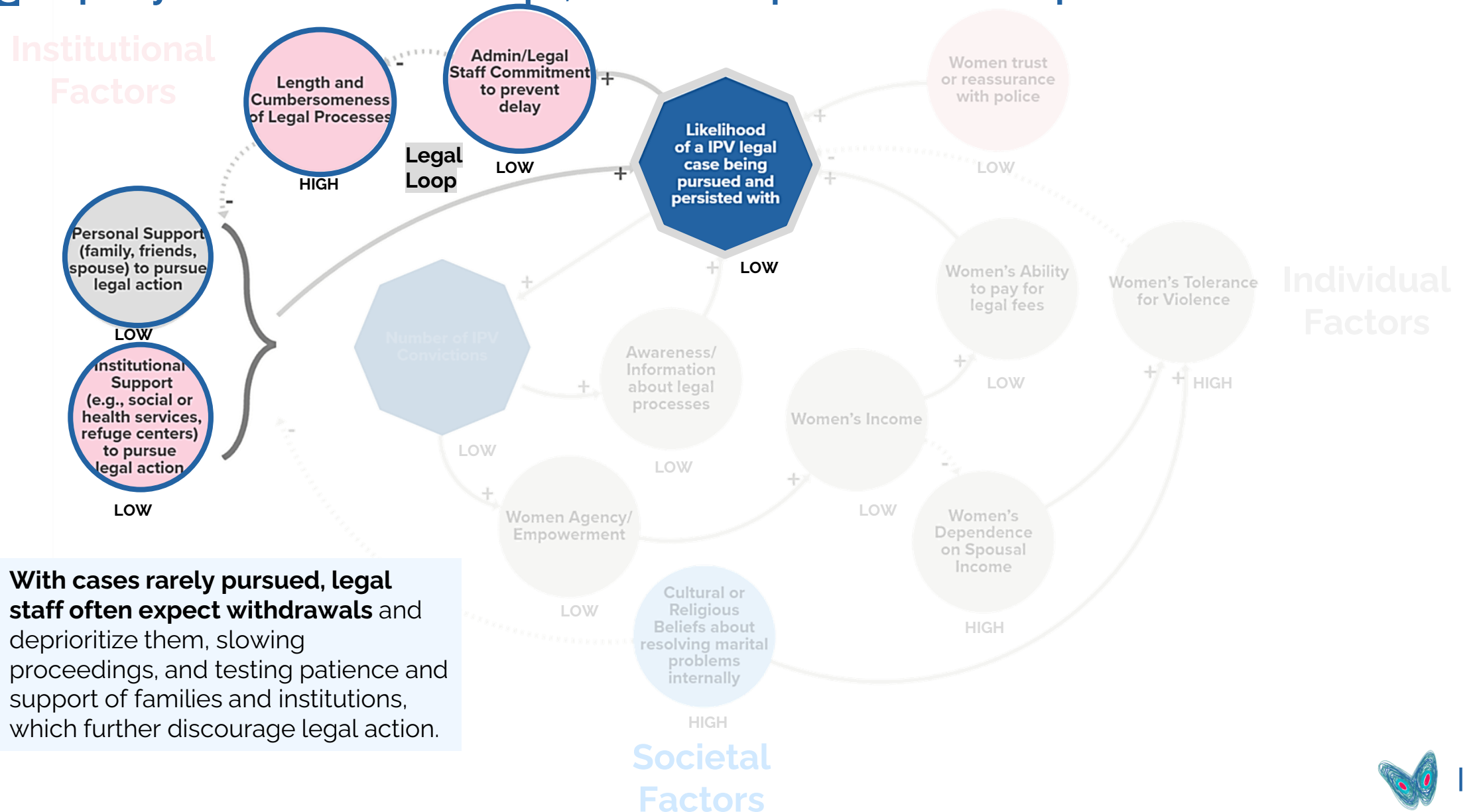
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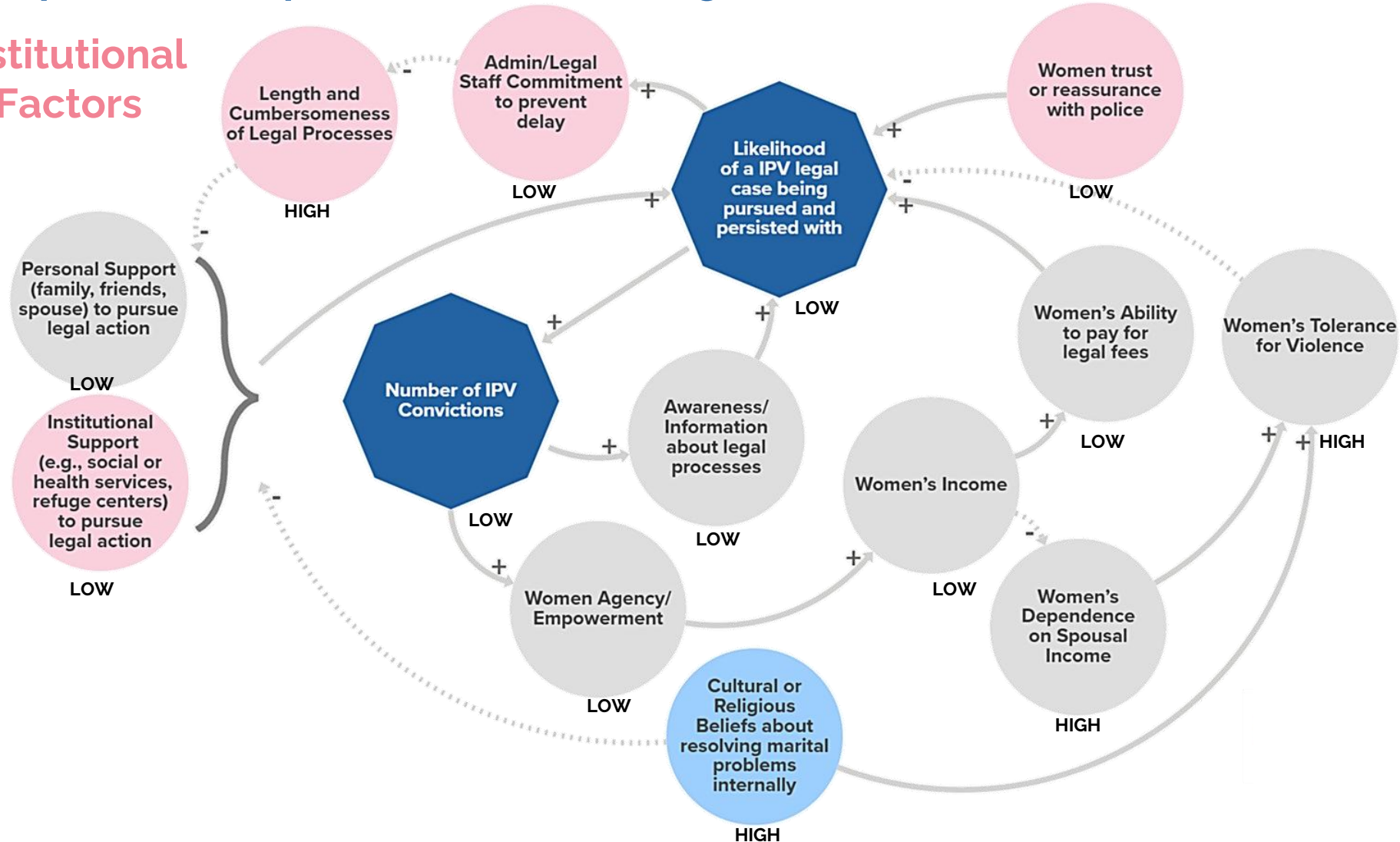


Step 3 Map any known feedback loops, and develop new ones to explain root causes



Step 4 Map relationships between remaining variables

Institutional Factors



Individual Factors

Societal Factors

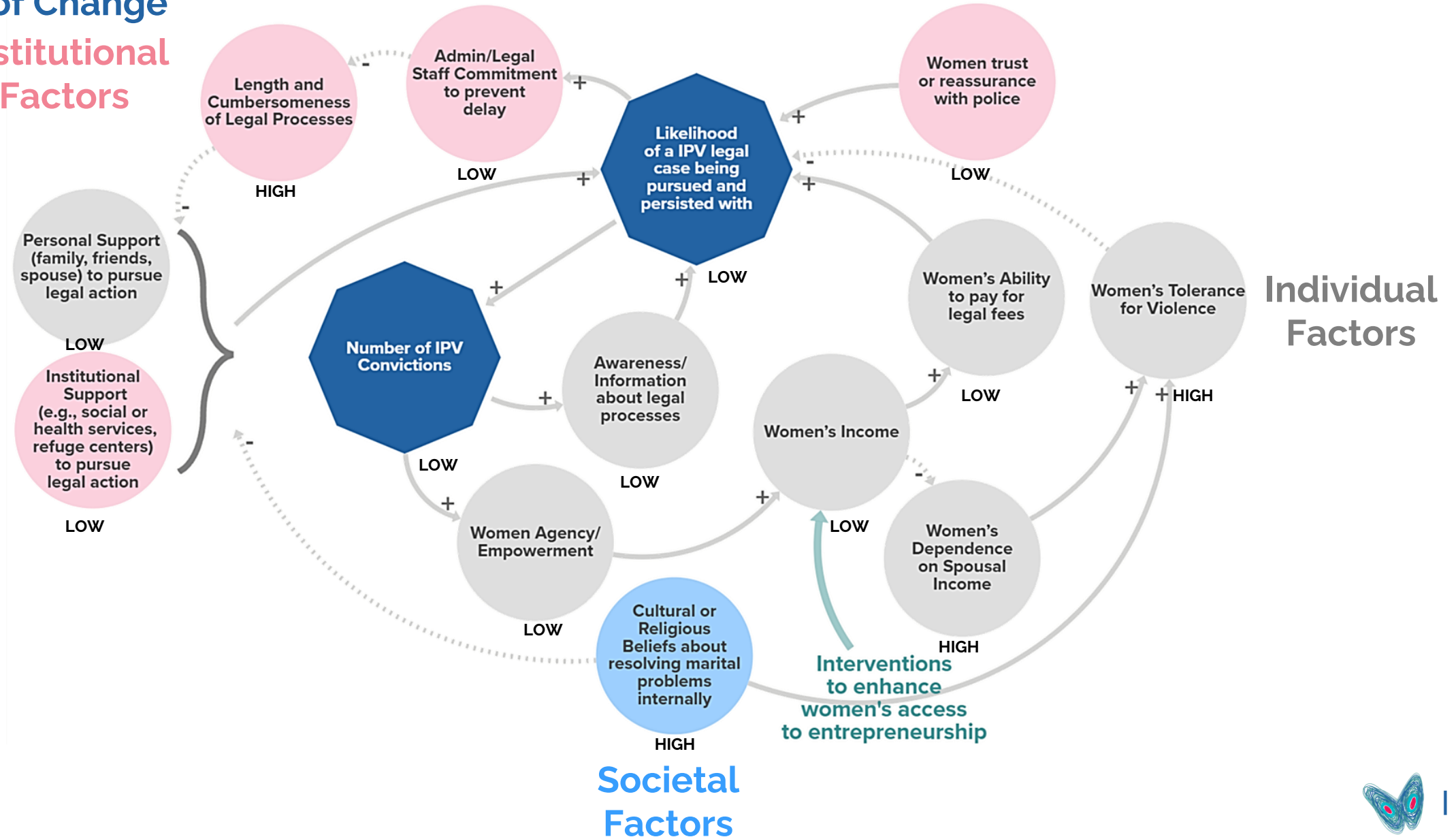


[Click here for the full map](#)



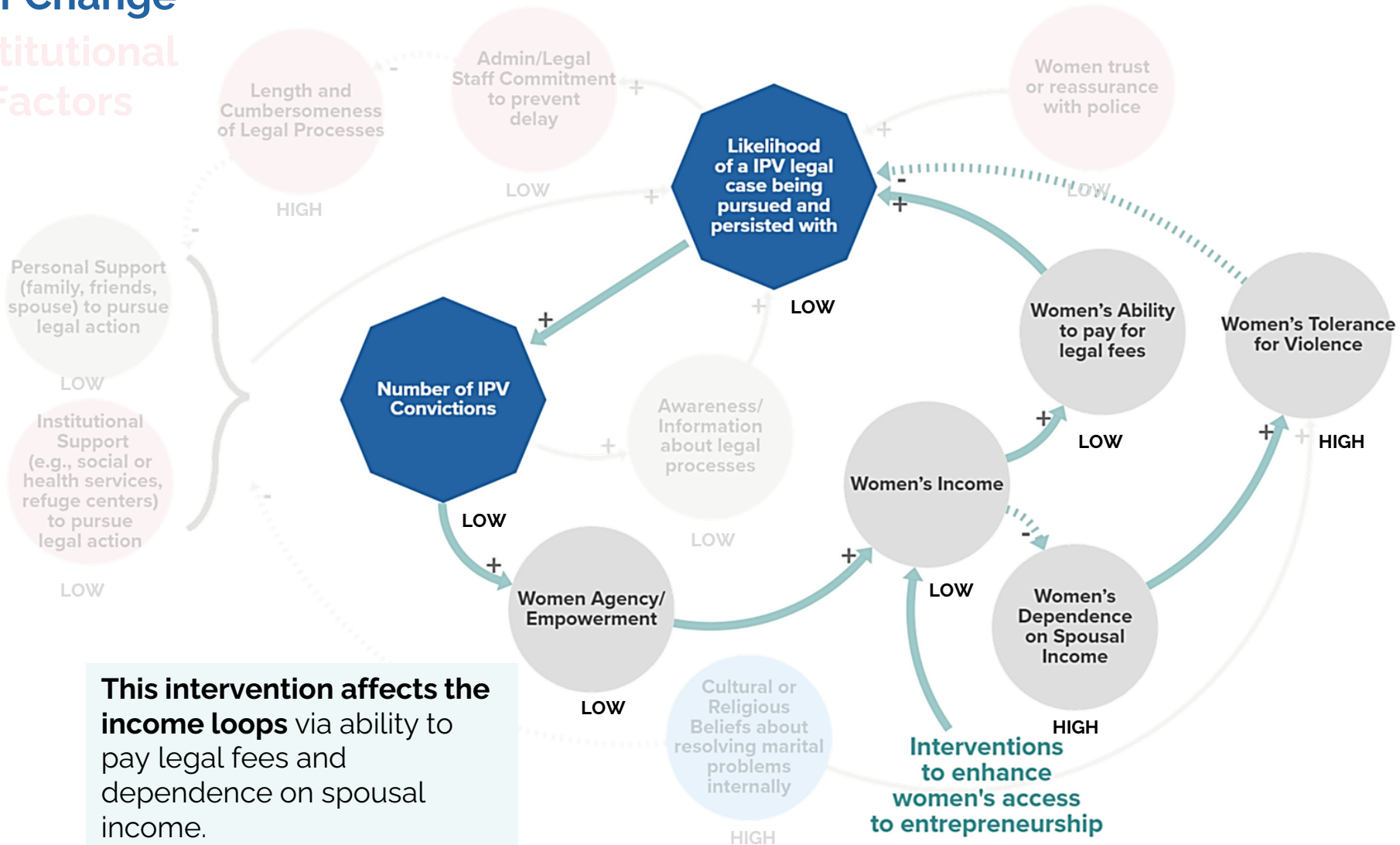
Step 5 Layer interventions to the immediate variable they affect to derive a high-level Theory of Change

Institutional Factors



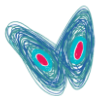
Step 5 Layer interventions to the immediate variable they affect to derive a high-level Theory of Change

Institutional Factors



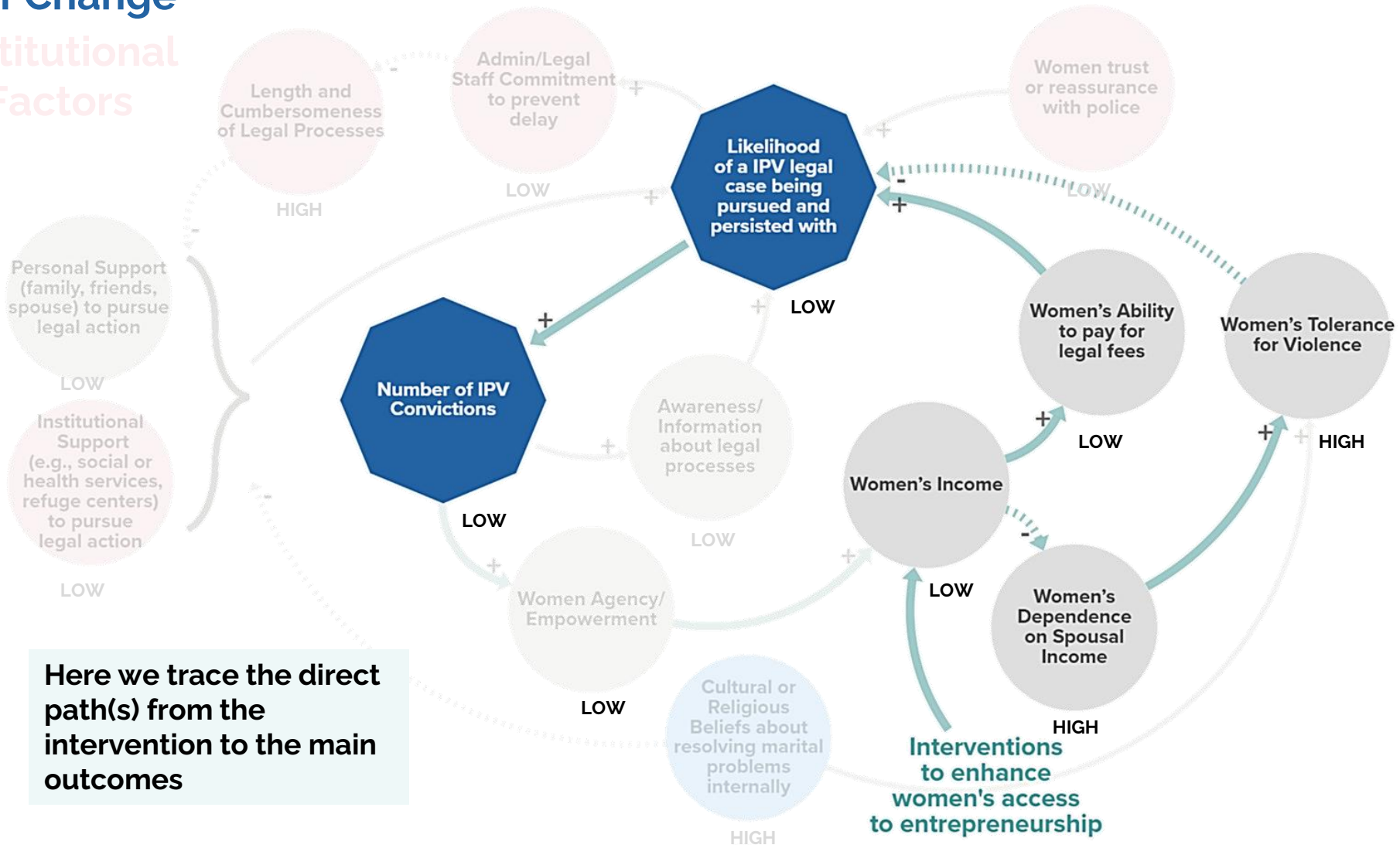
This intervention affects the **income loops** via ability to pay legal fees and dependence on spousal income.

Societal Factors



Step 5 Layer interventions to the immediate variable they affect to derive a high-level Theory of Change

Institutional Factors



Here we trace the direct path(s) from the intervention to the main outcomes



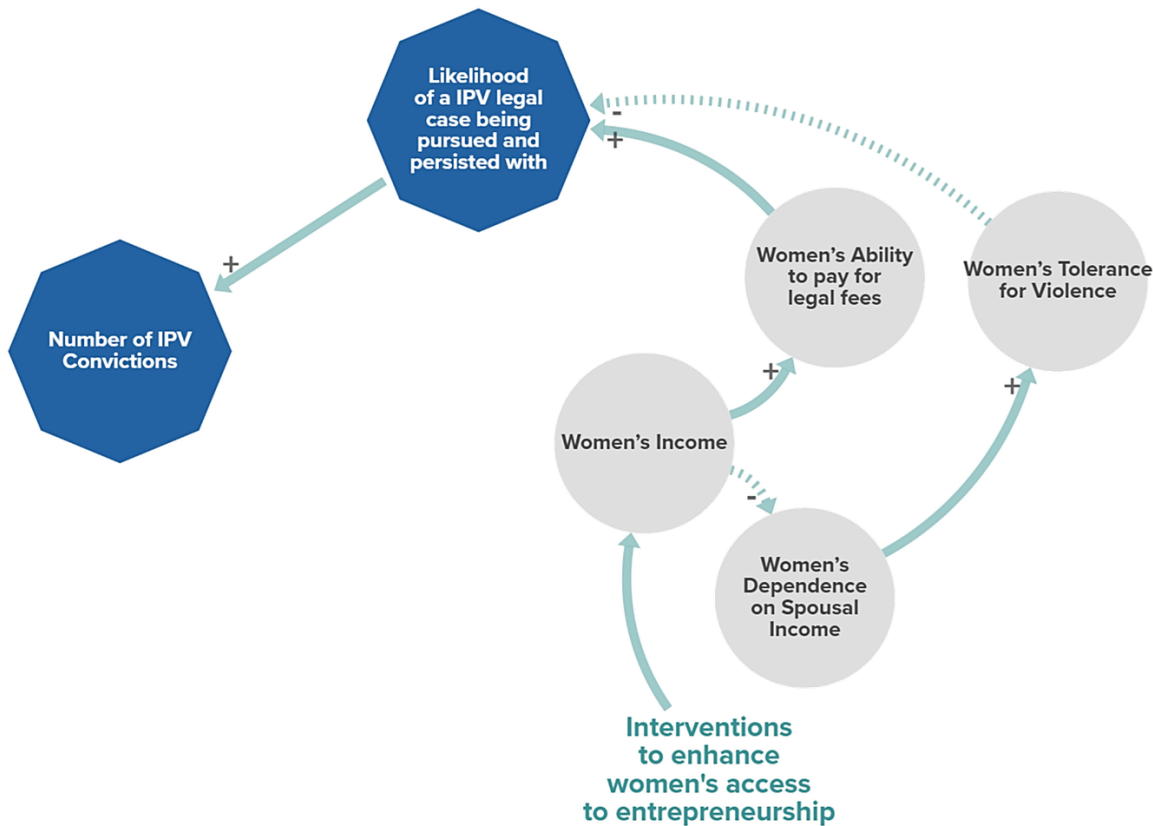
[Click here for the full intervention map](#)

Societal Factors

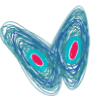
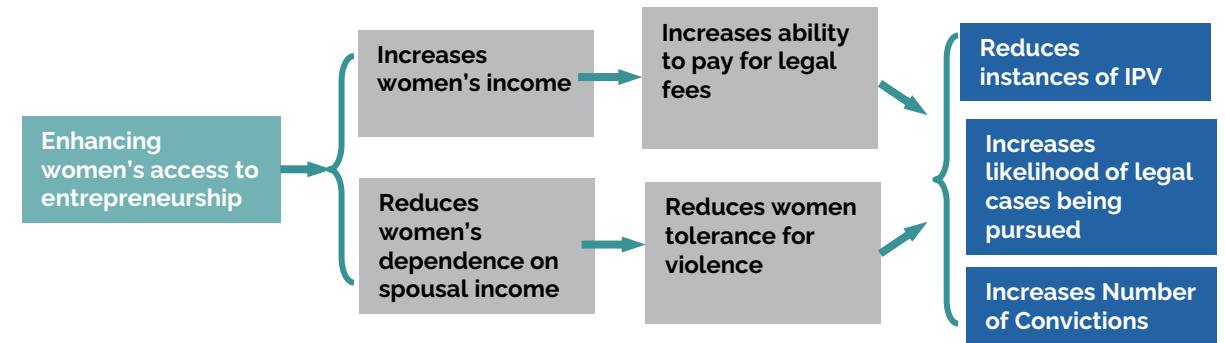


Step 5 Layer interventions to the immediate variable they affect to derive a high-level Theory of Change

Following the arrows from the **intervention** to the **outcome**...



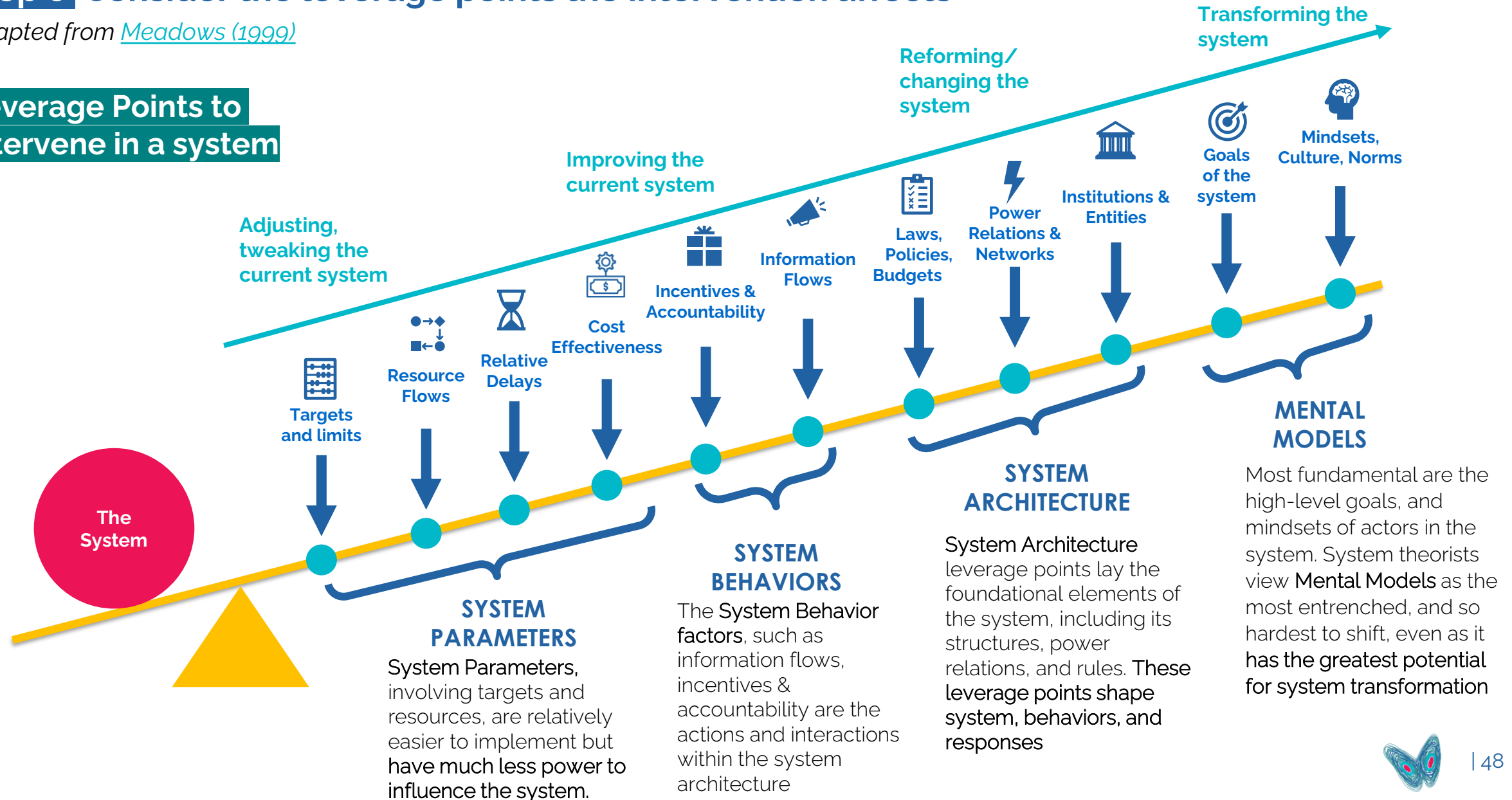
... leads to a **high-level theory of change** of how enhancing women's entrepreneurship reduces IPV instances



Step 6 Consider the leverage points the intervention affects

Adapted from [Meadows \(1999\)](#)

Leverage Points to intervene in a system



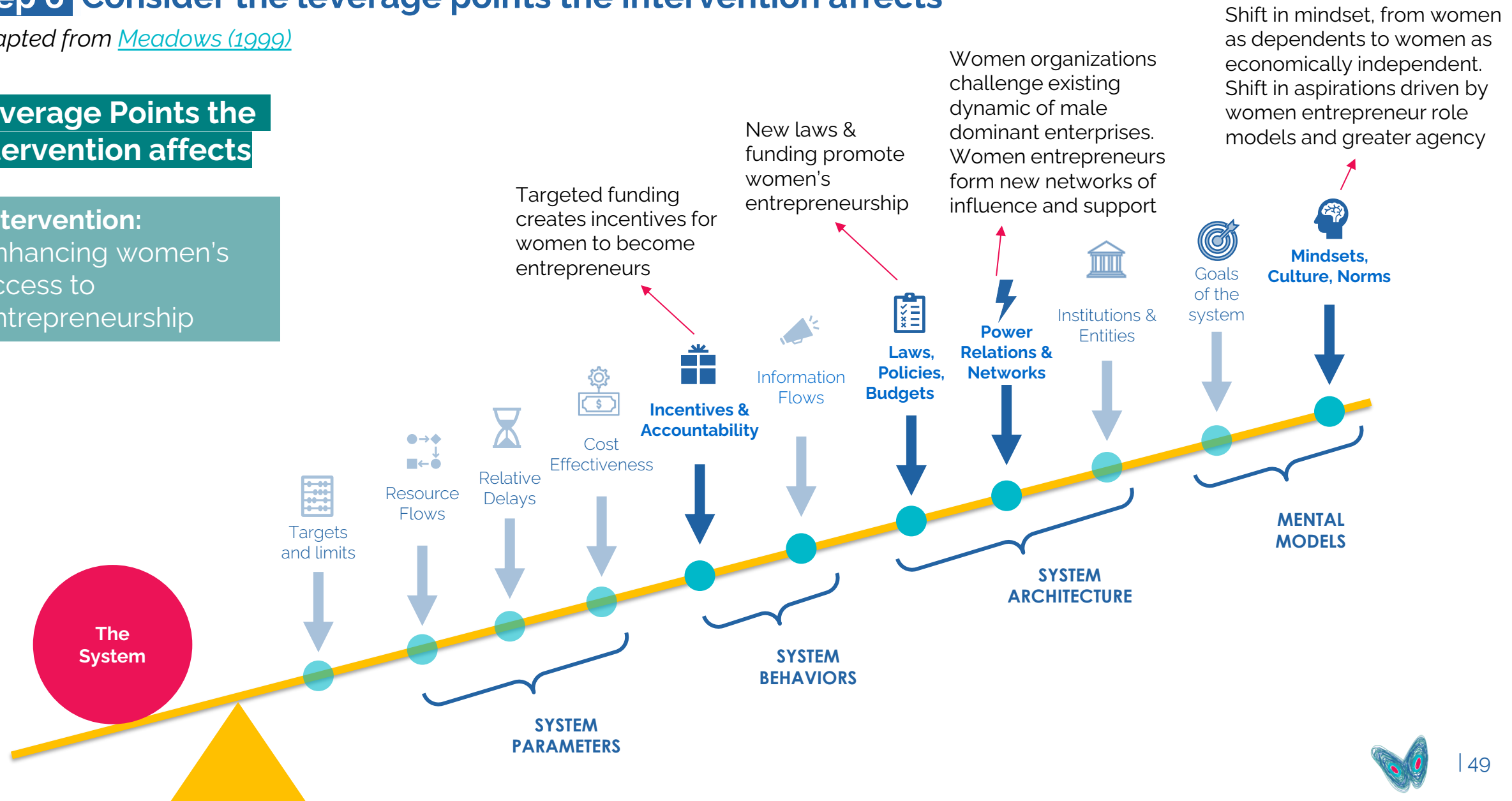
Step 6 Consider the leverage points the intervention affects

Adapted from [Meadows \(1999\)](#)

Leverage Points the intervention affects

Intervention:

Enhancing women's access to entrepreneurship



Theory Based Approaches

Process Tracing



[Return to Table of Contents](#)

Process Tracing

- **Process Tracing involves testing and verifying each step of the theory of change**
- **It investigates causal mechanisms using logic tests (“if X, then Y”) to check whether steps are necessary or sufficient**
 - Mathematically, this is derived from set theory on presence or absence of a mechanism
 - This is *different* from statistical tests of causality between variables across large n cases
 - It resembles how judges, detectives, or documentary filmmakers piece together evidence
- **It is designed to support adaptive learning**
 - Verdicts on the extent of how each step is working are updated as new evidence comes in
 - The TOC itself can be updated as it evolves
- **It is very useful in the context of innovation and scaling**
 - It clarifies how an intervention works, revealing the mechanisms and processes that serve as the blueprint for scaling to new entities, regions, or contexts.
 - Verifying which steps are truly necessary disciplines the design and leads to a cost-effective minimum viable intervention for scale
- **It is a within-case method applied to a specific case**



How to decide when to use Process Tracing?

Pros

- Gives you a sense of the process and how an intervention works → Ultimately helps to generate standard operating procedures for scale
- Helps pinpoint where the intervention breaks and clear areas for improvement → this creates space for adaptive learning
- Amenable to all kinds of qualitative and quantitative evidence (e.g., documents, surveys, etc.)
- Conducive for highly complex settings
 - when large sample sizes may not be possible
 - where random allocation is not possible
- Cost-effective and relatively less time-consuming
- Can generate insights on causal mechanisms, especially if something is not working, using logic-based tests
- Allows for change and adaptation, especially as interpretation unfolds as data and evidence emerge (in the spirit of Bayesian Updating)

Cons

- Doesn't give a precise estimate of the magnitude of causal effects
- Does not give statistical significance or attribution to change (even as it gives a sense of contribution to change)
- In practice, application varies a lot depending on the specificities of the case
- Requires sound logic and judgment and requires additional work to synthesize/interpret

7 Steps for Process Tracing

Step 1 Build the Theory of Change (ToC)

Step 2 Assess Necessity/Sufficiency for each step

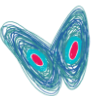
Step 3 Use Evidence to test each step of the ToC

Step 4 Form Verdicts (on confidence levels) for each step

Step 5 Form a **Final** Verdict on the overall process or mechanism

Step 6 Brainstorm & prototype areas for improvement

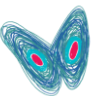
Step 7 Understand the final verdict with respect to data on final outcomes



A Short Illustrative Example

Problem: Unemployed Youth

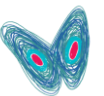
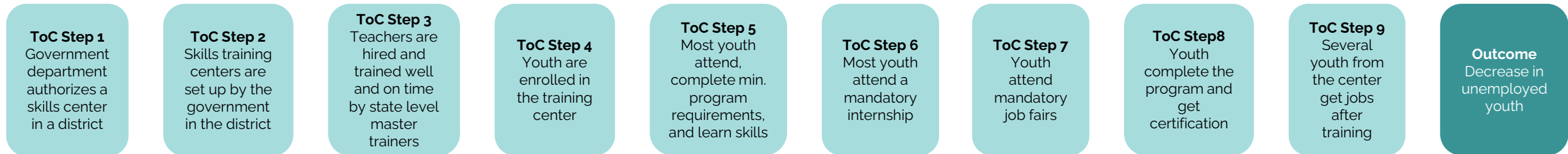
Existing Intervention Strategy:
Skills Vocational Training



Step 1 Build a Theory of Change

- In AE, we use **system maps** and **participatory workshops** to develop and align on a **ToC**
- By ToC, we mean the **sequence of steps** through which an intervention leads to its intended outcomes — unpacking the “black box” between action and impact
- We **don't frame this in terms of inputs, activities, or outputs** although this may be used
- We focus on **underlying mechanisms** —*how it works* — which forms the core insight for scaling in other contexts

Intervention: Skills Vocational training for unemployed youth



Step 2 Assess Necessity/Sufficiency for each step

This involves understanding relationships between steps

Necessity – Would this step have to be present for the next step to take place?

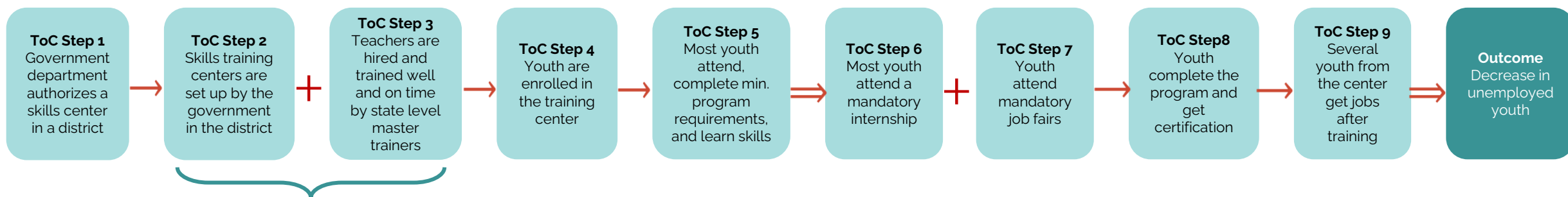
Sufficiency – Would the presence of this step itself ensure the next step?

Level of dependence – Do these steps happen in parallel or in a sequence?

→ Step is **necessary** for next step ⇒ Step is **sufficient** for next step ⇔ Step is **necessary and sufficient** for next step

+ Step takes place **in parallel** with another step

Intervention: Skills Vocational training for unemployed youth



The + implies that after Govt. authorization, the setting up of the skills training center, and hiring/training of teachers happen in parallel in practice.



Observation/Tip

The + breaks some of the linearity of the ToC which makes it more amenable to complex settings!



Step 2 Assess Necessity/Sufficiency for each step

This involves understanding relationships between steps

Necessity – Would this step have to be present for the next step to take place?

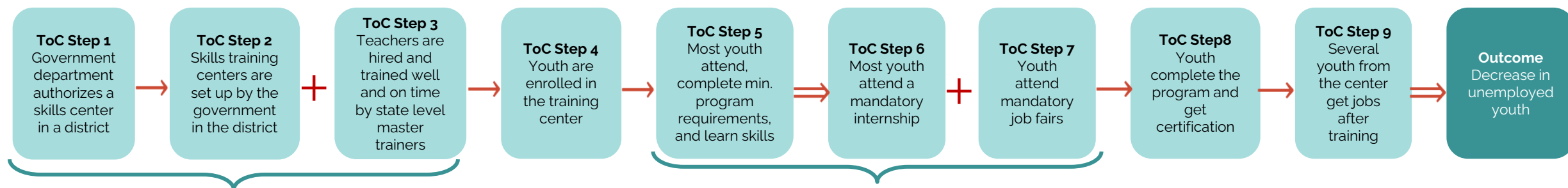
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→ Step is **necessary** for next step ⇒ Step is **sufficient** for next step ⇔ Step is **necessary and sufficient** for next step

+ Step takes place **in parallel** with another step

Intervention: Skills Vocational training for unemployed youth



Testing necessity

Would Step 1 have to be present for Step 2 and Step 3 to take place? **Yes!** We need govt. authorizations to set up a center and start govt. sponsored training of teachers

→ **Step 1 is necessary for Step 2 and Step 3**

Testing sufficiency

Would Step 1 ensure/imply Step 2 & Step 3? **No!** Even with govt. authorizations, payment delays and implementation issues can prevent the setting up of center and trainings

→ **Step 1 is NOT sufficient for Step 2 and Step 3**

Testing necessity

Would Step 5 have to be present for Step 6 and Step 7 to take place? **No!** Youth can attend internships and job fairs without attending this skills training program

→ **Step 5 is NOT necessary for Step 6 and Step 7**

Testing sufficiency

Would Step 5 ensure/imply Step 6 & Step 7? **Yes!** Completing the min. program requirements involves the internship and attending the job fairs (as they are mandatory)

→ **Step 5 is sufficient for Step 6 and Step 7**



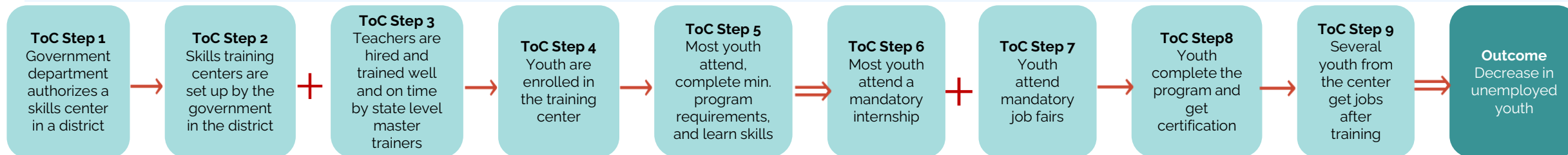
Observation/Tip

Testing necessity and sufficiency ensures a tightly linked ToC and helps assess which steps truly matter, streamlining the overall process.

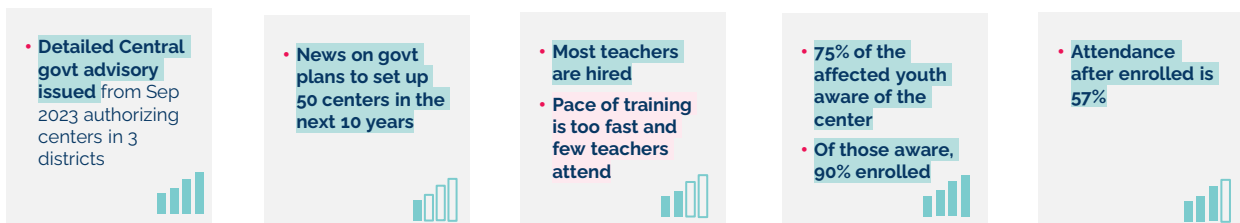


Step 3 Use Evidence to test each step of the ToC

This entails detailing the evidence underlying each step. The example below shows an illustration for the first 5 steps. We assess evidence on two dimensions—**strength of evidence** and **quality of evidence**



Evidence → Indicates clarity of result (existence of direction) and size of result (magnitude)



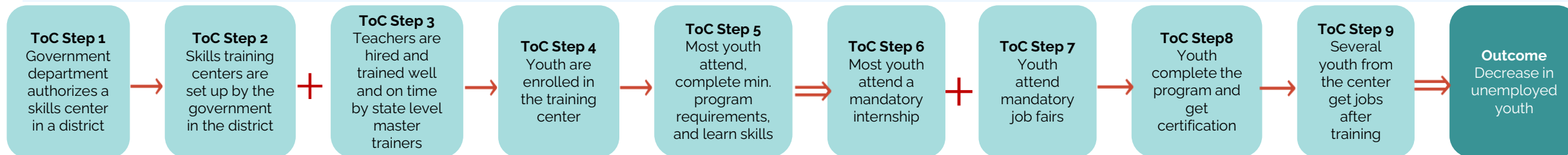
Criteria for Strength of Evidence

- Inconclusive. No clear result** because the evidence offers no meaningful interpretation for the current hypothesis
- Directionality of the **evidence is mixed**, i.e., the result is less clear because all evidence may not point in the same direction
- Directionality of the evidence is clear, i.e., **there is a clear result (positive or negative)**. Where applicable, the magnitude of the result (i.e., the extent to which it is positive or negative) is **low**.
- Directionality of the evidence is clear, i.e., **there is a clear result (positive or negative)**. Where applicable, the magnitude of the result (i.e., the extent to which it is positive or negative) is **high**.

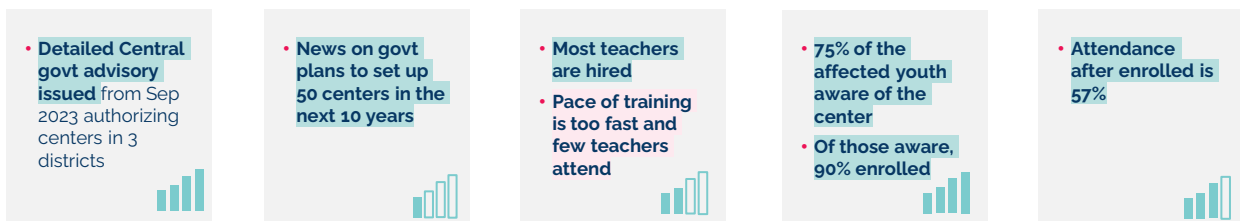


Step 3 Use Evidence to test each step of the ToC

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Evidence → Indicates clarity of result (existence of direction) and size of result (magnitude)



Source → Indicator of Data Quality, i.e., reliability, bias, variation, representativeness

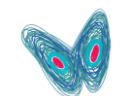


Enrollment data has not been updated

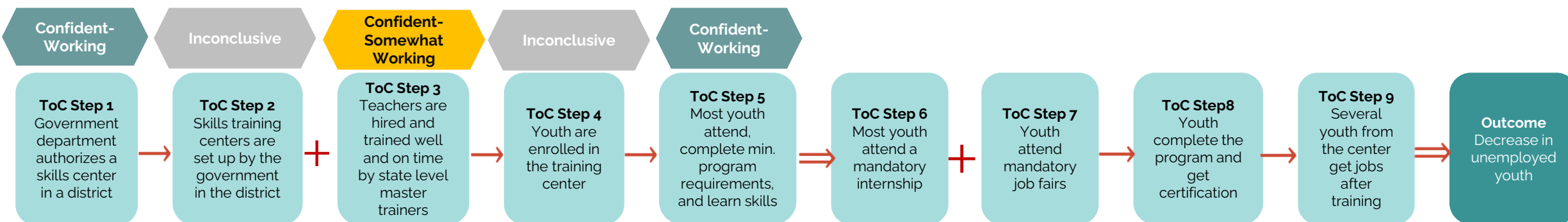
Attendance is taken daily and recorded

Criteria for Quality of Evidence

- Source(s) **are not reliable or unbiased**
- Source(s) **may not be reliable or unbiased**
- Source(s) are reliable and unbiased. **Sources may not be varied or may be correlated.** If applicable, sources/sample are representative of population of interest
- Source(s) are reliable and unbiased. **Sources are varied and uncorrelated and can be independently verified.** If applicable, sources/sample are representative of population of interest



Step 4 Form Verdicts (on confidence levels) for each step



Evidence → Indicates clarity of result (existence of direction) and size of result (magnitude)



Source → Indicator of Data Quality, i.e., reliability, bias, variation, representativeness

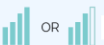

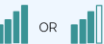


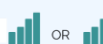




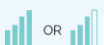

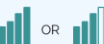



Enrollment data has not been updated

Attendance is taken daily and recorded

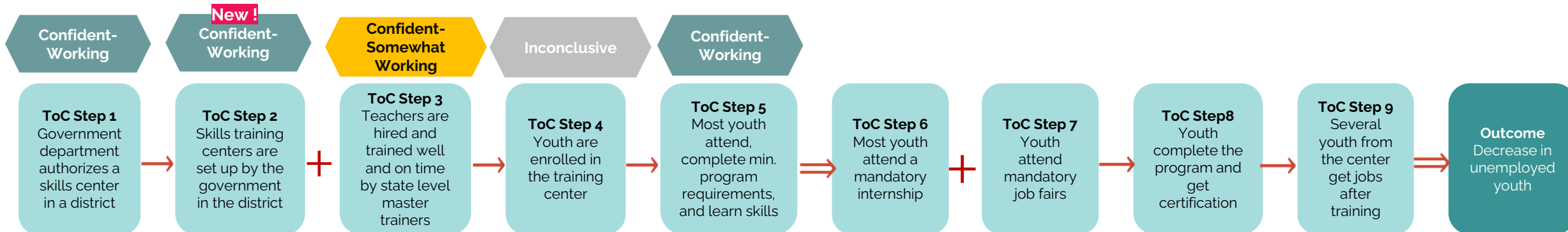
Criteria for Verdicts

Verdicts depend on both **strength of evidence** and **quality of evidence**

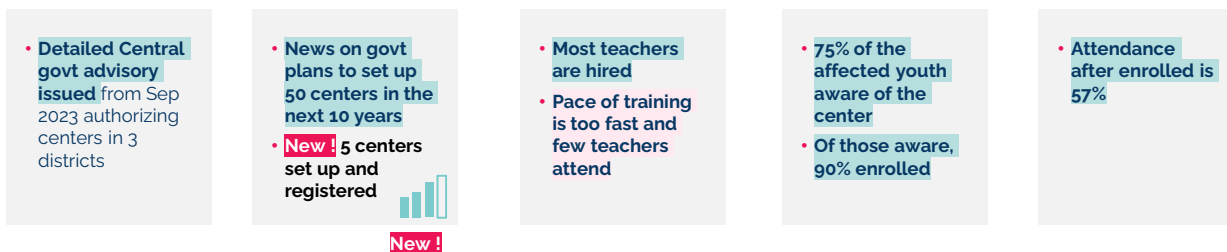
Confidence Levels	Criteria	Implied Strength	
		Evidence	Source
Confident-Working	Result is clearly positive (i.e., causal step is working) AND sources are reliable and unbiased	 OR 	AND  OR 
Confident-Somewhat Working	Result is mixed (i.e., for some it works, others it does not) AND sources are reliable and unbiased		AND  OR 
Inconclusive	Result is unclear OR sources may not be or are not reliable and unbiased		OR  OR 
Confident Not Working	Result is clearly negative (i.e., causal step is not working) AND sources are reliable and unbiased	 OR 	AND  OR 



Step 4 Form Verdicts (on confidence levels) for each step



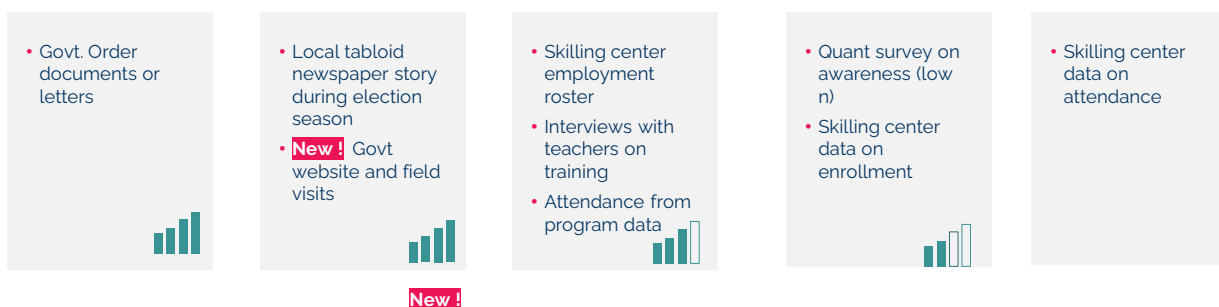
Evidence → Indicates clarity of result (existence of direction) and size of result (magnitude)



Observation/Tip

Process tracing allows continuous updates to evidence strength, data quality, and verdicts as new information emerges.

Source → Indicator of Data Quality, i.e., reliability, bias, variation, representativeness

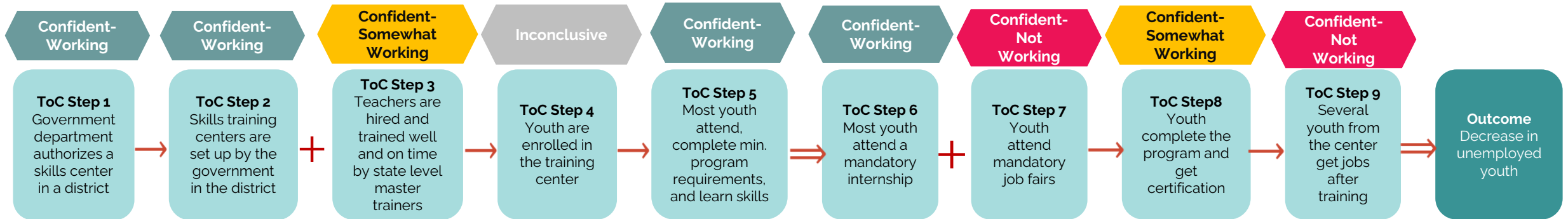


The example on the left shows how new evidence revised the verdict from **inconclusive** to **confident working**



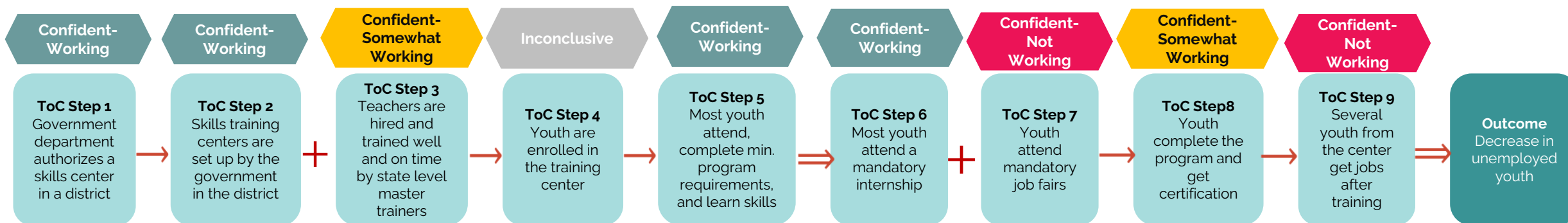
Step 4 Form Verdicts (on confidence levels) for each step

Eventually we have verdicts for each step of the theory of change (see below an example for all steps)



Step 5 Form a Final Verdict on the overall process or mechanism

This involves using all the verdicts on each step to form an interpretation on the overall process



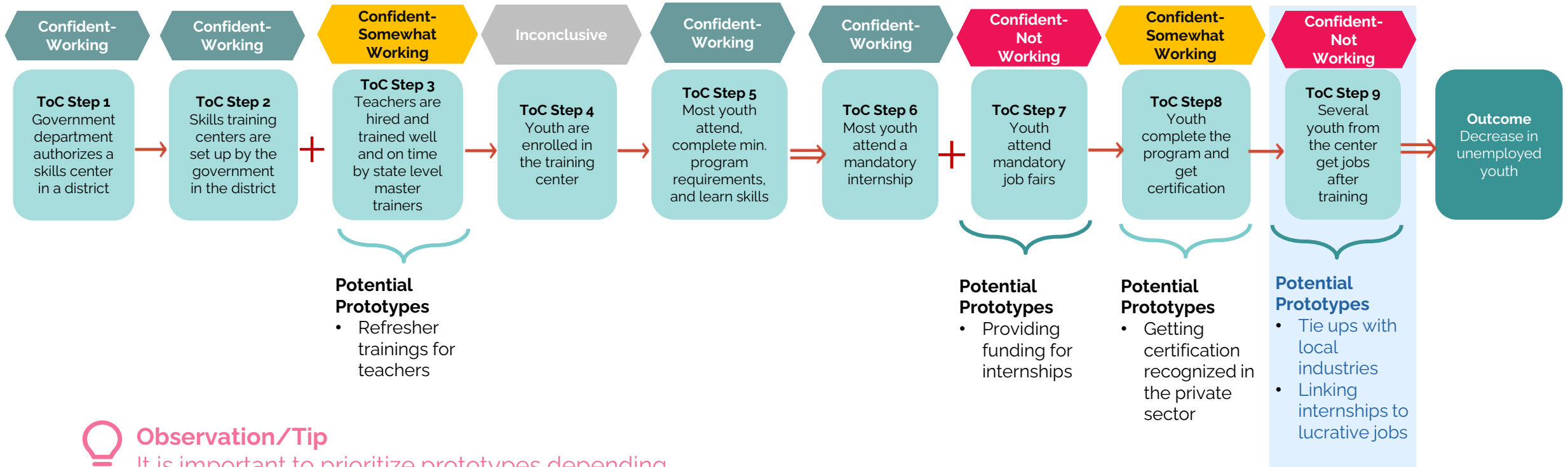
Example of a Final Verdict

Skilling Centers are teaching youth new skills but do not translate to jobs, perhaps due to low labor demand, and because the skills needed for the market changing rapidly



Step 6 Brainstorm & prototype areas for improvement

Parts of the casual chain that are somewhat working or not working are potential areas for trying new prototypes



Observation/Tip

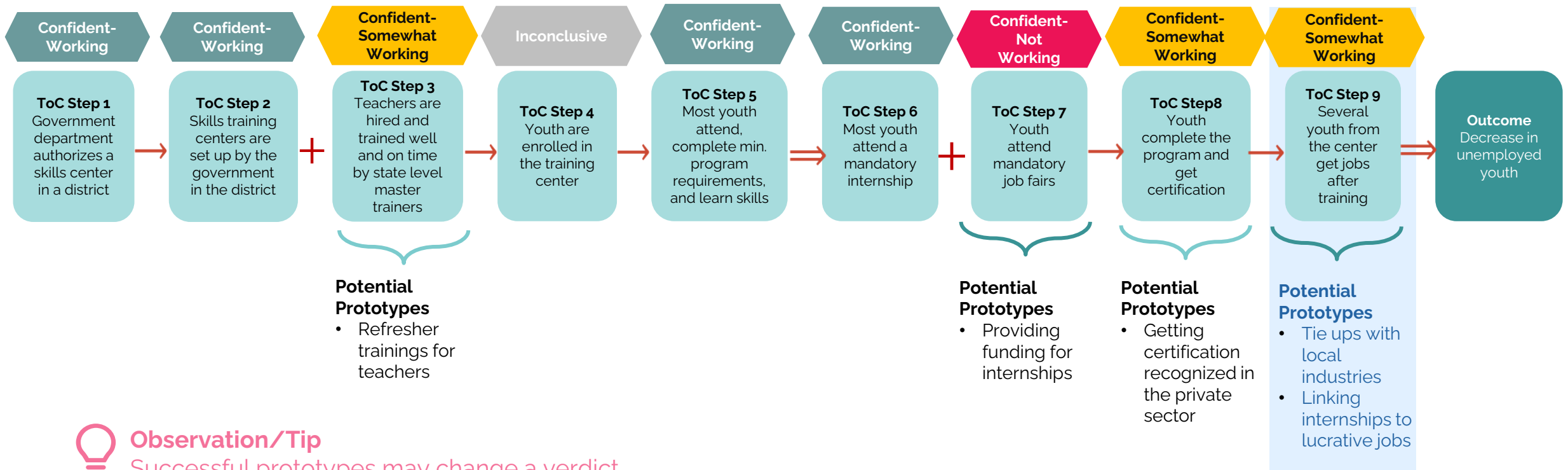
It is important to prioritize prototypes depending on which is most critical to activate the process or mechanism

In this case, the most critical was lack of jobs after vocational training based on jobs data



Step 6 Brainstorm & prototype areas for improvement

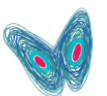
Part of the casual chain that are somewhat working or not working are potential areas for trying new prototypes



Observation/Tip

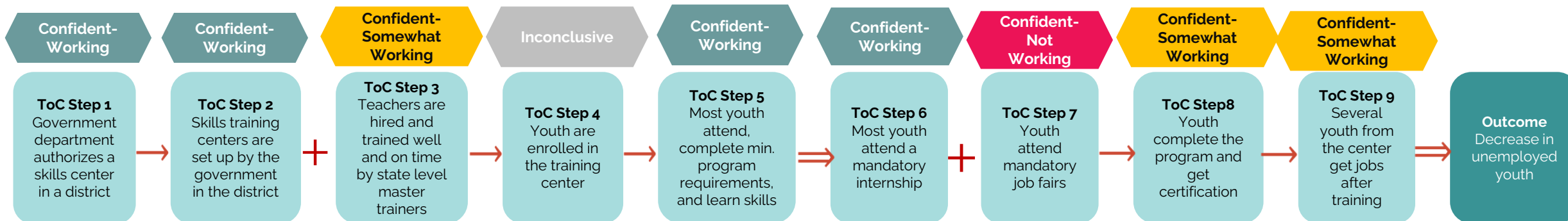
Successful prototypes may change a verdict

The example on the right shows how the prototype worked resulting in the verdict changing from **confident not working** to **somewhat confident working**



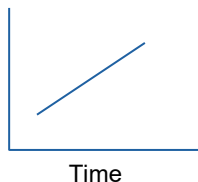
Step 7 Understand the final verdict with respect to data on final outcomes

Tracking outcomes help contextualize and make sense of contribution to change



Scenario 1: Positive Outcome increases

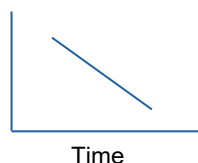
Outcome:
Youth
Employment



Consistent with the hypothesis that the intervention contributed to the outcome (especially as in this example, most necessary steps are found to be working) **but does not confirm it**. Further assessment is needed to contextualize and rule out other contributing factors. Note, in this example, the process is working without job fairs attendance. This may be something to cut in a minimum viable intervention or attempt to improve to examine if the added benefits create a meaningful difference.

Scenario 2: Positive Outcome decreases

Outcome:
Youth
Employment



This offers prima facie evidence that the hypothesis that the intervention contributed to the outcome does not hold but does not fully eliminate it (especially as in this example, most necessary steps are found to be working). Either intervention design is flawed or there is a need to fix a part of the process not working or there are adverse economic shocks. Further assessment is needed to confirm or negate these alternative hypotheses.



Practical Observation/Tip

The scenarios and their interpretations are different depending on the verdicts on each step and the final verdict of the mechanism. For sake of an example, if a necessary step early in the process is not working, say, ToC Step 2 on setting up centers, then the whole mechanism is not working, regardless of the trend or movement in outcomes. We examine different outcome and process tracing verdict scenarios next.

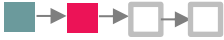


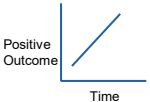
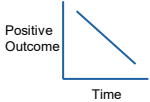
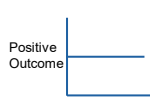


Step 7 Understand the final verdict with respect to data on final outcomes

Here the **hypothesis** is that the intervention and its causal mechanism contributed to improved outcomes; the **alternative hypothesis** is that it did not and other factors did, owing to issues in technical design, process, or implementation fidelity **or** adverse external shocks

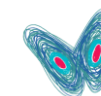
Interpretation and Actions based on outcome and process tracing final verdict scenarios

Process Tracing Final Verdict Scenarios

Outcome Scenarios	 1. At least one critical necessary step is not working	 2. Final verdict is that the overall process is somewhat working with low-to-medium fidelity	 3. Final verdict is that the overall process is working with high fidelity
A. Positive Outcome increases post intervention 	A1, B1, C1 Eliminates Hypothesis	A2. Weakly supports the hypothesis but needs (1) further assessment of other factors to fully eliminate alternative hypotheses, and (2) improvements in fidelity to analyze how it impacts outcomes (moving to scenario A3, B3, or C3)	A3. Consistent with the hypothesis but needs further assessment of other factors to fully eliminate alternative hypotheses
B. Positive Outcome decreases post intervention 		B2. Prima facie evidence weakly suggests that the hypothesis does not hold but does not eliminate it. One needs further experimentation and testing of outcomes with high(er) fidelity implementation: if outcomes still decline, we are in scenario B3 , if they don't we are in scenario A3 or C3 .	B3. This is prima facie evidence that the hypothesis does not hold but does not eliminate it. One needs assessment of other factors to confirm or negate alternative hypotheses. It may be that the intervention prevented an even steeper decline in outcomes.
C. Positive Outcome is stagnant post intervention 		B2. Prima facie evidence weakly suggests that the hypothesis may not hold but does not eliminate it One needs further experimentation and testing of outcomes with high(er) fidelity implementation: if outcomes are still stagnant, we are in scenario C3 , if they don't we are in scenario A3 or B3 .	C3. This is prima facie evidence that the hypothesis may not hold but does not eliminate it. It needs assessment of other factors to confirm alternative hypotheses. It may be that there is a lag/delay in improving the outcome or that the intervention prevented a decline.



Practical Observation/Tip
 Note process tracing does not provide statistically precise estimates of the size of an intervention's contribution to outcomes. For this specific purpose, RCTs or quasi experimental methods are better suited. Nonetheless, indications or ranges of this size can be inferred, especially when process tracing is combined with assessment of other factors and comparisons with appropriate cases. **We suggest at least moving to Scenario 3 before considering RCT or quasi experimental evidence.**



Iterative Approaches

Agile for Grassroots



[Return to Table of Contents](#)

Agile for Grassroots

- Agile emerged in the 1990s in the tech industry as a management technique to innovate new software
 - It essentially involves rapid cycles (or “**sprints**”) of testing, learning, and adaptation
 - Key principles include **frequent iteration, user-centered design, continuous learning, and testing small prototypes**
- **Agile for Grassroots** adapts this to the complex realities of development work
 - Sprints are longer, as they often need to adjust to longer development timelines, e.g., school schedules, agricultural cycles, or government processes etc.
 - Testing in development contexts often requires navigating social norms, incentives, and relationships across multiple stakeholders
 - Insights involve triangulating multiple sources of evidence; qualitative and quantitative
 - Data may not be readily available, and success may have multiple dimensions
- This is **useful in making improvements in the gaps highlighted in process tracing**



How to decide when to consider Agile for Grassroots?

The key is to carefully consider the pros and cons relative to the purpose, context, and scope for the mapping

Pros

- Small prototypes reveal what works (and what doesn't) early, reducing the cost of failure, or worse, premature scaling or RCTs
- The solution is naturally adapted to the changing system in the process
- The process places the user at the center
- It helps the organization develop the habit of sensemaking and course correction, and promotes a culture of continuous learning
- It empowers teams to take ownership of the solution
- It accelerates the speed of learning

Cons

- Sprints in development contexts take time and patience, and require systematic follow-through
- It requires the team to have flexibility, autonomy, clear roles and coordination across different departments
- It relies on building habits, and having the capacity to fail, requiring mindset shifts in some entities
- It requires buy-in & trust across stakeholders and within the organization
- It is more challenging at higher levels of scale

4 Steps for Agile for Grassroots

These
four steps
form a
sprint

Step 1 Identify & Define the Problem for the user

Step 2 Ideate & Design a prototype to solve the problem

Step 3 Deploy & Test the prototype with evidence

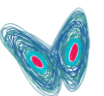
Step 4 Identify actionable learning & redefine the problem

Rinse and repeat!



Observation/Tip

A sprint often ends in one of two ways: the prototype doesn't work, revealing the specific blockage to address next, or it works but uncovers different problems. In both cases, sprint learning reframes the problem for the next cycle. As a result, it usually takes several sprints to arrive at a workable innovation. Typically, the end of the sprint is a moment for reflection and recalibration, where teams meet to assess what, what didn't and what to change for the next sprint.



A Short Illustrative Example

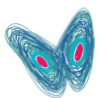
Problem: SEWA Health Cooperative, Lok Swasthya Mandali, is not generating income for its women commission-based agents

Goal of Agile sprints: How can we strengthen the commission-based income channel for women in LSM

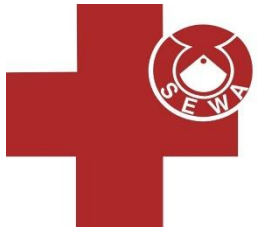
Source: [Scaling Up Development Impact](#), Guerrero, et al., 2023

[Applications of an Adaptive Evaluation approach to assess SEWA's Women's Enterprise Support System](#), Yadav et al, 2024

Based on Imago Global grassroots' work with SEWA on a Gates Foundation Grant

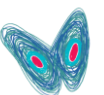


LSM an introduction



Sector	Health Products & Services
Location	Gujarat
Year Founded	1990
Entity Type	Healthcare Cooperative
# of Members	1800
Main Business Line	<ul style="list-style-type: none">• Produces and sells ayurvedic medicine;• Runs pharmacies• Performs community service of increasing health awareness

- LSM Staff began the agile management process with identifying a challenging problem to address
- They agreed to work on capacity building of their sales commission agents (Sakhi's) who sell allopathic and ayurvedic medicines
- The sales commission channel contributes little to Sakhi's income, and this has the most potential for improving members lives
- This began a year long process over four agile sprints with evaluation informing decision-making throughout



Step 1 Identify & Define the Problem for the user

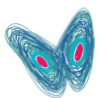
Identifying
the Problem

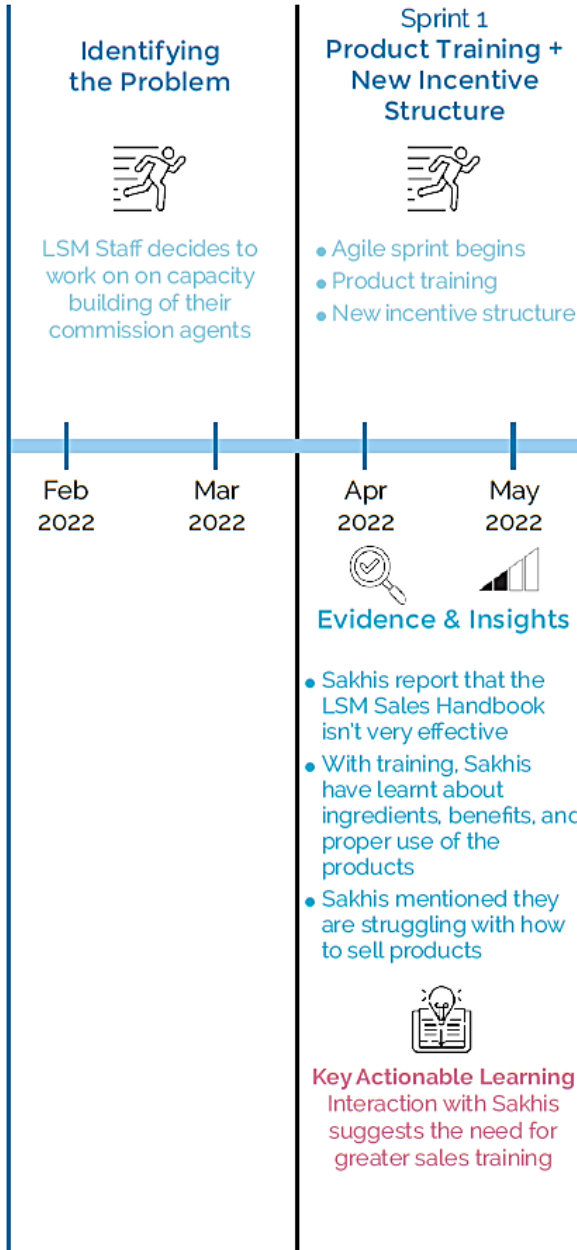


LSM Staff decides to
work on on capacity
building of their
commission agents

Feb
2022

Mar
2022





Step 2 Ideate & Design a prototype to solve the problem

Step 3 Deploy & Test the prototype with evidence

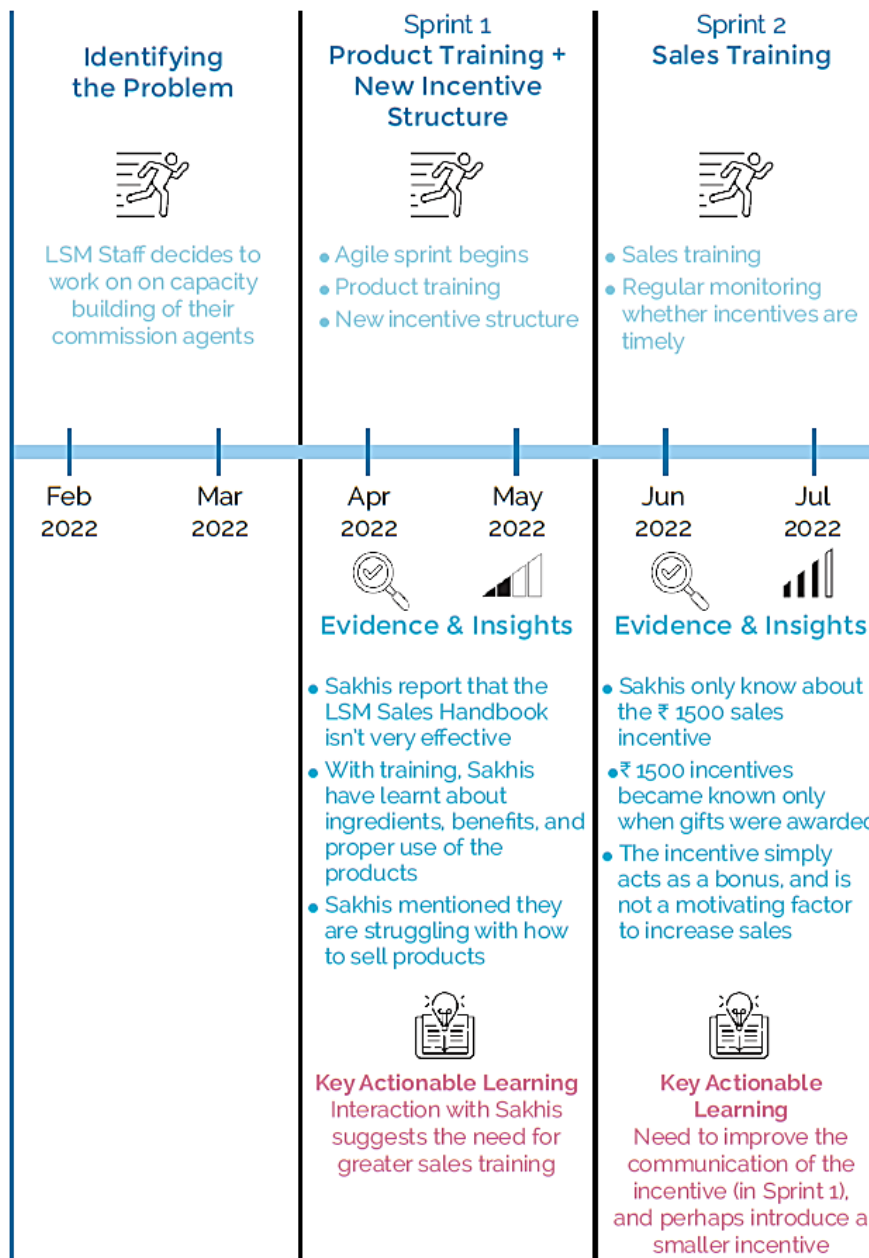


Observation/Tip

Each sprint's specific goals guide the kind of evidence, but in general a mix of quant and qual triangulating from multiple sources is ideal

Step 4 Identify actionable learning & redefine the problem

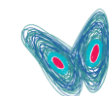


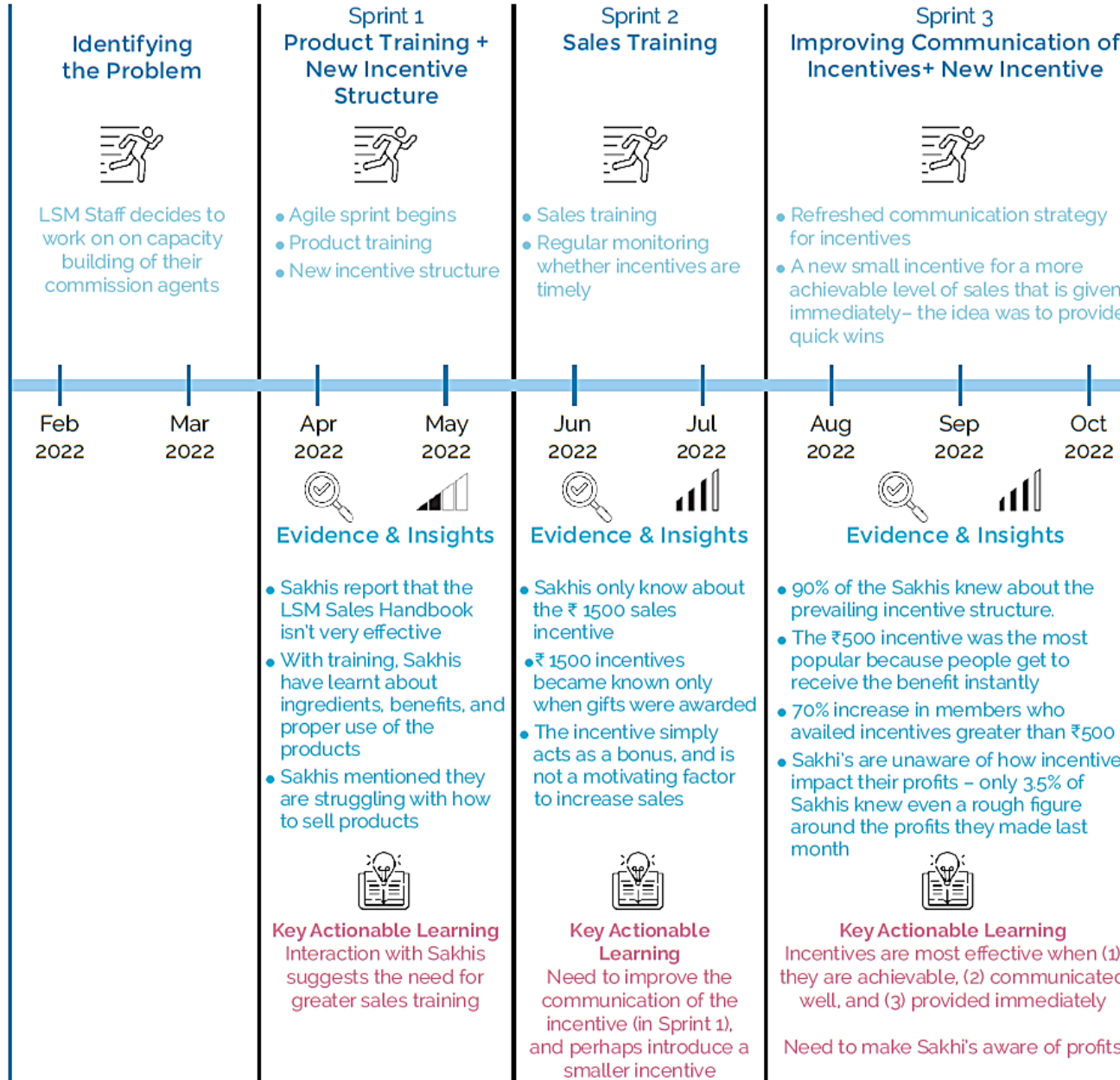


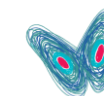
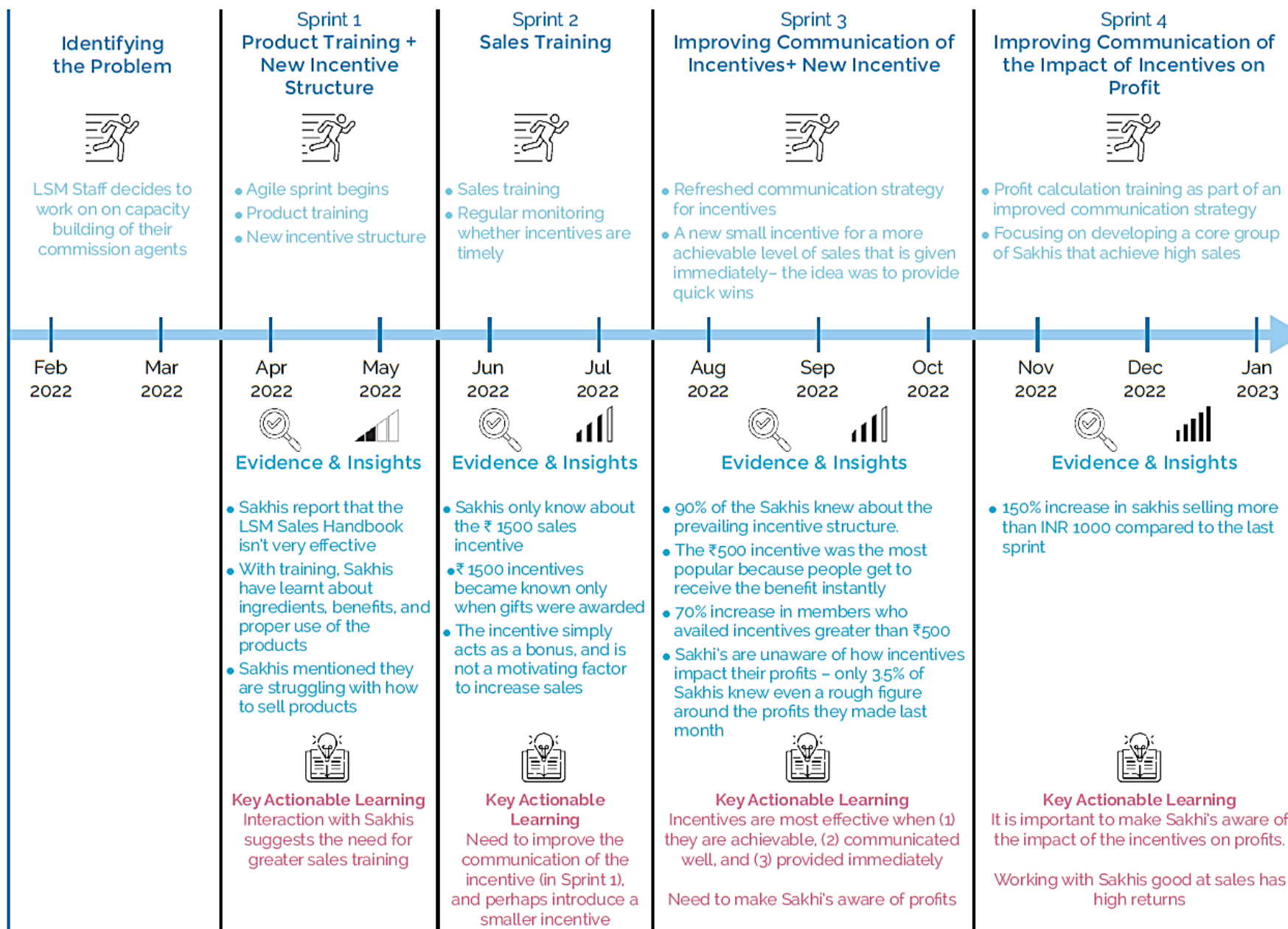
Step 2 Ideate & Design a prototype to solve the problem

Step 3 Deploy & Test the prototype with evidence

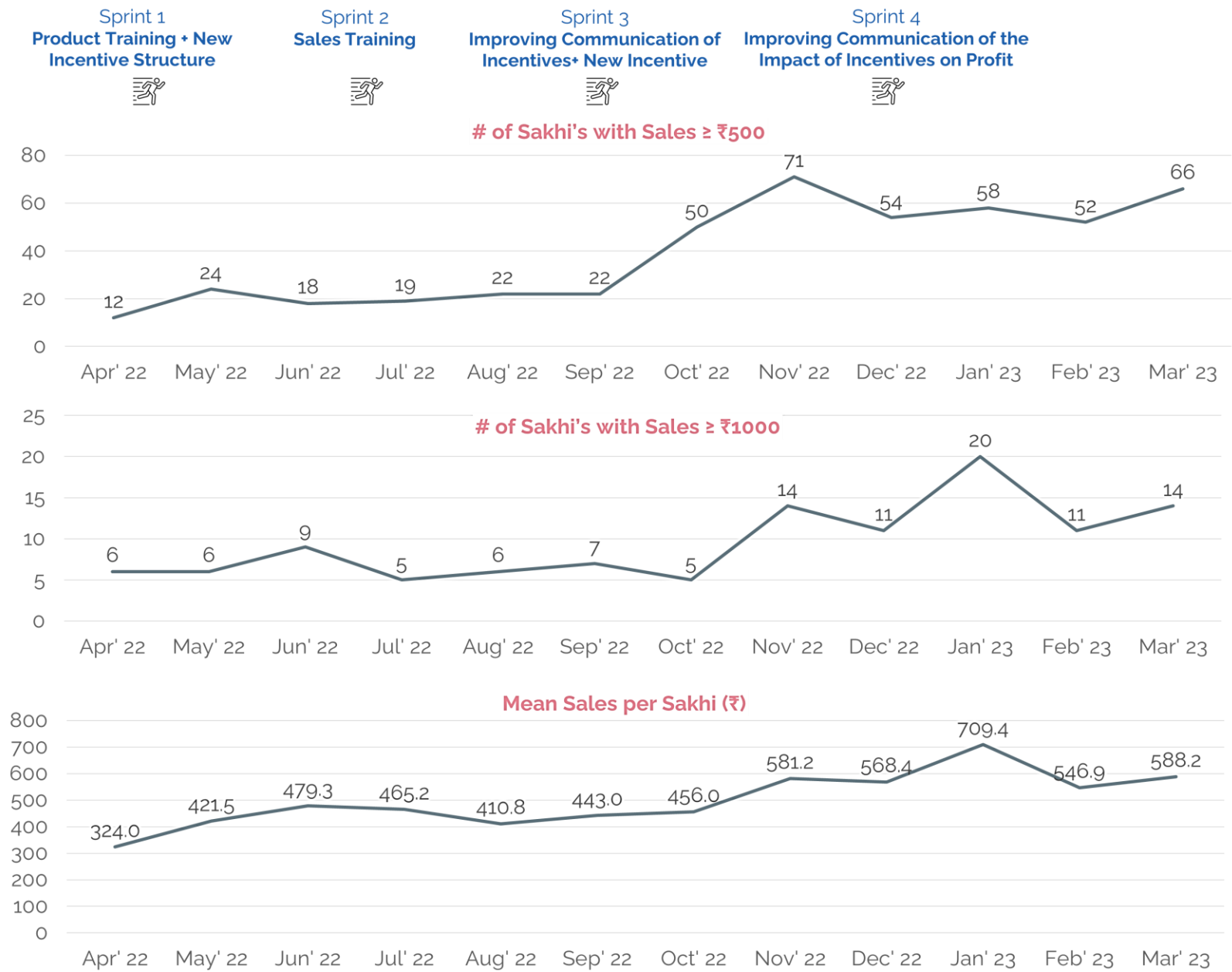
Step 4 Identify actionable learning & redefine the problem







Overall Results Improved Sales



How to Choose the Right Tools



Adaptive Evaluation involves a range of tools

Approaches	Description	Illustrative Tools
System Based	<ul style="list-style-type: none"> • Maps the history of the system and initial conditions • Makes explicit interrelationships between key actors, entities and processes • Identifies enablers and resistors of change • Evaluates the resources and capacity of the system 	<ul style="list-style-type: none"> • Actor Mapping • Dynamic Mapping • Circular Interviews • Roleplaying • Case Studies
Theory-Based	<ul style="list-style-type: none"> • Unpacks mechanisms in-between the intervention and the outcome • Extracts and tests theories and assumptions behind the causal mechanism • Allows engaging with several interventions, hypotheses, and their interactions 	<ul style="list-style-type: none"> • Process Tracing • Causal mapping (fishbone and Ishikawa diagrams) • RCT/Quasi-Experimental Designs • Outcome Harvesting
Iterative	<ul style="list-style-type: none"> • Conducts rapid prototyping, experimentation, and measurement in short sprints • Tests multiple designs and actively learns to improve designs • Builds systems for learning and regular feedback 	<ul style="list-style-type: none"> • Agile for Grassroots • Design Thinking • Problem-Driven Iterative Adaptation • Beneficiary Interviews • User Journey • Process Mapping/Monitoring • Positive Deviance

Source: [Scaling Up Development Impact](#), Guerrero, et al., 2023



Decision Maps based on questions most relevant for your current work

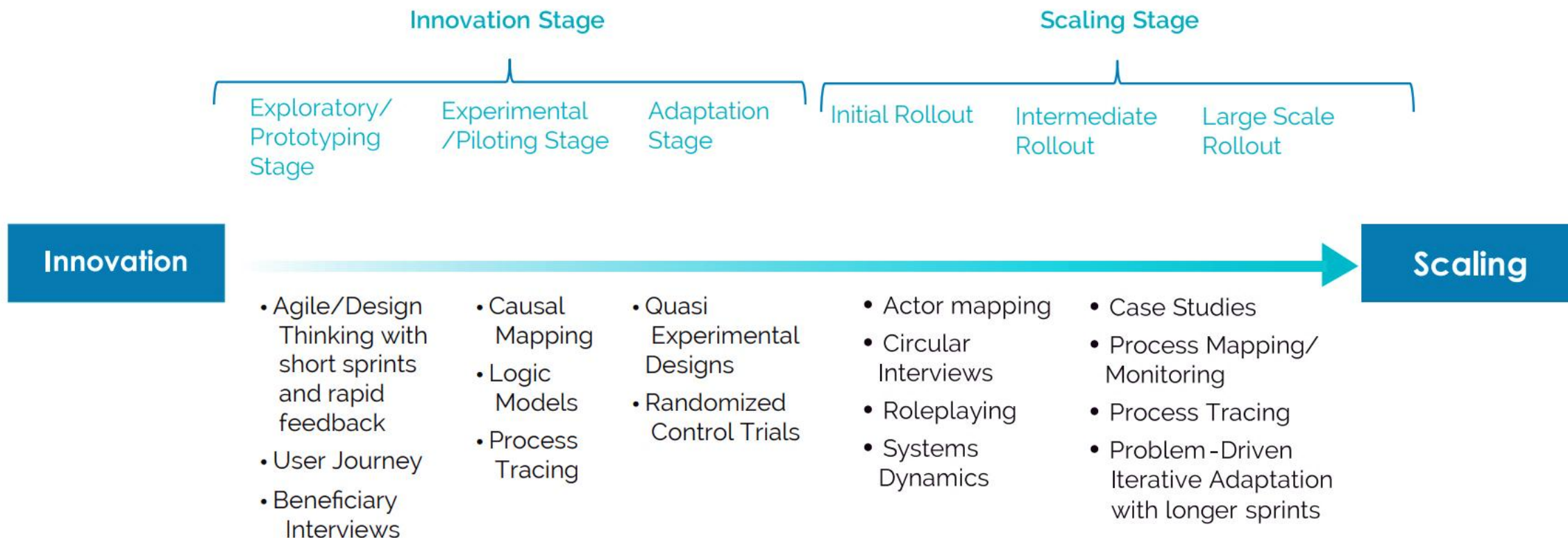
1. System Diagnostic	2. Theory of Change	3. Design Responsiveness
<ul style="list-style-type: none"> • What are the boundaries of the system of interest for the desired change? • Who are the main actors in the system? What are their reciprocal obligations, incentives, and motivations? • What is the history/trajectory of the system over time? What are the initial conditions of the system? • What are enablers and resistors to the desired change within the system? What potential tailwinds and headwinds outside the system affect the desired change? Is resistance from interest or ideas? • What are the resources, capacity, and capabilities of present in the system to implement the desired change now and in the future? • What potential intervention(s) may lead to the desired change in the system? • Do the intervention(s) of interest have the ability to induce the desired transformative change within the system for it to affect the outcome of interest for the intended beneficiary? <ul style="list-style-type: none"> • Does the history and the present context support the intervention? • Are incentives and mindsets of the main actors in the system aligned to make the intervention work? • Is the intervention able to leverage enablers of change and control resistors of change? Is the intervention robust to potential threats and tailwinds? • Is the intervention feasible given the resources, capacity, and abilities in the system? 	<ul style="list-style-type: none"> • What are some expected causal mechanism(s)/channels for the intervention(s) of interest to achieve the desired change? • What are the explicit/implicit assumptions and theories that explain these expected causal mechanisms? • How are the chosen intervention(s) of interest expected to interact with each other, with existing interventions, and the context of the change? • How close was the trajectory of change of the intervention(s) of interest to the hypothesized theory of change? <ul style="list-style-type: none"> • Do the explicit/implicit assumptions or theories that underly the intervention hold? • Which of the expected mechanisms/channels for the intervention(s) worked? • What unintended or unexpected pathways and outcomes occurred? • Do the intervention(s) of interest, crowd out, or enhance each other and existing interventions or initiatives? 	<ul style="list-style-type: none"> • What types of feedback are most useful for the intervention(s) of interest? • What structures(s) can be put in place to receive regular feedback, from end beneficiaries and intermediate processes, of the intervention(s) of interest? • What elements, if any, of the design of the intervention(s) can be potentially be modified in response to feedback? • What elements, if any, of the process to implement the intervention can be potentially streamlined in response to the feedback? • Are the structures to receive regular feedback from end beneficiaries of intervention(s) of interest working effectively? Do they lead to design changes? • Have the actors influencing the intervention (s) of interest demonstrated the capacity to adapt/respond to the changing feedback/shifting context over time to improve design and process?
Systems-based Approaches	Theory-based Approaches	Iterative Approaches



Decision Maps based on complexity



Decision Maps based on innovation-scaling continuum

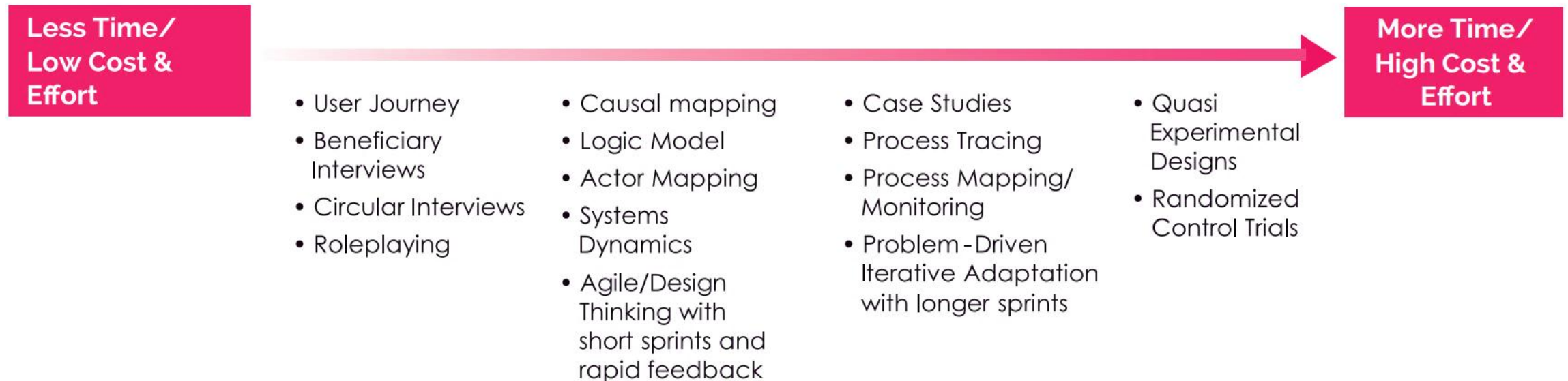


Practical Observation/Tip

We typically advise against investing resources in a full-blown RCT until process tracing provides strong enough evidence that the process is having an impact. Earlier on, quick-design randomization or grassroots-adapted A/B tests, aligned with agile ways of working, can be more useful. Sometimes effects/contributions are so clear you may not need an RCT at all!



Decision Maps based on time, cost, and effort considerations





Discover more about AE, Scaling Up & Systems Change!



[Return to Table of Contents](#)

Our work has been documented in various forms

Adaptive Evaluation

Visual Brief | **Supporting Women Collective Enterprises.** *Siddharth Yadav, Siddhant Gokhale, Vivek Kaila, Anishmita Barah, Michael Walton*—Imago Global Grassroots. Sep 2025. <https://imagogg.org/ideas-and-insights/supporting-women-collective-enterprises/>

Visual Brief | **Enhancing Women's Empowerment Within India's Complex Rural Development System.** *Siddhant Gokhale, Vivek Kaila, Atul Kumar, Chinmay Pant, Michael Walton*—Imago Global Grassroots. Sep 2025. <https://imagogg.org/ideas-and-insights/enhancing-womens-empowerment-within-indias-complex-rural-development-system/>

Paper | **How Recife responded to the challenge of learning deficits in the post-COVID era: An adaptive evaluation of a complex intervention.** *Bellato et al*—Imago Global Grassroots. May 2025. <https://imagogg.org/ideas-and-insights/how-recife-responded-to-the-challenge-of-learning-deficits-in-the-post-covid-era-an-adaptive-evaluation-of-a-complex-intervention>

Learning Workshop | **Applications of an Adaptive Evaluation Approach to Assess SEWA's Women's Enterprise Support System.** *Michael Walton, Siddharth Yadav, Siddhant Gokhale, Michael Woolcock, Sapna Desai, Bidisha Barooah*—Imago Global Grassroots. Feb, 2024. <https://imagogg.org/ideas-and-insights/applications-of-an-adaptive-evaluation-approach-to-assess-sewas-womens-enterprise-support-system/>

Case Study | **How Pratham Learns While Scaling: A Case Study of Adaptive Design and Evaluation.** *Jossie Fahsbender, Siddhant Gokhale, Michael Walton*—Harvard Center for International Development Faculty Working Paper. Nov, 2023 <https://www.hks.harvard.edu/centers/cid/publications/faculty-working-papers/pratham-case-study>

Article | **Adaptive Evaluation for Innovation and Scaling.** *Siddhant Gokhale, Michael Walton*—Harvard Advanced Leadership Initiative Social Impact Review. Oct 2023 <https://www.sir.advancedleadership.harvard.edu/articles/adaptive-evaluation-for-innovation-and-scaling>

Working Paper | **Adaptive Evaluation: A Complexity-Based Approach to Systematic Learning for Innovation and Scaling in Development.** *Siddhant Gokhale, Michael Walton*—Harvard Center for International Development Faculty Working Paper. Mar, 2023 <https://www.hks.harvard.edu/centers/cid/publications/faculty-working-papers/adaptive-evaluation-complexity-based-approach-systematic-learning-innovation-and-scaling>



Our work has been documented in various forms

Scaling Up & Systems Change

Interview | **Scaling Up Development Impact: An Interview with Author Isabel Guerrero.** *Siddhant Gokhale, Jossie Fahsbender*—Harvard Center for International Development Blog: CID Voices. May 2024 <https://www.hks.harvard.edu/centers/cid/voices/scaling-development-impact-interview-author-isabel-guerrero>

Book Excerpt | **Leverage and Experimentation.** *Isabel Guerrero, Siddhant Gokhale, Jossie Fahsbender*—Stanford Social Innovation Review, Mar 2024 <https://ssir.org/books/excerpts/entry/scaling-up-development-impact>

Webinar | **Book Launch: Scaling Up Development Impact.** *Larry Cooley, Isabel Guerrero, Mirai Chatterjee, Gregory Chen, Ndidi Nwuneli*—Scaling Community of Practice Annual Forum. Mar 2024 <https://youtu.be/cLjvvVp-pe8>

Webinar | **Book Launch: Scaling Up Development Impact.** *Isabel Guerrero, Johannes Linn, John Floretta, Veronica Zavala*—Center for Global Development. Jan 2024 <https://youtu.be/cLjvvVp-pe8>

Case Study | **Integrating Systems at Scale: Coordinating Health Care in Houston.** Michelle Fakler (Faculty Lead: Michael Walton)—Harvard Kennedy School Case Program. Nov 2023 <https://case.hks.harvard.edu/integrating-systems-at-scale-coordinating-health-care-in-houston/>

Case Study | **Harambee Youth Employment Accelerator: A Model for Reducing Unemployment in South Africa.** Laura Winig (Faculty Lead: Michael Walton and Eliana Carranza)—Harvard Kennedy School Case Program. Apr 2023 <https://case.hks.harvard.edu/harambee-youth-employment-accelerator-a-model-for-reducing-unemployment-in-south-africa/>

Case Study | **Pratham: The Challenge of Converting Schooling to Learning in India.** Anjani Datla (Faculty Lead: Michael Walton, Isabel Guerrero)—Harvard Kennedy School Case Program. Nov 2020 <https://case.hks.harvard.edu/pratham-the-challenge-of-converting-schooling-to-learning-in-india/>



Our Adaptive Evaluation & Systems Projects

Case Studies of 15 organizations globally on how they have shifted and influenced their systems



AE of an Enterprise Support System for SEWA in India



AE to support the scaling of a pedagogy and teacher training program in the state of Maranhão, Brazil



AE of getting back to school interventions in the state of Minas Gerais Brazil



Systems Diagnostic of a Gender-based Violence Portfolio in Tunisia



AE of state-level convergence of national policies in MP and Bihar in India



AE of getting back to school interventions in Recife Brazil



AE strategy to apply Pratham's TARL in Brazil



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