Systems Thinking for Social Changemakers

by

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SUBMITTED TO THE SYSTEM DESIGN AND MANAGEMENT PROGRAM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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Abstract

Social change makers are intuitive systems thinkers, but to be successful they need to develop more intentional system-level perspectives to coordinate and implement more meaningful and effective solutions that result in positive social and environmental impact outcomes. The social impact space is proliferated with well-intentioned under-resourced, initiatives striving to make positive change. System change has proven to be an elusive goal, despite much discussion and writing on the topic. One contributing reason is that social change makers (students, social entrepreneurs, civic and community leaders) currently don't have sufficient contextual education in systems dynamics to understand how systems thinking might apply to their challenges. Though there are scattered resources that exist to teach Systems Dynamics, there are limited resources available that specifically tie the Engineering practice of Systems Thinking to social issues, areas that are relevant for social change makers.

This thesis employs a meta-level curriculum through a diverse set of teaching methods on 'Systems Thinking' for Social Entrepreneurs to train orchestrators of system change toward positive system level impact. Our goal is to bridge the current gap – make systems thinking more accessible for social change makers, with relevance. Making a traditionally complex topic clear, digestible, simple and contextual for social change makers so that there is a common language/knowledge and an elevated understanding in the community of practitioners. Ideally, social entrepreneurs and their funders would use these tools to get down a "systems thinking" learning curve that often takes years of experimentation and implementation to achieve. The urgency of the problems we face requires more accelerated deployment of deeply intentional systems change.

We have prepared a set of educational tools as a bridge - leveraging the expertise of MIT leadership (seat of Systems Thinking in the US) and Harvard Business School (strong social entrepreneurship). We will build content and IP that helps equip HBS and MIT with accessible tools. We will test and refine these tools in several settings.

Thesis Supervisor: Joan Rubin
Title: Executive Director, System Design & Management Program

Acknowledgments

"We can't impose our will on a system. We can listen to what the system tells us and discover how its properties and our values can work together to bring forth something much better than could ever be produced by our will alone." Donella Meadows

I entered the SDM program with some trepidation as an unconventional student with no engineering experience. I soon learned that my hesitation was unfounded, as the program's flexibility and supportive environment facilitated the accelerated learning and creative application of Systems Thinking and other engineering competencies to the social and organizational pursuits I am passionate about.

My experience over the past two years has afforded me a new perspective on systems, their parts, interconnections, and their behaviors. This skill set has allowed me to ask better questions and become a more creative and courageous thinker. It has also given me a new set of tools to apply to challenge managers and organizations in their worldview.

I am incredibly grateful to Joan Rubin and Senior Lecturer Brian Trelstad (HBS) for supervising this study - their unwavering engagement in the project and in my area of interest gave me spirit and momentum on the journey. I am thankful to Dr. Jason Jay for his invaluable review, insights, and advice along the way.

MIT is a broadly entrepreneurial, energy-filled environment that gave me more opportunities than I could have imagined. My time here has shaped my future research interests and career path, and I will be forever grateful for this experience.

Contents

SYSTEMS CARDS

PRINCIPLES

1 PRINCIPLE: EMERGENCE

A system is more than the sum of its parts.

Thinking in Systems (Meadows, 12)

Example

Harvard University and the Boston Celtics somehow maintain their identity even though all faculty and players may change.

Thinking in Systems (Meadows, 16)

How Might This Concept Apply In Your Context?

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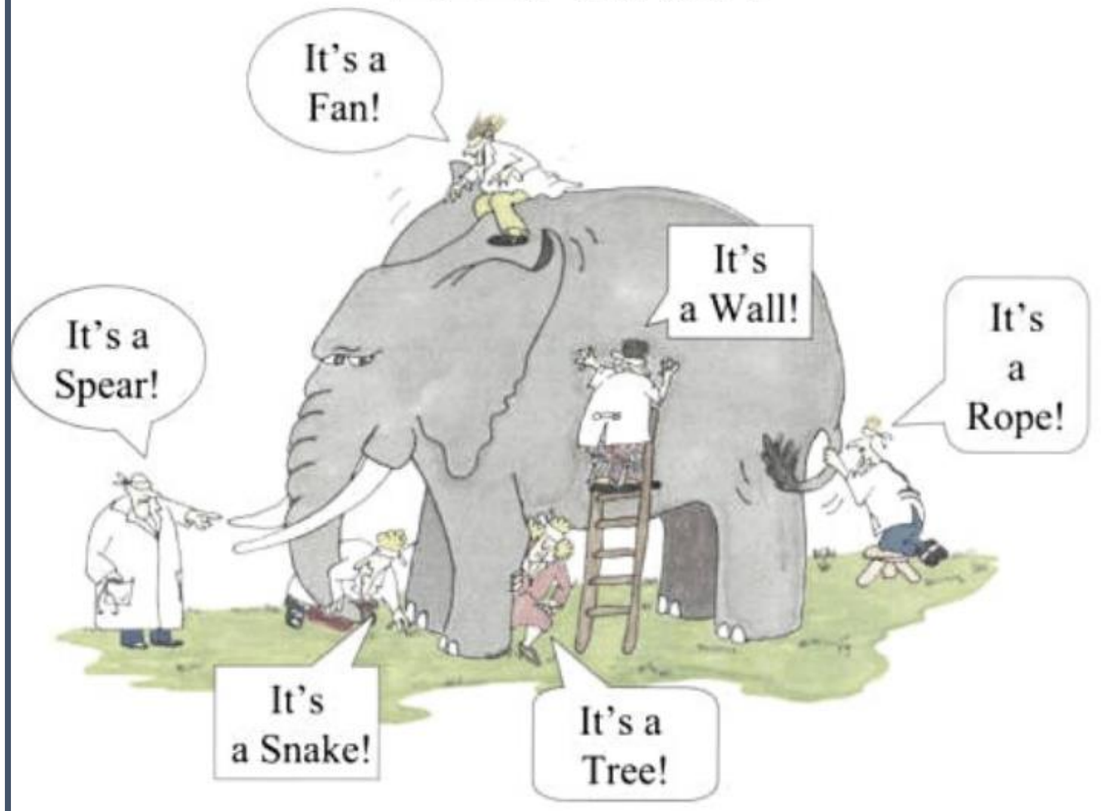
2

PRINCIPLE: THE BLIND MEN AND THE ELEPHANT



Everyone sees part of a more complex reality and tends to assume that what they see is the whole picture.

Systems Thinking for Social Change (Stroh, 33)

Example

For the issue of over-incarceration, depending on your reality, you might see the priority as sentencing reform, or the institutional work of resettlement and supportive services, or reorienting parole and probation policies, or challenging the prison lobby.
One issue. Many views.

Systems Thinking for Social Change (Stroh, 34)

How Might This Concept Apply In Your Context?

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3

PRINCIPLE: NONLINEARITIES

Most relationships are nonlinear.

Thinking in Systems (Meadows, 94)

Example

Selected, tasteful advertising can awaken interest in a product, while a lot of blatant advertising can create disgust.

Thinking in Systems (Meadows, 92)

How Might This Concept Apply In Your Context?

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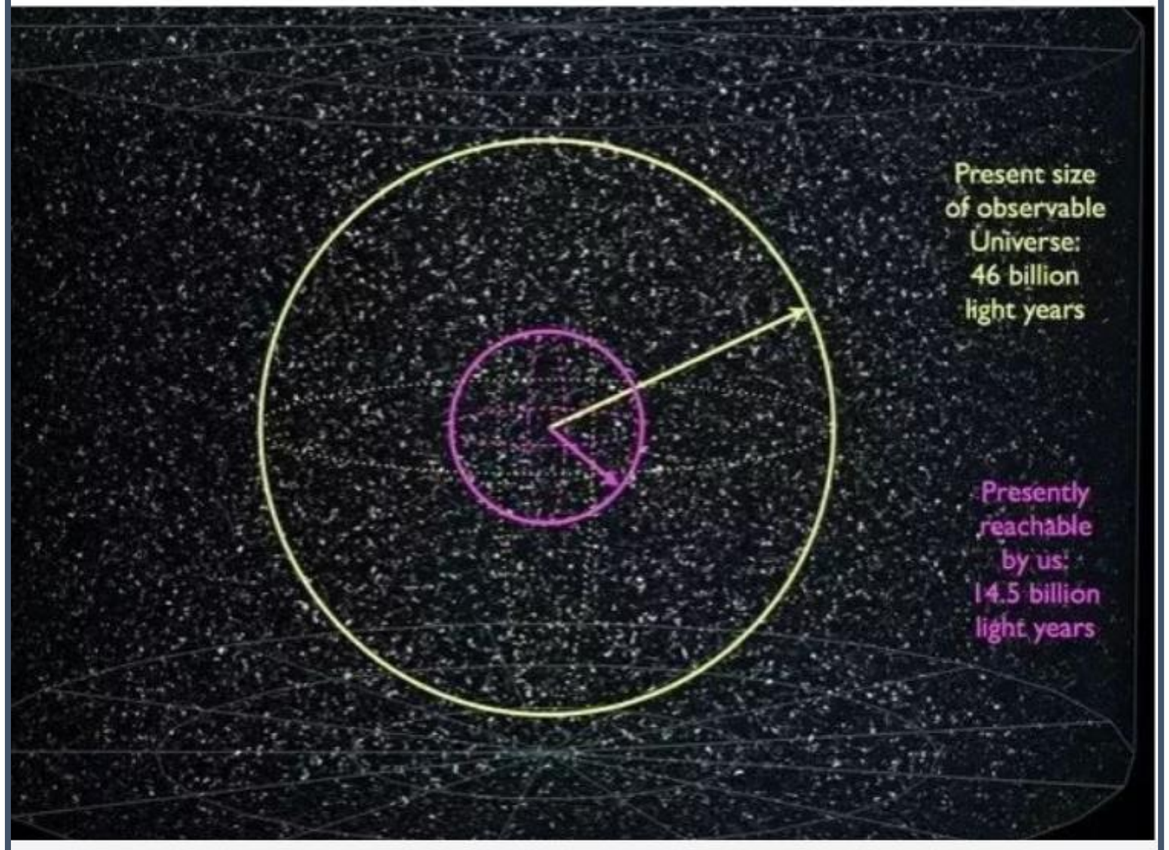
4 PRINCIPLE: SYSTEM BOUNDARIES



There are no separate systems - the world is a continuum.
Where to draw the system boundary depends on the purpose of the discussion.

Thinking in Systems (Meadows, 97)

Example

In the case of the US criminal justice system, the broader system could include how crime is currently fought, the negative unintended consequences of this system structure and the reformers' efforts to mitigate these consequences.

Systems Thinking for Social Change (Stroh, 31)

How Might This Concept Apply In Your Context?

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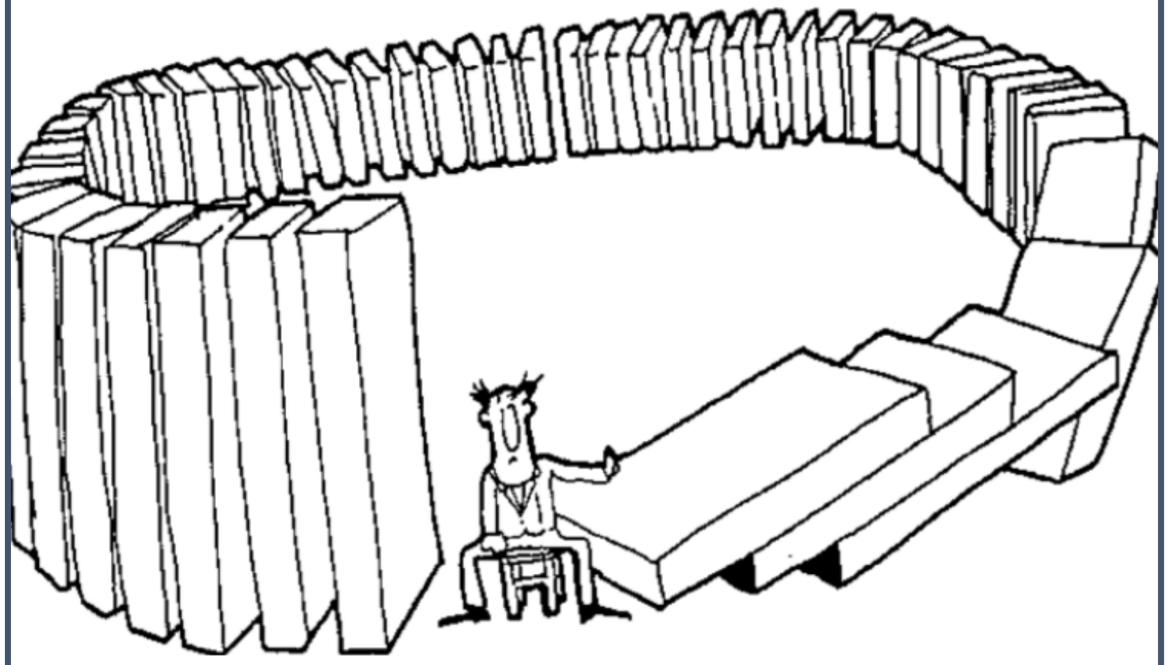
5

PRINCIPLE: CAUSE AND EFFECT



We act like cause and effect are closely linked in time and space, but in complex systems, cause and effect are often distant in time and space.

Business Dynamics (Sterman, 11)

Example

Attempts to control traffic congestion through road building may lead to more cars, swiftly building congestion back up. What road construction actually controls is more distant in time and space. Road construction causes the dramatic expansion of urbanized areas, growth of malls, and declines in farm, forest and field.

Business Dynamics (Sterman, 189)

How Might This Concept Apply In Your Context?

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6

PRINCIPLE: STABILITY AND RESISTANCE

Balancing feedback loops are both sources of stability and resistance to change.

Thinking in Systems (Meadows, 40)

Example

Implementing initiatives to support positive health practices for at-risk youth in Africa leads to a reduction in HIV rates. On the other hand, scaling positive health practices can be met with resistance from historic cultural practices.

Research Assistant (HBS)

How Might This Concept Apply In Your Context?

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7

PRINCIPLE: REINFORCING FEEDBACK

**If 'A' causes 'B',
it is also possible that 'B' causes 'A'.**

Thinking in Systems (Meadows, 34)

Example

When a nonprofit organization is unable to demonstrate positive social impact, its brand reputation may weaken, making it difficult to attract resources and customers which may drive performance down further.

Systems Thinking for Social Change (Stroh, 46)

How Might This Concept Apply In Your Context?

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8 PRINCIPLE: DOMINANCE

When one loop dominates another, it has a stronger impact on behavior.

Thinking in Systems (Meadows, 44)

Example

When fertility rate is higher than mortality rate in a population facing a health crisis, the resulting net growth in the population will cause an increase in the number of people infected because the reinforcing loop is stronger than the balancing one.

Research Assistant (HBS)

How Might This Concept Apply In Your Context?

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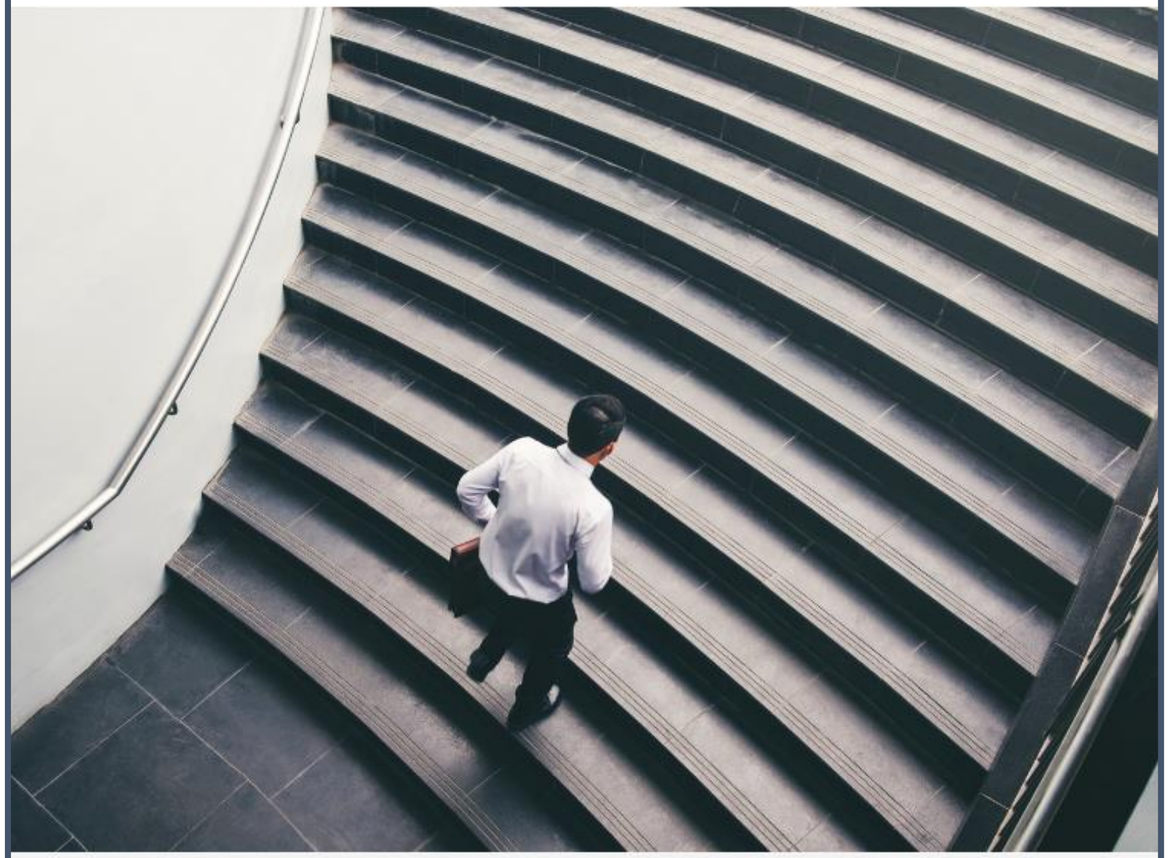
9

PRINCIPLE: EXPONENTIAL GROWTH



A quantity growing exponentially toward a constraint or limit reaches that limit in a surprisingly short time.

Thinking in Systems (Meadows, 63)

Example

Exponential growth of COVID-19 and the global pandemic has demonstrated how quickly the virus was able to spread worldwide.

Research Assistant (HBS)

How Might This Concept Apply In Your Context?

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10 PRINCIPLE: DELAYS

Delays are pervasive and strong determinants of system behavior.

Thinking in Systems (Meadows, 57)

Example

It will take many years to shift how we conserve energy and manufacture it from environmentally neutral sources. Once we implement these changes, it will take additional time to reduce carbon dioxide levels to necessary levels, and may already be too late to reverse some changes such as rising sea levels from melting icebergs.

Systems Thinking for Social Change (Stroh, 42)

How Might This Concept Apply In Your Context?

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11

PRINCIPLE: SACRIFICING RESILIENCE

People often sacrifice resilience for stability, or for productivity or for some other immediately recognizable system property.

Thinking in Systems (Meadows, 77)

Example

Injections of growth hormone increases a cow's milk production, without proportionally increasing the cow's food intake. This diverts some of the cow's energy from other important bodily functions to milk production. The cost of increased production is lowered resilience. The cow is less healthy, less long-lived, more dependent on human management.

Systems Thinking for Social Change (Stroh, 77)

How Might This Concept Apply In Your Context?

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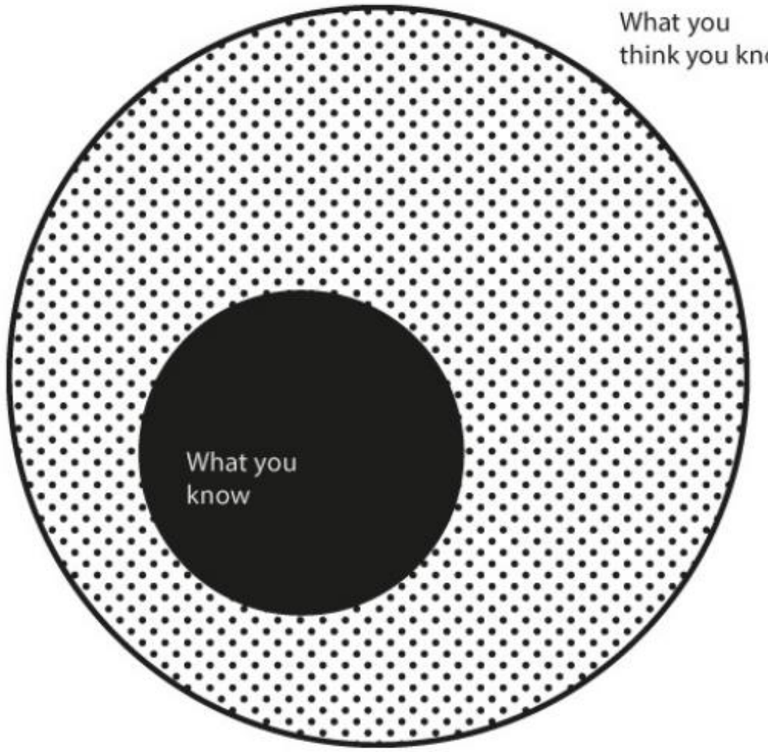
12

PRINCIPLE: BOUNDED RATIONALITY



The bounded rationality of each actor in a system may not lead to decisions that further the welfare of the system as a whole.

Business Dynamics (Sterman, 27)

Example

Even though the criminal justice system consumes enormous tax dollars, public officials who promote mass incarceration may fan fear to win votes or do so unwittingly by resisting efforts to ameliorate this fear. For example, they may resist innovative approaches to resettling formerly incarcerated people that could reduce recidivism out of their own fear of appearing soft on crime.

Systems Thinking for Social Change (Stroh, 35)

How Might This Concept Apply In Your Context?

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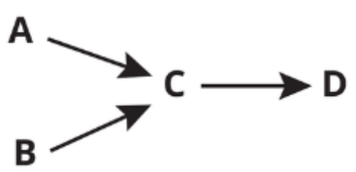
13

PRINCIPLE: EVENTS ARE NOT ISOLATED. THEY ARE MORE PREDICTABLE THAN WE THINK THEY ARE.

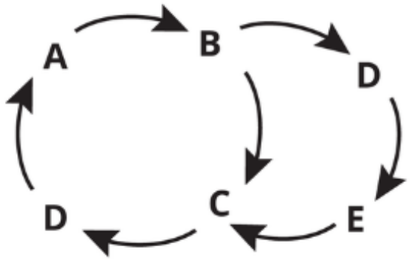
Event Oriented Thinking

Thinks in straight lines



Systems Thinking

Thinks in loop structure



The accumulation and interaction of events overtime reveal dynamic patterns of system behavior.

Thinking in Systems (Meadows, 89)

Example

We are fascinated by the seemingly chaotic twists and turns of the weather. If we were to see the dynamic patterns of these events - ex/variance of the river is increasing with higher floodwaters during rains and lower flows during droughts, this would help move from an event-based to a system-based perspective.

Thinking in Systems (Meadows, 88)

How Might This Concept Apply In Your Context?

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14

PRINCIPLE: REACTING TO SYMPTOMS

To act only when a problem becomes obvious is to miss an important opportunity to solve the problem.

Thinking in Systems (Meadows, 105)

Example

Delay between catching a disease and getting sick enough for symptoms to show can be years, at which point it is oftentimes too late to solve the problem.

Thinking in Systems (Meadows, 104)

How Might This Concept Apply In Your Context?

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ARCHETYPES

15

ARCHETYPE: THE WINNER TAKES ALL

Success comes to the successful.

Systems Thinking for Social Change (Stroh, 60)

Example

Those who are wealthy have savings and inherited wealth that lead to further income generating investments like stocks, land, higher-quality education, better health care and access to influential people.

Systems Thinking for Social Change (Stroh, 60)

How Might This Concept Apply In Your Context?

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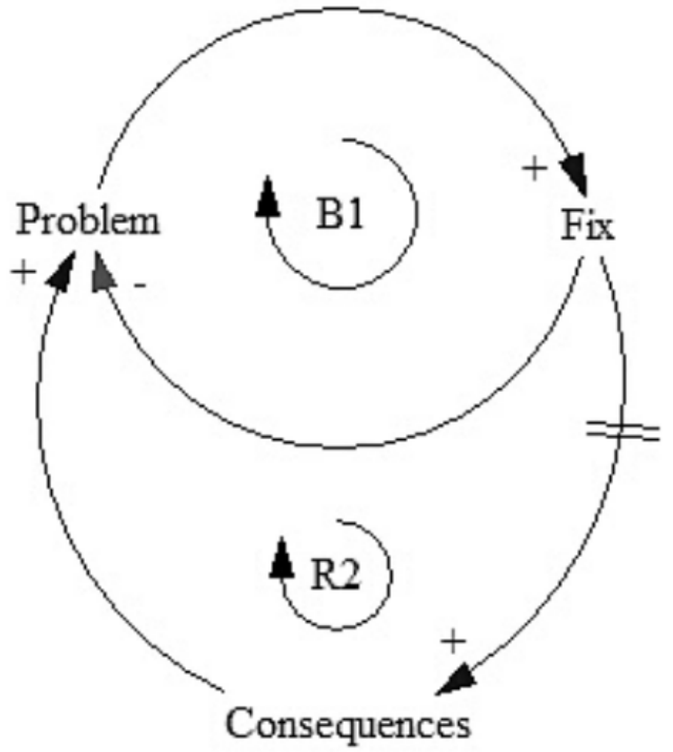
16

ARCHETYPE: FIXES THAT BACKFIRE



We design solutions that appear beneficial in the short-term but have negative long-term consequences.

Systems Thinking for Social Change (Stroh, 67)

Example

As costs of health care increase, hospitals can save money by reducing the length of patient hospital stays. However, patients are often sent home too early and must be readmitted, thereby increasing costs of care further.

Systems Thinking for Social Change (Stroh, 54)

How Might This Concept Apply In Your Context?

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17

ARCHETYPE: SHIFTING THE BURDEN

Despite their better judgment, people become addicted to the quick fix.

Systems Thinking for Social Change (Stroh, 55)

Example

There is a general understanding in the development community that the fundamental solution to starvation is strong local agriculture. Food aid undermines motivation to develop local infrastructure. In addition, free food drives down local food prices and makes it difficult for farmers to grow and distribute food profitably, thereby weakening local agriculture even further.

Systems Thinking for Social Change (Stroh, 56)

How Might This Concept Apply In Your Context?

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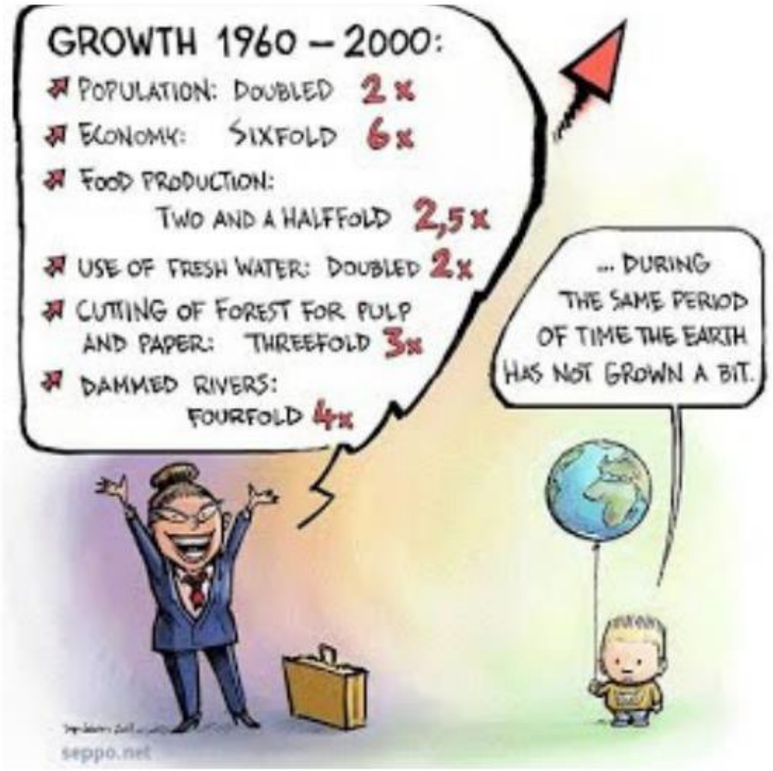
18

ARCHETYPE: LIMITS TO GROWTH



There will always be limits to growth. Nothing grows forever.

Thinking in Systems (Meadows, 103)

Example

The epidemic will run out of people to infect - or people will take increasingly stronger steps to avoid being infected.

Thinking in Systems (Meadows, 155)

How Might This Concept Apply In Your Context?

Please type in this space

19

ARCHETYPE: ACCIDENTAL ADVERSARY

You don't need bad intentions to become an accidental adversary.

Systems Thinking for Social Change (Stroh, 62)

Example

Elected officials need civil servants to implement their initiatives, and civil servants benefit from the political influence of elected officials. As election cycles shift elected officials' priorities, and civil servants continue to seek mission-critical work, the two parties who would otherwise benefit from each other, may become adversaries.

Systems Thinking for Social Change (Stroh, 62)

How Might This Concept Apply In Your Context?

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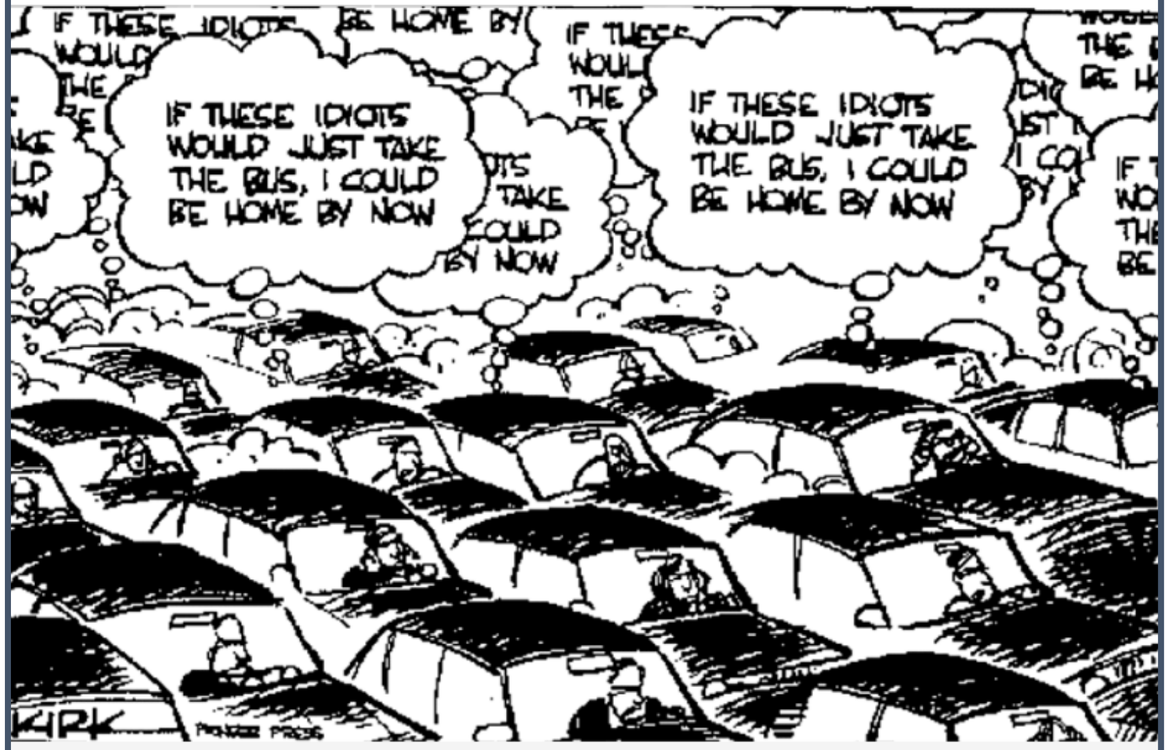
20

ARCHETYPE: THE TRAGEDY OF THE COMMONS



Everyone takes advantage of a resource that doesn't belong to anybody.

Systems Thinking for Social Change (Stroh, 67)

Example

Most easily recognizable in the destruction of our natural resources - overharvesting fisheries and forests, polluting air and water.

Systems Thinking for Social Change (Stroh, 52)

How Might This Concept Apply In Your Context?

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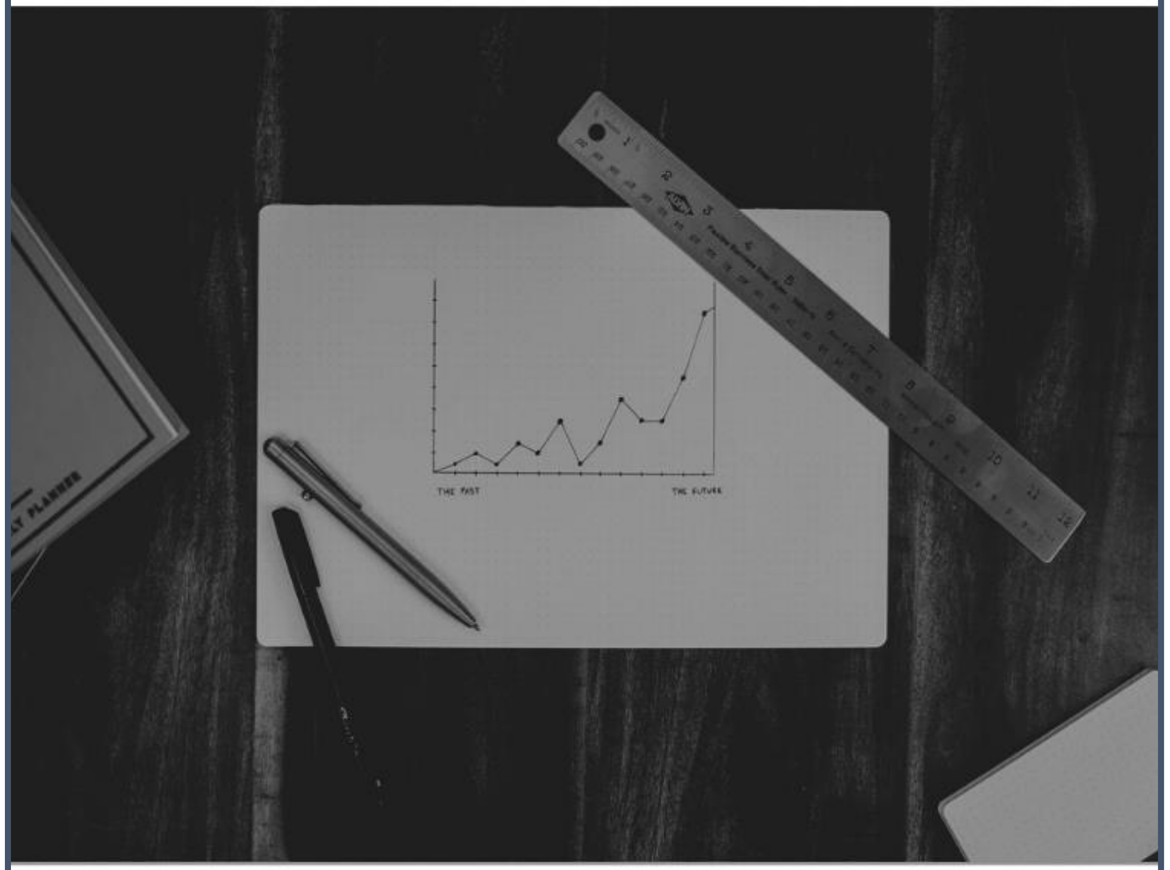
21

ARCHETYPE: SELF-CREATED LIMITS



We push to grow and underinvest in our capacity to grow.

Systems Thinking for Social Change (Stroh, 67)

Example

A common example is funding for new social ventures that is restricted to expand an organization's direct services at the expense of developing requisite organizational capacity.

Systems Thinking for Social Change (Stroh, 65)

How Might This Concept Apply In Your Context?

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LEVERAGE POINTS

22

LEVERAGE POINT: CHANGING PARADIGMS

Changing the way people think about something can change the dynamics of the system.

Thinking in Systems (Meadows, 103)

Example

There is a growing gap between an increasing incarceration rate and decreasing crime rate in the US. Some conclude that racism drives current criminal justice policy more than crime itself. Others look at the same data and believe that a small portion is attributable to incarceration and that this data proves the beneficial impact of incarceration on reducing crime.

Systems Thinking for Social Change (Stroh, 38)

How Might This Concept Apply In Your Context?

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23

LEVERAGE POINT: STRENGTH OF BALANCING FEEDBACK LOOPS

If an impact increases, the balancing feedback loop that is designed to correct it must also increase.

Leverage Points - Places to Intervene in a System (Meadows)

Example

As some private corporations continue to exploit the environment through their business practices, the introduction of impact fees, pollution taxes, and performance bonds to recapture the externalized public costs of private benefits must also be introduced and increased to correct the negative impact.

Thinking in Systems (Meadows, 155)

How Might This Concept Apply In Your Context?

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24

LEVERAGE POINT: CHAOS PREVENTION

Slow down positive feedback loops to prevent chaos.

Leverage Points - Places to Intervene in a System (Meadows)

Example

The wealthy give their kids inheritances and good education. Antipoverty programs are weak balancing loops that try to counter these strong reinforcing ones. It would be more effective to weaken the reinforcing loops through progressive income tax, inheritance tax, and universal high-quality public education programs.

Thinking in Systems (Meadows, 156)

How Might This Concept Apply In Your Context?

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25

LEVERAGE POINT: NEW LOOP

Sometimes, a new loop is required to deliver information where it wasn't going before, therefore causing people to behave differently.

Leverage Points - Places to Intervene in a System (Meadows)

Example

Introduce a new practice that every public or private official who makes the decision to invest in a nuclear power plant must have the waste from that facility stored on his or her lawn

Thinking in Systems (Meadows, 157)

How Might This Concept Apply In Your Context?

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26

LEVERAGE POINT: THE POWER OF RULES

If you want to understand the deepest malfunctions of systems, pay attention to and find a way to influence the rules of the system

Leverage Points - Places to Intervene in a System (Meadows)

Example

Lobbyists congregate when Congress writes laws to influence the rules of the system.

Thinking in Systems (Meadows, 158)

How Might This Concept Apply In Your Context?

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JULY 22, 2021

MODULE NOTE

Systems Thinking

Systems thinking is a discipline that emerged in the 20th century as a way to understand the complex interrelationships among various players and dynamics within an industry or field that resist simple, reductionist thinking. The big challenges we face play out in complex social-environmental systems, and the strength of systems thinking is in widening the perspective to see the fundamental relationships and dynamics that enable us to address challenges at the root cause rather than at the surface.

The field of study 'System Dynamics', which brought formality to the practice, was born at the MIT Sloan School of Management in the 1950s[1] and was developed by a group of scholars that included Jay W. Forrester, John Sterman, Peter Senge, and Donella Meadows, among others. They developed the practice of systems thinking by applying complex system theory with a broader socio-technical view to solve business, management, and social and environmental problems.[2] As linear approaches to solving complex social issues appear to have had limited success, systems thinking has emerged as a promising alternative in fields as diverse as health care, education reform, criminal justice, and economic equality as a way of diagnosing the forces at work and identifying potential solutions.

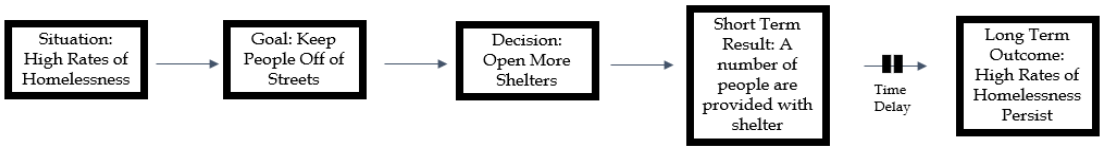
This paper summarizes the core concepts of systems thinking and its application to the field of social innovation.

Introduction to Systems Thinking

There are many stories of well-intentioned yet ineffective and even counterproductive programs attempting to address social challenges. For example, food aid programs have been shown to lead to increased starvation by stifling local agriculture. And increases in rates of incarceration can lead to long-term increases in the crime rate by failing to provide support to returning citizens when they are released from prison, leading to high rates of recidivism.

This module note was prepared by Professor Brian L. Trelstad and independent researcher Preeti Varma to aid students in Social Entrepreneurship and Systems Change.

Why does this happen? One explanation is that people generally adopt an event-based linear view of causality. As an example of this perspective, in the case of homelessness, one may see the following occur:



Source: Created by casewriters.

The problem with this approach is that it ignores feedback processes, fails to appreciate time delays between decision and result, and is insensitive to the fact that change is often non-linear.[3] Though the immediate output of this model might temporarily provide shelter to the homeless in the short term, due to a complex range of factors (e.g. the lack of long-term affordable housing, drug rehab, or job training), the long-term results might show no change in the high rates of homelessness, and the problem persists.

By contrast, a systems thinking approach allows one to move from this type of linear view of the world to a more dynamic, feedback-oriented view. In the example of homelessness, a systems approach to the problem would develop a more complex understanding of the issue and allow for solutions to emerge that *reduce* dependency on the temporary shelter system. Looking at this problem with a systems lens would reveal that funding towards quick solutions may deter efforts to make long-term affordable housing available. Or it might reveal that homeless shelters don't have the supportive services for residents that might help them out of the cycle of homelessness. For example, without a fixed mailing address, those who are homeless may not be able to secure sustainable employment opportunities or educational opportunities for their children.

When properly used, systems thinking can help:

- Uncover root causes of chronic, complex problems
- Strengthen the ability to evaluate impact over the longer-term and inform continuous learning
- Deepen an understanding of the problems to be solved to help identify points of intervention that can focus limited resources for maximum, lasting system-wide improvements
- Mobilize diverse stakeholders to take actions that increase the effectiveness of the whole system over time rather than their immediate self-interests
- Anticipate and avoid the negative longer-term consequences of well-intentioned solutions
- See the bigger picture and understand the deeper structure of interrelated entities.

When applying a systems lens, one can start to observe that the function of the system is more than the sum of its individual parts.[4] This system concept is known as **emergence**. In social systems, emergence can support meaningful transformation that had seemed beyond the capacity of any individual actor. For example, the organization 'Community Solutions' develops shared goals, common data and a culture of collaboration among stakeholders in the social services field to organize communities for a long-term reduction of chronic homelessness to zero.

The Basic Language

The basic language of most systems derives from a handful or identifiable elements and the relationships among these basic elements: stocks, flows, **feedback loops**, and **delays** caused by the **interactions** within the system.[5]

Stocks and Flows

Stocks are the elements of the system that you can see, feel, count or measure at any given time. Stocks are accumulations (e.g. the population of the homeless in a city at a given time). They characterize the state of the system and generate the information upon which decisions and actions are based.[6] Stocks change over time through the actions of a **flow** (e.g. births, deaths, enrollment, graduations, deposits, withdrawals). Stocks can build when there are **delays** between the inflows and outflows within a system. And the perception of stocks can also be affected by delays, as looking only at the stock without understanding the flows can lead to misinterpretation of how well the system is functioning at a given time.

Source: Created by casewriters.

The Carbon Bathtub Analogy is a helpful metaphor to understand stock and flows. Developed by MIT Professor John Sterman, the Bathtub depicts the stock as CO_2 in the atmosphere. The inflows represent the CO_2 added through human activity and the outflows depict the CO_2 removed from the atmosphere through absorption by trees and the ocean. According to the analogy, if more CO_2 is added into the atmosphere than is removed, the concentration CO_2 in the atmosphere will continue to grow over time, and the Earth will warm.

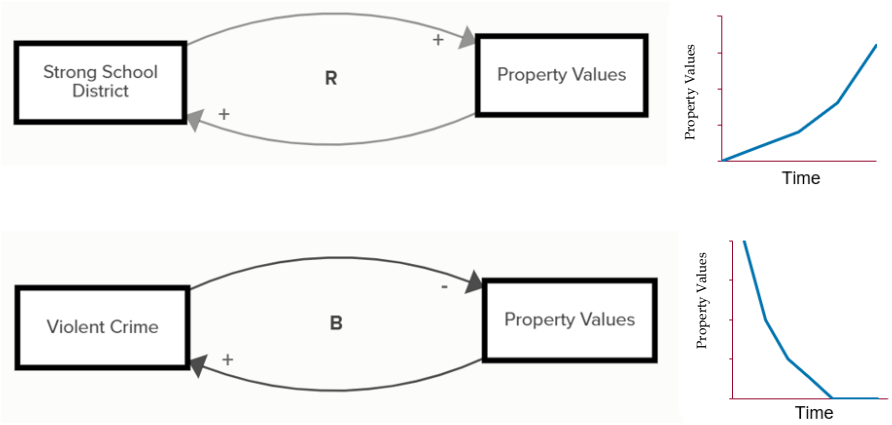
Perhaps more familiar to business students, financial "stocks" (e.g. inventory, cash, debt) are captured on the balance sheet, while financial "flows" are recorded in the income and cash flow statements for a specific period of time (e.g. quarterly or annually).

Feedback Loops

No matter how complex a system is, there are just two types of feedback loops: positive (or self-reinforcing) and negative (or self-correcting). All dynamics arise from the interaction of these feedback loops with the stocks and flows within a system. Positive feedback loops reinforce and amplify what is happening and negative feedback loops counteract and oppose, or slow down, change.[7]

Population dynamics are a simple demonstration of positive feedback loops through births, and balancing feedback loops through deaths. In the social sector, an example of a positive or reinforcing feedback loop is a strong school district's influence on property values. The desirable schools may attract high-income residents to the area, thereby increasing home prices and property values, which leads to an increased tax base, which increases funding for the local schools, which are principally paid for through local property taxes. More funding for the local schools coupled with a continuous influx

of high-income, well-educated residents reinforces the high quality of the schools through a positive feedback loop.



Source: Created by casewriters.

A negative or balancing feedback loop, on the other hand, might exist in the influence of crime in a neighborhood on property values. Crime might cause reputation, resources, local labor markets, school quality, safety and socio-economic conditions to weaken, making it difficult to attract developers, investors and residents, driving property value down. Lower property values and worsening neighborhood conditions might create conditions that promote further crime, with fewer resources to promote public safety.

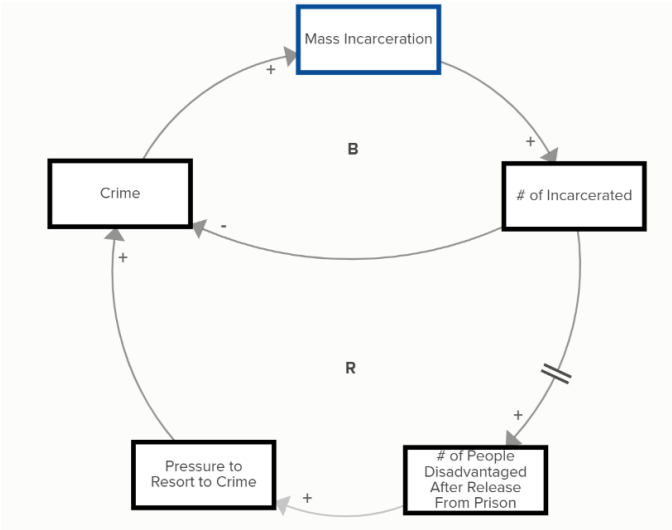
System Behavior and Common Archetypes

System behavior reveals itself over time.[8] A system may exhibit adaptive, dynamic, tightly coupled, self-organizing, non-linear, and counterintuitive behavior.[9] For example, as we have discussed, crime is highly dynamic, adapting to the local economic conditions and perceptions of safety. Or in a virtuous cycle, property values and school quality might be tightly-coupled attributes of a system. Or in systems that do not follow linear paths, you might see counter-intuitive behavior, like the expansion of homelessness shelters leading to an increase in the homeless population, rather than the reverse.

The following five system archetypes represent common system plot lines that produce characteristic patterns of behavior across diverse types of systems:

1. Fixes that Backfire

We often see this when we design solutions that appear beneficial in the short-term but have negative long-term unintended consequences that further exacerbate the problem. Moreover, time delays can make it difficult to recognize that these negative consequences are happening, perhaps as a result of the solution. A classic example of a "fix that backfired" is the role of prisons as a solution for crime. As crime increases, the number of incarcerated citizens also increases. Over time, and with delays, as more individuals are released from prison, they face common barriers to re-entering society and the workforce, given their criminal record, leading some to return to their patterns of living before incarceration, with some resorting to more crime, which can further increase crime rates.[10]



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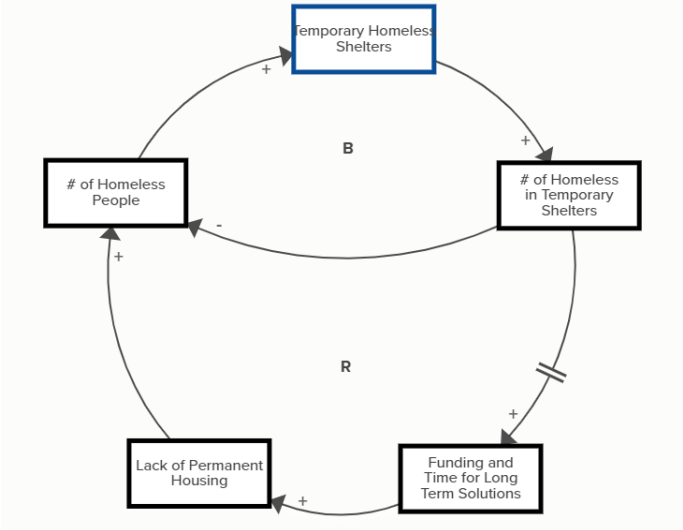
2. Shifting the Burden

When an intervention designed to correct a problem causes the self-maintaining capacity of the original system to atrophy or erode, it is referred to as 'Shifting the Burden'. This creates an unintended dependency on a short-term solution that reduces the capacity and desire to implement a more fundamental solution. The system becomes increasingly dependent on the intervention and increasingly unable to maintain its own desired state.[11] This is the behavior we see in relation to maintaining temporary homeless shelters as a solution to the problem of homelessness. As the number of people in homeless shelters increases, the urgency, funding and focus on long-term housing solutions decreases. This leads to a lack of affordable, permanent housing solutions. The 'burden' of the problem falls on to the temporary solution and is shifted away from the focus on building infrastructure that may solve the problems in the long run.



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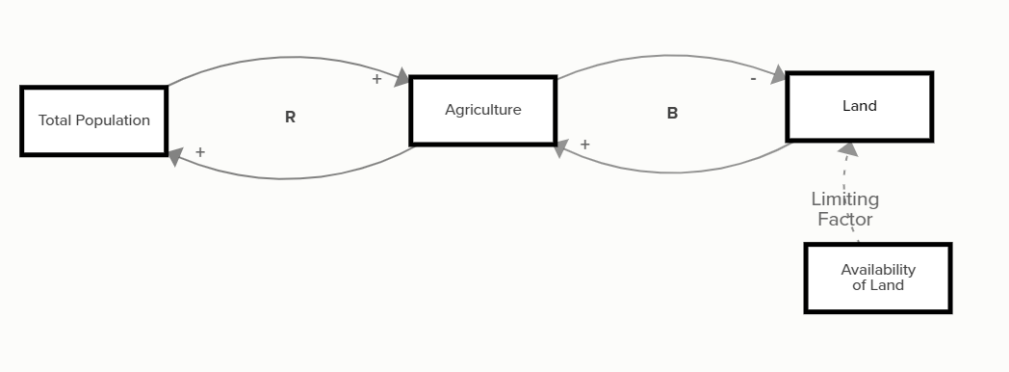
3. Limits to Growth

This system archetype describes how any engine of growth or success, however effective for the short-term, will inevitably be constrained by external and internal factors. These constraints must be overcome to sustain success. We see this archetype as the population grows. As food production increases, the population continues to grow. However, when land becomes limited, by which to support the growing population, there is a constraint that limits the ability for the population to grow.



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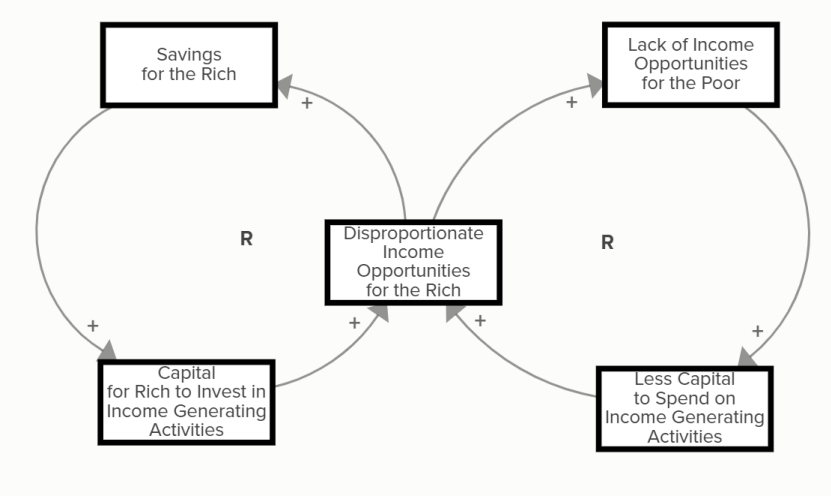
4. Success to the Successful

In the 'Success to the Successful' archetype, a pattern emerges whereby winners of a competition are systematically rewarded with the means to win again. Thus, a reinforcing feedback loop is created which, if allowed to proceed uninhibited, results in winners taking all, and losers being eliminated.[12] This archetype can be seen with the wealth gap in the United States: as people earn wealth, the growth of their assets shift from income to capital appreciation. As the wealthy continue to invest their increased savings, their opportunities for wealth generation also increase. At the same time, this limits and decreases the income generating opportunities for those without wealth, which perpetuates a cycle of the rich getting richer, and the poor getting poorer.



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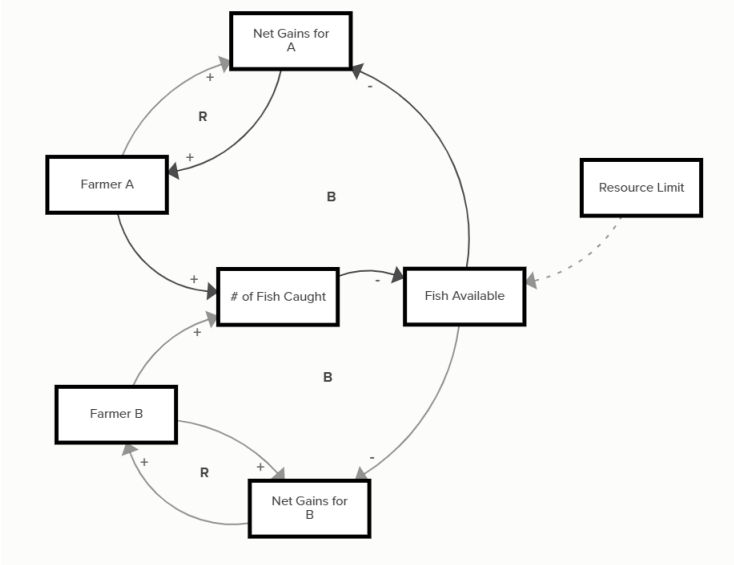
5. Tragedy of the Commons

The 'Tragedy of the Commons' archetype refers to a system in which there is a commonly shared resource which every user benefits from but is not accountable for, such as a fishery or a common pasture. In these cases, there may be a very weak feedback loop linking the condition of the resource to each individual user's' decisions on how much of the shared resource to use. The consequence is overuse of the resource, eroding it until it becomes unusable to anyone.[13] This archetype is most easily recognizable in the destruction of our natural resources – overharvesting fisheries and forests, and polluting air and water leading to a decrease in the availability of the resource.



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Leverage Points

"*The bottom line of systems thinking is leverage – seeing where actions and changes in structures can lead to significant, enduring improvements. Often, leverage follows the principle of economy of means: where the best results come not from large-scale efforts but from small well-focused actions.*"[14]

– Peter Senge

As systems become more complex, their behavior can become surprising. Because of this, the places to intervene in a system (leverage points) are often counterintuitive.[15] An example of a leverage point is education for girls in developing countries as a way to promote economic development. When girls are educated, they are able to stay in school, delay when they get married or start families, earning them more income, which can be reinvested in community development, health and education. How might we start to create effective system interventions? System thinking points to four areas where high-impact leverage points might emerge as cost-effective ways to change the system's dynamics towards a more desirable outcome.

1. Ask powerful questions

Social entrepreneurs are often intuitive systems thinkers because they are unafraid to ask powerful and often simple questions such as: why have we been unable to solve this problem despite our best efforts? How might we be partly responsible, albeit unwittingly, for the problem? What might be the

unintended consequences of our previous and proposed solutions? Who might we involve in a better understanding of what is happening to people stuck in the broken system?

2. Shift mental models

In system dynamics, the term **'mental model'** refers to our beliefs about the networks of causes and effects that describe how a system operates, along with the boundary of the model (what is included and excluded).[16] We all have our own mental models, our unique perspectives in any given situation. Let's revisit the mental models that might exist in the issue of homelessness, for example. Donors may feel frustrated, thinking that they continue to donate without seeing defined results. Public officials might decide to continue implementing short-term solutions, because the best practices take too long. Those on the front lines might feel urgency to help more acutely. Surfacing questions and testing people's beliefs and assumptions can be a powerful way to shift mental models to create new pathways for cooperation and opportunities for change.

3. Align stakeholders around a purpose

Engage the community, creating collaboration among providers and stakeholders. Assess together whether current goals, metrics, incentives, authority structures support or undermine the achievement of the purpose. Focus on the relationships and interactions of the components of the system, instead of adding details to the system and creating isolated bodies of work and research.

4. Rewire the systems dynamics

Interventions that strategically address parts of the underlying system's dynamics (i.e. the "rules of the game) can be powerful leverage points for change. We can choose interventions that build or strengthen feedback loops where feedback previously doesn't exist providing information that wasn't there before to improve a system's self-correcting abilities (e.g. preventative medicine, protection for whistleblowers, and carbon taxes are examples of this technique). Finally, we can consider incentives, punishments, and constraints that can influence the rules of the system as a whole. This includes influencing policy, education and raising awareness in the system.

Principles for Systems Thinkers[17]

Because systems thinking emerged as a highly quantitative discipline, there is a temptation to measure everything, or a frustration that if you can't measure everything, you can't change the system. Donella Meadows, one of the pioneers in the field, shared a more philosophical understanding of systems in her book *Thinking in Systems.* To paraphrase, she encouraged systems thinkers to consider a handful of ways to avoid an over-reliance on a purely quantitative approach to systems thinking. First, pay attention to what is important for the good of the whole, and not just what is quantifiable. Second, look for the responsibility for the system within the system, and listen to its wisdom. Third, expand the boundaries of the system, defying traditional disciplines and conventional time horizons to understand and celebrate the system's complexity. Finally, stay a learner, humbled by the system's own design.

Social innovators are intuitive systems thinkers. They often bring a beginner's mindset to complex situations, and identify obvious leverage points for an initial starting point. Good social entrepreneurs, however, learn that their understanding of the system increases with the amount of time they spend within it, and they are unafraid to change their strategies and tactics as a result of what they learn. They move from narrower linear interventions into more expansive, systems-changing strategies. Later in the semester we will study social entrepreneurs that have moved from focused, scaled interventions into system orchestrator roles.

Endnotes

[1] https://mitsloan.mit.edu/phd/program-overview/system-dynamics.

[2] Warfield, J N. Five schools of thought about complexity: Implications for design and process science. United States: N. p., 1996. Web.

[3] John D. Sterman, *Business Dynamics: Systems Thinking and Modeling for a Complex World* (Boston, MA: McGraw-Hill, 2009)

[4] Edward Crawley, Bruce Cameron, and Daniel Selva, *System Architecture: Strategy and Product Development for Complex Systems* (London: Pearson, 2015)

[5] Sterman, *Business Dynamics*

[6] Sterman, *Business Dynamics*

[7] Sterman, *Business Dynamics*

[8] Donella H. Meadows and Diana Wright, *Thinking in Systems: A Primer* (Hartford, VT: Chelsea Green, 2008)

[9] Sterman, *Business Dynamics*

[10] David Peter Stroh, *Systems Thinking for Social Change: A Practical Guide to Solving Complex Problems, Avoiding Unintended Consequences, and Achieving Lasting Results* (Hartford, VT: Chelsea Green, 2015)

[11] Meadows and Wright, *Thinking in Systems*

[12] Meadows and Wright, *Thinking in Systems*

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[14] Peter M. Senge, *The Fifth Discipline: The Art & Practice of The Learning Organization* (New York, NY: Doubleday, 2006)

[15] Meadows and Wright, *Thinking in Systems*

[16] Sterman, *Business Dynamics*

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322-028
JULY 26, 2021

MODULE NOTE

Organizing for Social Change

An important pathway towards systems change is the capacity for leaders to organize for collective action where coordinated, strategic action is able to change a power imbalance between a powerful institution and a less powerful or well-resourced community. From individual community organizers to organizations that serve as field catalysts, this note seeks to identify some common strategies and tactics for how an individual and organization can build effective, collective power for long-term systemic change. While the note is written as part of a course on Social Entrepreneurship and Systems Change and should be viewed as part of the toolkit for promoting long-term change, many students may confront community organizers from the other perspective: as a senior figure in a large institution (e.g. corporation, University board) where understanding the dynamics of organizing might help enable more effective and equitable outcomes for all stakeholders.

The tradition of community organizing in the United States derives from a history of opposition to a strong centralized state coupled with strong local voluntary associations that are part of the nation's identity. Though practice as defined in this note is rooted in the United States, there are many notable historical examples of "community" organizing globally, including:

- The 'Quit India' nonviolent movement in 1942, in response to Mohandas Gandhi's call for India's independence
- The 'Anti-Apartheid' movement of 1959, influenced by Nelson Mandela, contributing to the end of institutionalized oppression of South Africa's nonwhite community – a four-decade long campaign rooted in social, political and economic activism
- Indigenous-led conservation efforts in the Amazon and the recent 'School Strike for Climate' to demand action from political and corporate leaders on climate change.

All these movements engage in non-violent, civil disobedience, and promote a participatory process where voice, dialogue, social construction and consensual politics are developed as part of building power to confront entrenched, systemic interests and inequities.

Community organizing is a practice that has evolved over time, and involves an intentional and coordinated organization of stakeholders around an issue to shift the power dynamics and to advance a structural change. Community organizing efforts look to shift power from those who have traditionally controlled it to those who have been marginalized. Organizing groups do this, not only by winning campaigns, but by *building and sustaining their collective power*.

This module note was prepared by Professor Brian Trelstad to aid students in Social Entrepreneurship and Systems Change.

Community Organizing

"As an organizer, I start from where the world is, as it is, not as I would like it to be."

— Saul Alinsky

Many organizing models in the United States emerged during the Depression and through World War II, from the work of Saul Alinsky. Alinsky's first community organizing campaign was in a working-class part of Chicago called the "Back of the Yards" that he described as "*the nadir of all slums in America.*"

> People were crushed and demoralized, either jobless or getting starvation wages, diseased, living in filthy, rotting unheated shanties, with barely enough food and clothing to keep alive. And it was a cesspool of hate …I knew that once they were provided with a real, positive program to change their miserable conditions, they wouldn't need scapegoats anymore. Probably my prime consideration in moving into Back of the Yards, though, was because if it could be done there, it could be done anywhere.

The 'Back of the Yards' would become a model for generations of organizers to come. Rooted in nonviolence, Alinsky then scaled his methods beyond Chicago through the formation of the 'Industrial Areas Foundation' that conducted training for organizers. In his 1971 book, *Rules for Radicals*, Alinsky outlined the characteristics of community organizers. These included:

- **Curiosity**. Challenging convention through questions and considering alternatives that agitate the norm.
- **Reverence**. A deep admiration for life's search for meaning and respect for the rights of others.
- **Clear imagination and strong communication**. An empathic view of the world, and the ability to communicate a compelling vision for a better one.
- **A sense of humor.** The patience and appreciation for the incongruity of situations and ideas.
- **Organization and Flexibility.** The organizer is steady and thoughtful in the middle of chaos and can simultaneously act with urgency.
- **Ego.** Alinsky also believed that organizers needed a strong ego. This was not about egotism, but instead the fearless self-confidence to get done what is needed to be done. In Alinsky's view, power, not reason, was fundamental to the achievement of social change, and that a strong ego was essentially in building power. Alinsky was infamous for running campaigns where there was often a notable power asymmetry between adversaries. His genius was in inspiring ordinary people to make a difference and in his ability to build bridges and alliances among those that normally could not agree.

Movement Building

Sustained community organizing often evolves into "movement building". Marshall Ganz, who was coached by labor leader and civil rights activist Cesar Chavez, and a long-time student of Alinsky's, is well known for his work as a 15-year veteran in organizing the United Farm Workers.[1] Ganz expanded the literature on organizing through applying a strategic lens and a formality to social

[1] Ganz is now a Senior Lecturer in Leadership, Organizing and Civil Society at the Harvard Kennedy School of Government.

movement building. Like Alinsky, Ganz believed that movements should be focused on changing the rules for the long term (not just winning a campaign). Ganz argued that social movements are organized by identifying, recruiting and developing leadership at all levels and that strategic capacity consists of three elements: motivation, access to relevant knowledge, and deliberations that lead to new learning. This leadership forges a social movement community.

Ganz likened social movements to civic associations that celebrate collective identity or assert public voice like churches or advocacy groups rather than companies that produce goods or services. He noted that in social movements, authority rests on moral suasion not on economic or political coercion, that the stakeholders in movements are constituents, not customers, and that outputs depend on the motivated, committed and voluntary participation of members and supporters.

Ganz saw four critical capacities required for effective movement building:

1. **Leadership**, Ganz asserted, was the art of managing tensions. Leaders must balance the experience of criticality (the world's pain) with the experience of hope (the world's possibility) avoiding being numbed by despair or deluded by optimism. They must create enough structure for growth, creativity and action while being flexible. They must continuously and tirelessly translate intent into outcome – making things happen on time, measuring them and evaluating them for continuous improvement without losing the passion and momentum for the movement.

2. I**nterpersonal relationships** that link individuals, networks and organizations together were critical to forging the shared understanding, commitment and collaborative action that constitutes a movement. In his view, the goal was to create enough power through 'social capital' – interest in the relationship itself to challenge those with power and to motivate action.

3. **Storytelling**, or the art of the public narrative, was essential in translating values to action through stories that mobilize emotions. Ganz asserted that characters in stories face a challenge, a choice and an outcome. We make choices based on our values and in our choices lies hope, which is the root of courage. Ganz famously developed the art of the public narrative through bringing three stories together – 'The Story of Self, The Story of Us and The Story of Now', a framework that was later used by Barack Obama in his notable 2004 Democratic National Convention speech, and continues to be best practice for social change leadership through storytelling.

4. **Strategy**. Ganz asserted that setting effective strategy for a social movement involves enacting an unfolding story of hope overtime. Akin to the analogy of a snowball, the movement builds a foundation then gathers momentum. There are usually small losses at the beginning (opportunities for learning), culminating in a climax where the campaign is won or lost and then achieves resolution. It requires careful and strategic management of time and efforts to prevent fatigue. When done well, it strengthens relationships and motivations. It is adaptive, and dynamic, rooted in a theory of change that turns 'what we have into 'what we want'.

Strategy for Social Change

The work of Alinsky and Ganz created the foundation for others to continue to formalize social movements strategy. In 1973, civil rights activist and political strategist Heather Booth founded the

Midwest Academy as a training institute for progressive community organizers, and a place to teach strategy, tactics and movement building. The starting point for Booth was **goal setting**, followed by **constituency mapping,** (the identification of parties with vested interests), and finally **power mapping** (setting targets and tactics).

Step One: Goal Setting (see appendix A)

To Booth, an effective social change strategy needed to have a big goal driven by values; a specific, short-term goal for each campaign, as well as powerful messaging and stories to reinforce and ignite passion and commitment. She asserted that people want to know that their leaders genuinely care about them and the leader's role is to help the people find their voice. Creatively leveraging resources available to the organization, and co-creating strategy allowed for better solutions, created group cohesion that could alter the systems by institutionalizing victories in a meaningful way.

Step Two: Constituency Mapping (see Appendix B)

The next step was to conduct constituency mapping of the landscape of constituents involved and their stance with respect to these goals. **Constituents** are those who care about or are affected by the problem at hand (either directly or indirectly), including those who may be satisfied with the status quo or ideologically oppose a proposed solution. The process of listing and mapping constituents is coupled with an understanding of each party's self-interest. In the process of identifying constituents and their interests, an organizer can start to identify what is at stake for each of them. Over time, the mix of constituents may change, as might the stakes involved for each.

Step Three: Power Mapping (see appendix C)

The final step was to do a power mapping exercise. This involved identifying targets. **Targets** are those who have access to the resources or power that is needed to win. There are primary targets who have direct power, and secondary targets who have influencing power over the primary targets. **Tactics** can then be developed to influence the targets and move constituents in a strategic way. Tactics work to build the constituency and reflect the larger goals of the constituents.

Conclusion

Organizing is not a static, linear process. It involves continuously evolving circumstances, allegiances, strategies and tactics. The good organizer is clear about what he or she wants, and works to build the power within the community that is needed to influence those with influence over the desired outcomes, iterating as the circumstances and resources shift. This note has sought to provide a window into the tactics of community organizing, which might seem unsystematic, but in fact can be highly disciplined when practiced in a dynamic and systems-oriented way.

We encourage students to review the templates below in the Appendix, that have been adapted from the Midwest Academy's Strategy Chart. They are supplemented by an illustrative example of how these tools may be used for social organizing. In this case, we have used the community organizing for New Delhi's asbestos reduction campaign. Though largely outlawed in the developing world, asbestos remains a health challenge in India, killing thousands of people each year. India is the world's largest asbestos importer, and despite much research showing its direct link to cancer and several other dangerous health conditions, governments support the industry through low duties and their use of asbestos in government construction projects.

Appendix A: Goal Setting

Goals	Organizational Considerations
1. List the long-term objectives of your campaign (what you want for your community)	**1. List the resources that your organization brings to the campaign.**
2. State the intermediate goals for the issue campaign (policies, systems or social/envt'l change you are trying to win) What constitutes a victory? How long will the campaign give people a sense of their own power? Win concrete improvements in their lives? and alter the relations of power?	**2. List the specific ways in which you want your organization to be strengthened by this campaign.**
3. What short-term or partial victories can you win as steps toward your long-term goal? (steps to achieving intermediate goals)	**3. List internal problems that must be considered if the campaign is to succeed.**

Example: Asbestos Campaign in India

Goals	Organizational Considerations
1. Long-Term: ▪ Protect all residents living in New Delhi's south side neighborhoods from exposure to Asbestos by September 2023	**1. Resources:** ▪ English translators ▪ Learning coordinator for needs assessments ▪ Budget $10K for marketing, outreach, travel ▪ Brand/Reputation
2. Medium-Term: ▪ Pass a law banning the use of asbestos in the city's new construction by June 2022 ▪ Government ordered plan to systematically remove asbestos from current buildings with levels categorized as 'dangerous' ▪ Change limitations for civil procedure	**2. How to Strengthen Org. thru Campaign:** ▪ Public recognition – feature in local newspaper ▪ Expand network ▪ New allies for future campaigns ▪ Raise money
3. Short-Term: ▪ Recruit a union as an ally and have them commit to positively influencing the Mayor on the legislation changes noted above	**3. Internal Problems:** ▪ Not enough volunteer staff ▪ Cultural challenges ▪ Need more leadership support

Source: Adapted from Midwest Academy Strategy Chart

Appendix B: Constituency Mapping

Allies	Fence-Sitters	Opponents
Who cares about the issues enough to join in or help the organization? ▪ Whose problem is it? ▪ What do they gain if they win? ▪ What risks are they taking? ▪ What power do they have over the target? ▪ Into what group are they organized?	**Who is impacted but not engaged in the problem? Who is impacted but unsure of their position?** ▪ What power do they have over the target?	**Who are your opponents?** ▪ What will your victory cost them? ▪ What will they do/spend to oppose you? ▪ How strong are they? ▪ What power do they have over the target?

Example: Asbestos Campaign in India

Allies	Fence-Sitters	Opponents
▪ Council Member #1 ▪ The Union Secretary, Ministry of Labor ▪ Secretary, Medical Education and Research Institution ▪ Union Minister of the Environment ▪ The Red Cross	▪ Council Member #3,4,6 ▪ Center for Pollution Control Board ▪ Mayor	▪ Asbestos Cement Products Manufacturer's Association ▪ Ramco Industries ▪ Nibhi Industries ▪ UAL Industries

Source: Adapted from Midwest Academy Strategy Chart

Appendix C: Power Mapping

Primary Targets	Secondary Targets	Source of Power	Tactics
A primary target is always a person. It is never an institution or elected body. ▪ Who has the power to give you what you want? ▪ What power do you have over them?	**A secondary target has power over the primary target.** ▪ Who has the power over the people with the power to give you what you want? ▪ What power do you have over them?	**What makes the targets powerful?**	**For each target, list the tactics that each constituent group can best use to make its power felt.** Tactics must be directed at a specific target and must be in context, flexible, creative, backed by a specific form of power, and make sense to the membership

Example: Asbestos Campaign in India

Primary Targets	Secondary Targets	Source of Power	Potential Tactics
▪ Council Member #3 (decision rights) ▪ Mayor (decision rights)	▪ Board Member of Environmental Club (influence over Mayor)	▪ Ability to advise others ▪ Ability to write letters ▪ Testimony ▪ Provide technical assistance ▪ Can lobby ▪ Can engage membership	▪ Media events ▪ Letter writing campaigns ▪ Direct actions ▪ Public hearings ▪ Strikes ▪ Voter registration and education ▪ Lawsuits ▪

Source: Adapted from Midwest Academy Strategy Chart

Templates

Template for Goal Setting

Goals	Organizational Considerations
1. Long-Term:	**1. Resources:**
2. Medium-Term:	**2. How to Strengthen Org. thru Campaign:**
3. Short-Term:	**3. Internal Problems:**

Template for Constituency Mapping

Allies	Fence-Sitters	Opponents

Template for Power Mapping

Primary Targets	Secondary Targets	Source of Power	Tactics

Source: Adapted from Midwest Academy Strategy Chart

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322-027
JULY 22, 2021

MODULE NOTE

Mindset of a Social Entrepreneur

The Characteristics of a Social Entrepreneur

Over the last forty years, scholars of innovation have tried to understand the unique characteristics of the "entrepreneurial mindset." Just what makes an entrepreneur? HBS Professor Howard Stevenson famously wrote of entrepreneurship as the "pursuit of opportunities beyond resources currently controlled" which suggests a mindset of risk-taking, ambition and boldness.[1] Jeffrey Timmons, one of the early scholars of entrepreneurship in the United States, synthesized in his textbook *New Venture Creation* how scholars from Adam Smith to Joseph Schumpeter described entrepreneurs as having some generic leadership traits, such as "commitment and determination", a "motivation to excel", "leadership", and more specific entrepreneurial attributes such as "opportunity obsession", "tolerance of risk, ambiguity and uncertainty", and "creativity, self-reliance and the ability to adapt".

These characteristics seem applicable to entrepreneurs in any sector: private, public or civil society. So, a question that we will explore in *Social Entrepreneurship and Systems Change* is whether social entrepreneurs are just entrepreneurs who happen to tackle social problems. *Or, do they have a distinct mindset and orientation that differentiates them from traditional entrepreneurs and are essential to their success in building ventures with a social purpose?*

Social Entrepreneurs: Systems Thinking, Humility and Moral Imagination

The literature points to three additional attributes that seem to be unique to social entrepreneurs: humility, moral imagination and systems thinking. In his seminal book about Ashoka, the earliest global network of Social Entrepreneurs, David Bornstein describes their Fellow selection process. Ashoka sought six qualities in its Fellows: the willingness and ability to: 1) self-correct; 2) share credit; 3) break free of established structures; 4) cross disciplinary boundaries; 5) do the work quietly; and 6) have strong ethical impetus.[2]

What underlines Ashoka's selection process is a sense of curiosity, adaptability, but most importantly, **humility**. Bornstein uses the example of Jean Monnet, the architect of the European Union, to amplify this point. Monnet wrote about the two types of people he had experienced in foreign affairs: "those who

This module note was prepared by Professor Brian Trelstad to aid students in Social Entrepreneurship and Systems Change.

wanted to 'do something' and those who wanted to 'be someone'." Monnet expands that those who want to 'be someone' are more inclined to seek prestigious roles and credit for their work, while those who prefer to 'do something' "spend their time looking for places and opportunities to influence the course of events", which are often "not the most obvious ones, nor do the opportunities occur when many people expect them. Anyone who wants to find them has to forsake the limelight."[3] These people are social entrepreneurs.

But coupled with humility, social entrepreneurs need to be equipped with a vision for what can be done to develop solutions. Jacqueline Novogratz, the founder and CEO of Acumen, a pioneering impact investing firm, believes that social entrepreneurs are possessed with **moral imagination**. To her, moral imagination is a set of characteristics that define social changemakers that combines "the humility to see the world as it is, and the audacity to imagine the world as it could be".[4]

Novogratz's 2020 book, *Manifesto for a Moral Revolution*, amplifies these ideas with thirteen declarations in a "manifesto" for change agents that collectively synthesize the successful attributes of social entrepreneurs and paint a forward-looking picture of what will be required to make change in today's world. These ideas include everything from "listen to the voices unheard" to "use the power of markets, don't be seduced by them." Novogratz also picks up on the themes of Bornstein in acknowledging that social entrepreneurs "having the ambition to learn at the edge, the wisdom to admit failure, and the courage to start again.

What both Ashoka and Acumen touch on, but don't explicitly state, is that social entrepreneurs are **systems thinkers**. They work at the edge, listening to voices unheard, across disciplinary boundaries to test solutions that will have outsized impact on complex problems. We will spend more time defining systems thinking in a future note, but for definitional purposes, systems thinkers are people who can "find where unanticipated consequences emerge", "focus on structure, not on blame", "give voice to the long term" and "hold the tension of paradox and controversy without trying to resolve it quickly".[5]

The "Orchard Test"

Humility, moral imagination and systems thinking can be pretty abstract concepts and hard to discern externally. From a practical perspective, when I meet with prospective social entrepreneurs, I put them through what I call the "Orchard Test" as a quick (self-)assessment to see if they have what it takes to develop an innovative solution to a systemic problem and to build an organization capable of changing that system over the long-term. I either observe (or directly ask them) to what extent these characteristics apply, and to rate each on a scale of 1 (not at all) to 5 (an abundance) for how much of each they possess.

Like a Rorschach test, it's a helpful gut check on whether a social entrepreneur has the mindset and temperament for the journey ahead.

Developing Solutions to Systemic Problems (PEACH)

- Proximity to the problem to understand how the system is broken
- Empathy: possess an abiding "can't not do" empathy to find a solution
- Audacity to propose an innovative and transformative systems change
- Capability to develop something that is truly needed
- Humility to admit mistakes and pivot the solution

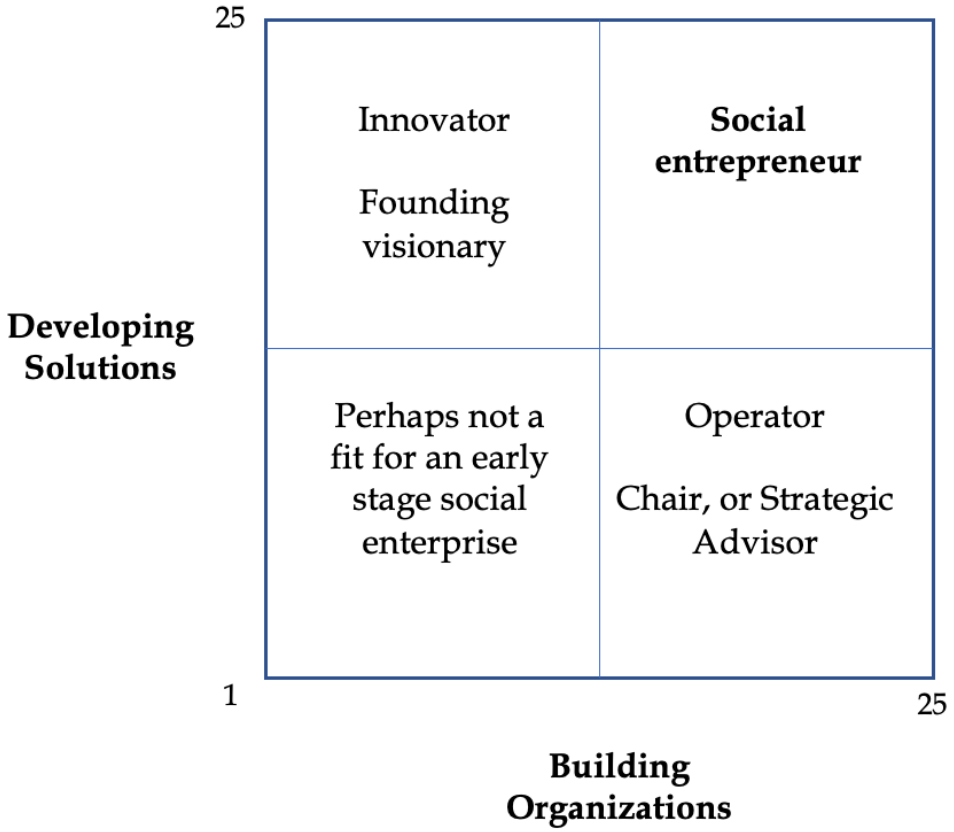
Building Organizations Capable of Scale and Impact (APPLE)

- Ambition to build something important that can deliver system-wide impact
- Persuasion to attract funding in a crowded marketplace of ideas
- Persistence to take no for an answer and keep going

- Legitimacy to convince stakeholders to take you seriously
- Energy to build something out of nothing

Those that rank highly in developing solutions, but not organization buildings may be classic "inventors" or idealists who could be a founding visionary. Those that rank high in organization building but not developing solutions are often great operators that can play roles as COO's or board chairs. It's those people that have a strong appetite to both develop solutions and build organizations that are on the path towards become a social entrepreneur. (See Figure 1).

Figure 1 The "Orchard Test"



Source: Author

Endnotes

[1] Tom Eisenmann, "Entrepreneurship: A Working Definition", *Harvard Business Review*, January 10, 2013.

[2] *How to Change the World: Social Entrepreneurs and the Power of New Ideas*, Oxford University Press, 2004.

[3] Bornstein, page 238.

[4] Jacqueline Novogratz, *Manifesto for a Moral Revolution: Practices to Build a Better World*, Henry Holt & Company, 2020, page 239.

[5] Linda Booth Sweeney and Dennis Meadows, *The Systems Thinking Handbook: Exercises to Learn and Build Learning and Systems Thinking Capabilities*, Chelsea Green Publishing, April 2010.

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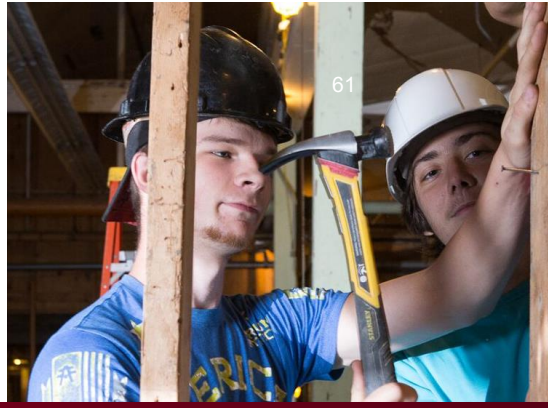


HARVARD | BUSINESS | SCHOOL

Social Entrepreneurship & Systems Change

September 2021

Today's Session

- Quick Introductions
- Why Systems Thinking?
- The Broken Blood Ecosystem in Lagos
- Systems Thinking Fundamentals
    - Principles
    - Archetypes
    - Leverage Points
- Closing Remarks/Q&A
- Feedback

Why Systems Thinking?

The Headlines (all true stories)

- Mayor promises to stimulate economic development, but several years later, there is still a lack of affordable housing
- “Get-tough” prisons fail to reduce the incidence of violent crime
- Homeless shelters perpetuate homelessness
- Despite the provision of financial aid, low-income students continue to face challenges in university

Source: “Systems Thinking for Social Change” by David Peter Stroh, 2015

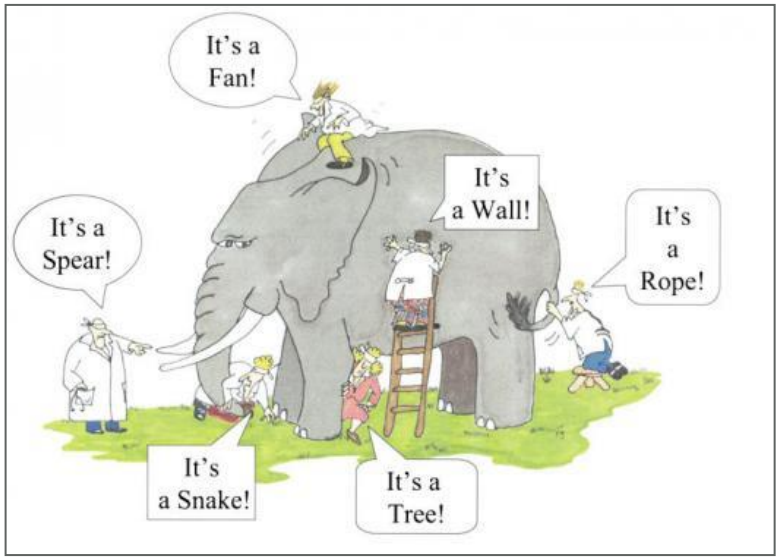
What is going on here?

The aforementioned solutions

- address symptoms rather than underlying problems
- seem obvious and often succeed in the short run but undermine longer-term impacts
- produce negative, unintentional consequences
- lead us to assume that we are not responsible for the problem

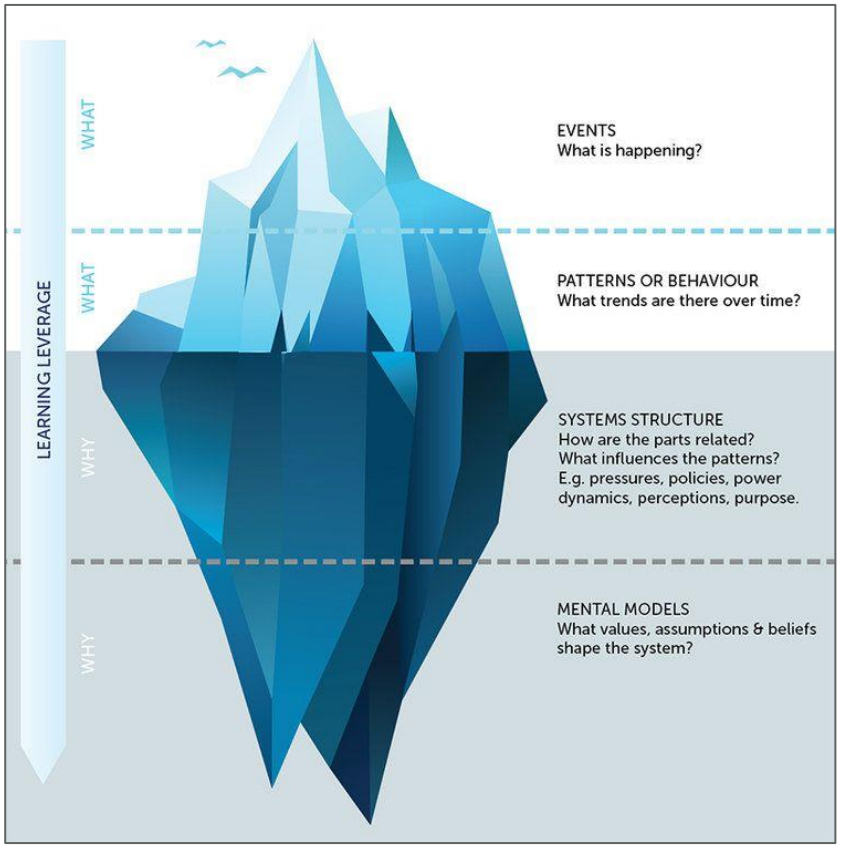
Systems Thinking Helps Us To…

See the Big Picture



Everyone sees part of a more complex reality and tends to assume what they see is the whole picture.
Sam Gross/The Cartoon Bank

Understand the Deeper Structure



Why Apply Systems Thinking for Social Change?

- Deepens understanding of problems
- Uncovers root causes
- Identifies high-leverage interventions
- Helps anticipate and avoid long-term consequences
- Mobilizes diverse stakeholders
- Motivates and supports continuous learning
- Strengthens ability to evaluate impact

Source: “Systems Thinking for Social Change” by David Peter Stroh, 2015

The Broken Blood Ecosystem in Lagos

The LifeBank System

- What is the system of blood supply in Lagos?
- What are the forces at work that are distorting the availability of supply?
- As you evaluate LifeBank's approach to the blood system, what do you think of their point of intervention?
- What other things might you consider if you were looking to change the system of the blood supply in Nigeria?

LifeBank Case Discussion - Whiteboard

Systems Thinking Fundamentals

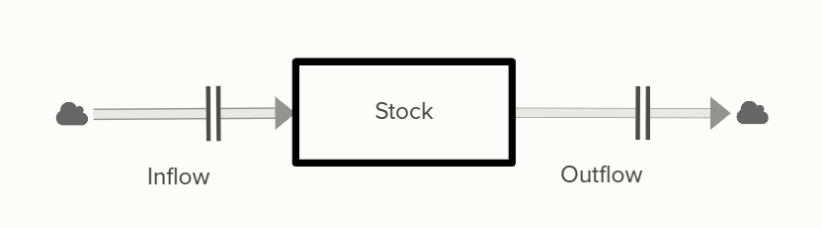
1. Principles of Systems Thinking

Principles of Systems Thinking

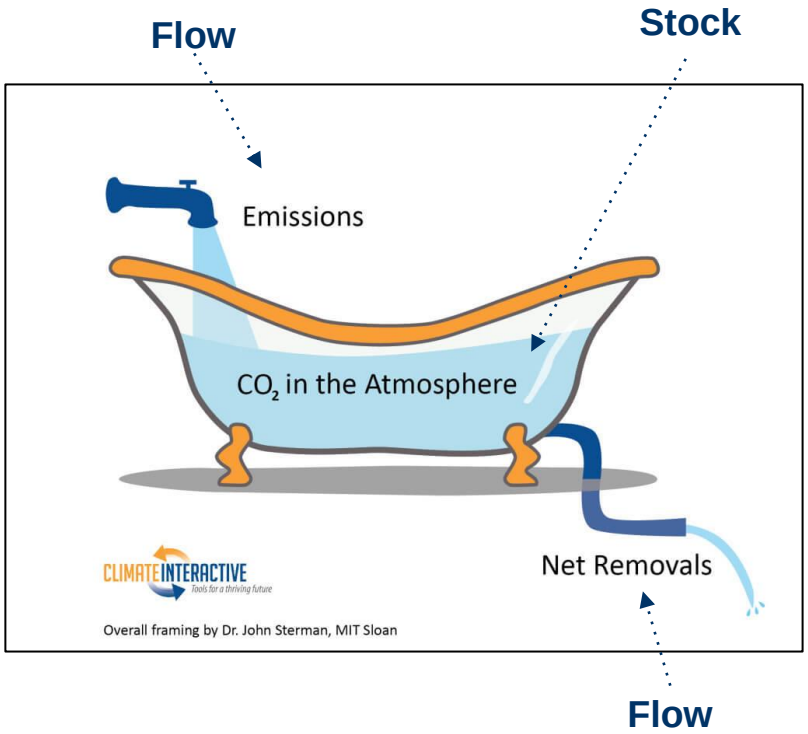
3. Stocks and Flows

Stocks: The elements of the system that you can see, feel, count or measure at any given time.

Flows: Stocks change overtime through the actions of a flow (filling, draining, births, deaths, growth, decay, deposits, withdrawals, successes, failures)



Bathtub Analogy



Principles of Systems Thinking

4. Feedback Loops

Positive (Self-Reinforcing)

"The Amplification Story"
Accelerates success or failure

Negative (Self-Correcting/ Balancing)

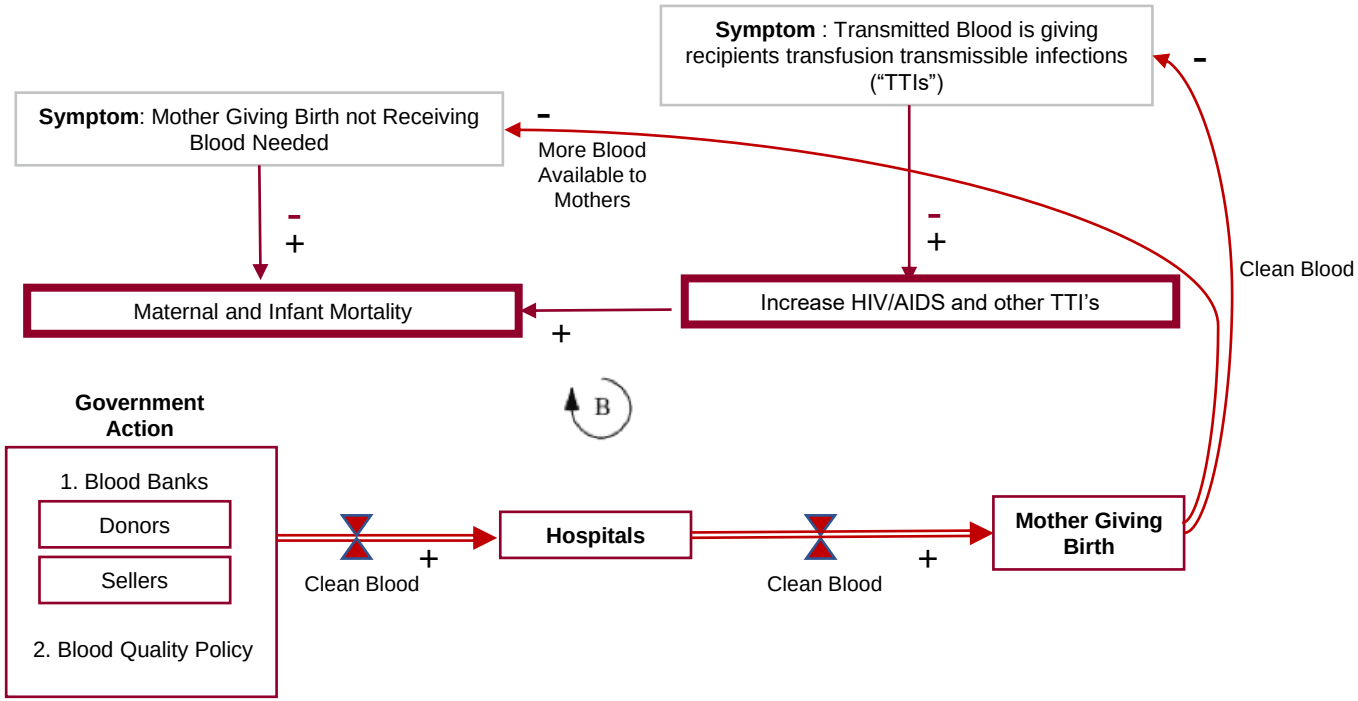
"The Balancing Story"
Tries to reduce the gap

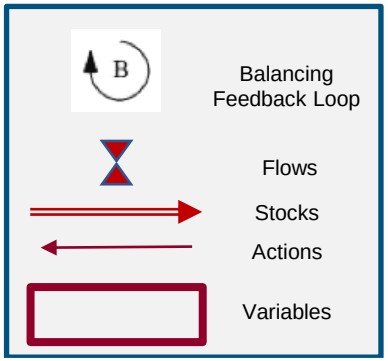
SYSTEMS THINKING: LIFEBANK CASE

THE LAGOS BLOOD ECOSYSTEM

The Symptoms and Outcomes of the Current System

The Fix: Government Action





On Feedback Loops...

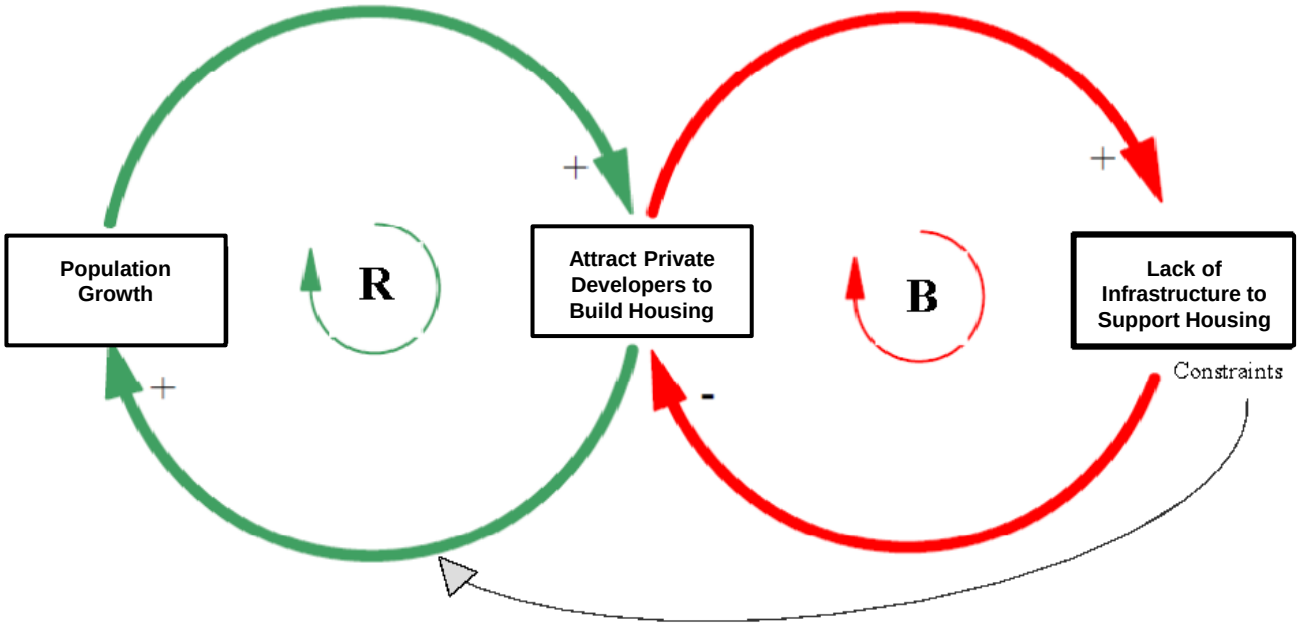
"All systems contain networks of feedback loops. Most complex behaviors arise from the interactions (feedbacks) among the components of the systems, not the from the complexity of the components themselves."

John Sterman

2. Systems Archetypes

System Archetype 1: Limits to Growth

Nothing grows forever – the story of unanticipated constraints



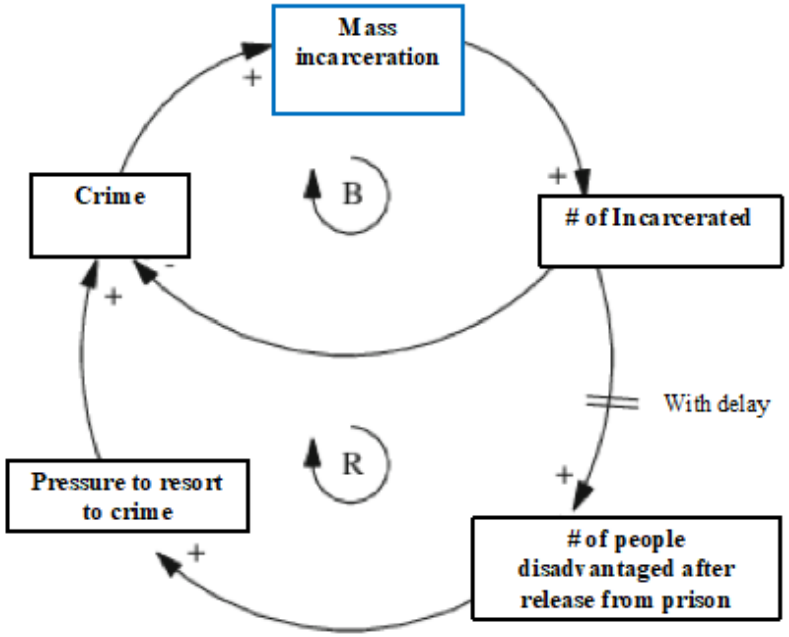
Strategies to Overcome:

- Anticipate and invest in overcoming potential limits as you build growth engines
- Fund investment from existing growth engine, even if it means growing more slowly

Source: "Systems Thinking for Social Change" by David Peter Stroh, 2015

System Archetype 2: Fixes that Backfire

The story of unintended Consequences – long-term negative effects of a 'quick fix'



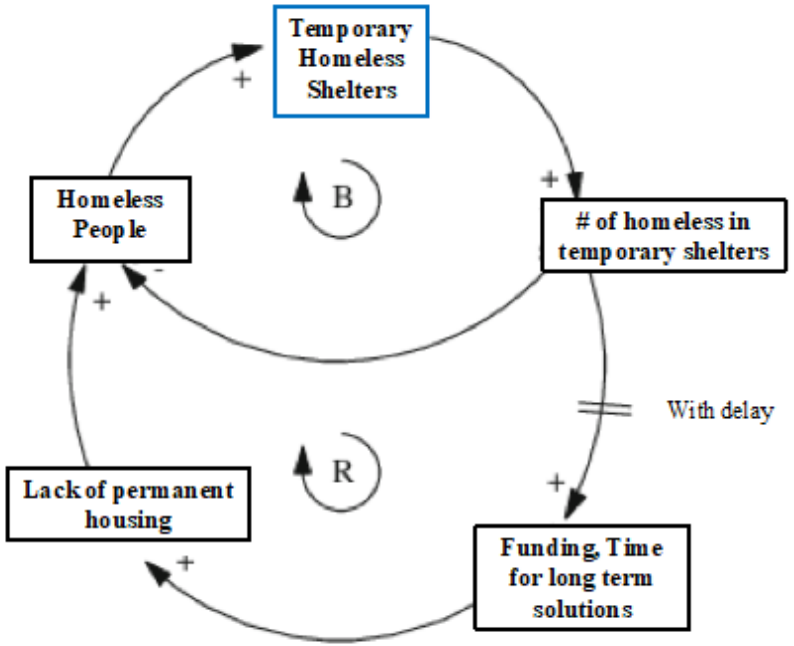
Strategies to Overcome:

- Choose a fix that doesn't appear to have negative long-term consequences
- Uncover the root cause – design a solution for this, first

Source: "Systems Thinking for Social Change" by David Peter Stroh, 2015

System Archetype 3: Shifting the Burden

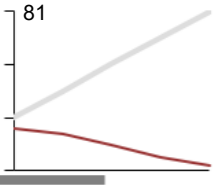
The story of unintended dependencies – the 'quick fix' we become addicted to.



Strategies to Overcome:

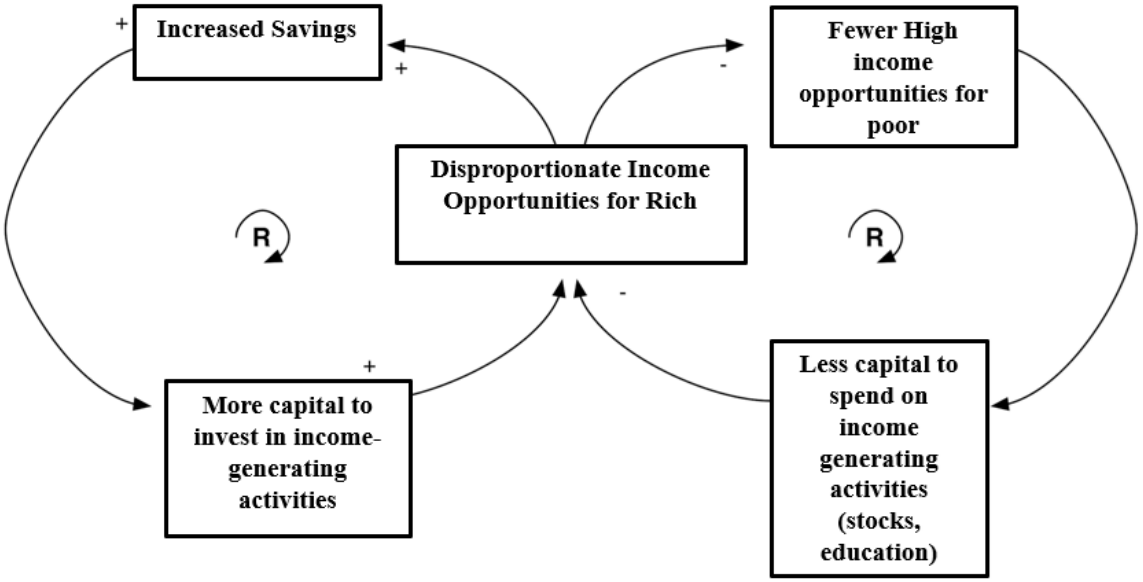
- Increase investment in fundamental/long-term solutions
- Where necessary to use quick fix (urgent situations), design it so that it builds towards the long-term solution

Source: "Systems Thinking for Social Change" by David Peter Stroh, 2015



System Archetype 4: Success to the Successful

The story of 'Winner takes all'. Your success is my failure.



Strategies to Overcome:

- Enable more successful party to recognize the incentive for them – economic costs/social instability
- Support the poor with sources of power
- Invest in parties based on their potential for success vs. current success

Source: "Systems Thinking for Social Change" by David Peter Stroh, 2015

SYSTEMS THINKING: LIFEBANK CASE

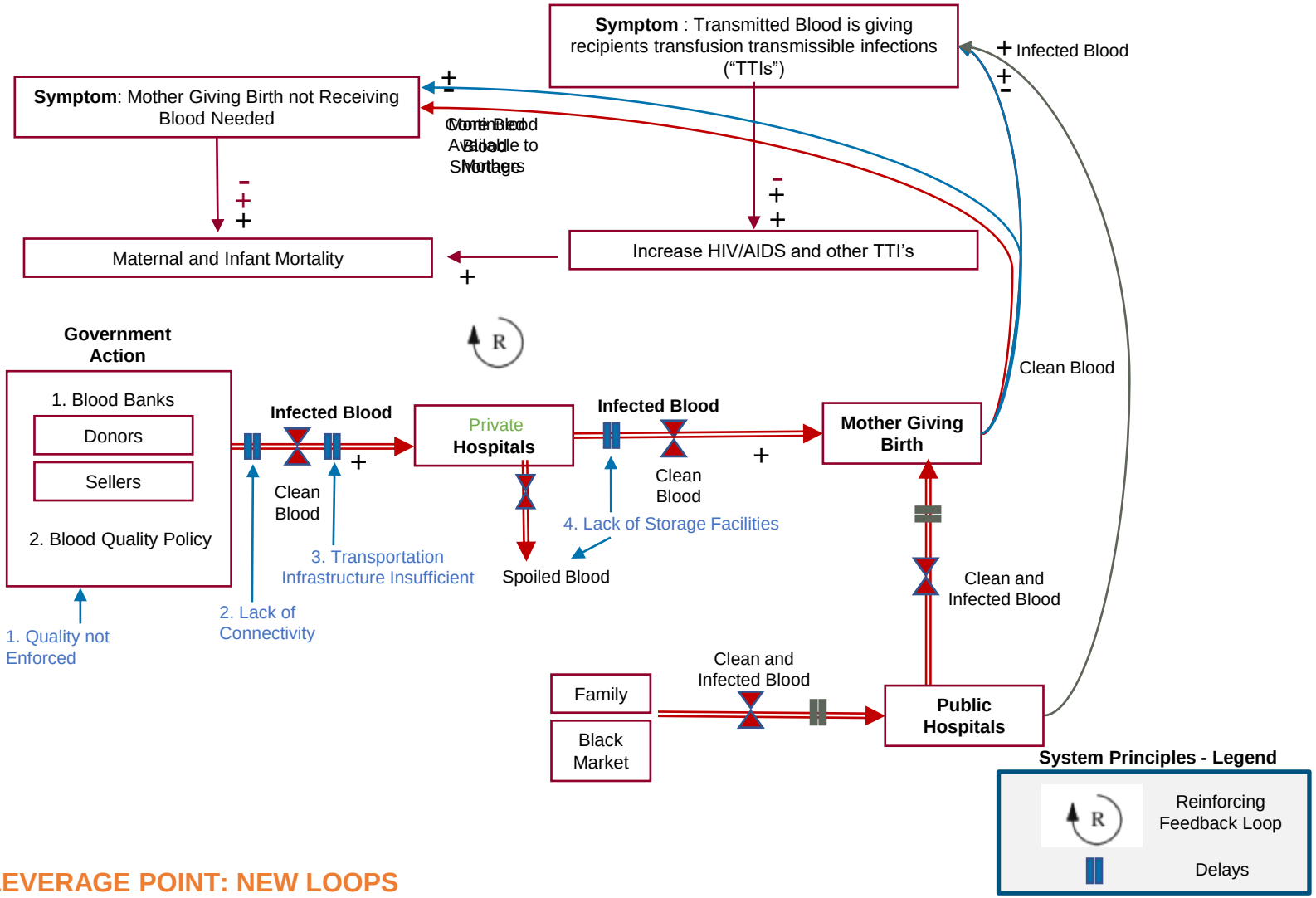
THE ARCHETYPE: FIXES THAT BACKFIRE

The Symptoms: The Lagos Blood Ecosystem

The Fix: Government Action

The Backfire: What Was Actually Happening in the System

In Addition…



THE LEVERAGE POINT: NEW LOOPS

On Archetypes...

"By using the systems archetypes, we can learn how to 'structure' the details into a coherent picture of the forces at play."

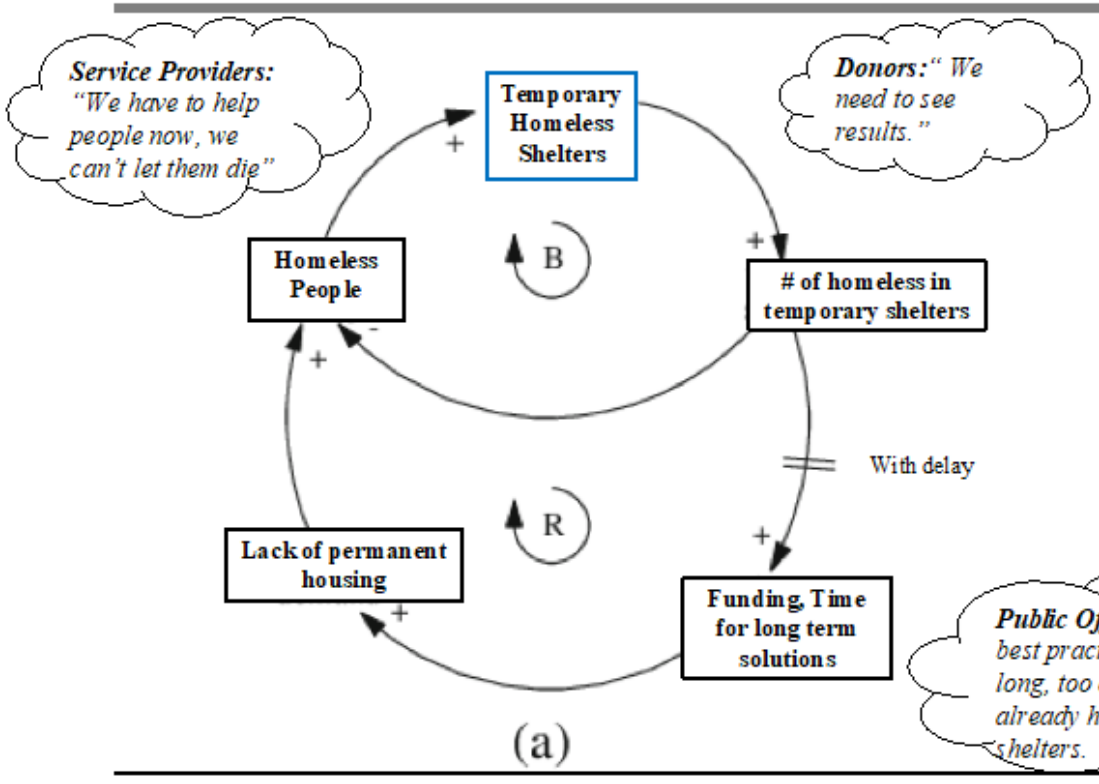
Peter Senge

3. Leverage Points in a System

High Impact Leverage Points for Social Change

- Uncover **'paradigms'** that are unwritten or unspoken – shared social agreements about reality. Identify these, but have the power to stay unattached, flexible – realizing that no paradigm is 'true'
- There is real power in having **influence over the 'rules'** of the system (incentives, punishments, constraints)
- We can build **new loops** where feedback didn't exist – provide information where it wasn't there before
- **Strengthen negative feedback loops** to improve a system's self-correcting abilities (preventative medicine, protection for whistleblowers, carbon taxes)
- Understand **dynamic** complexity, not detail complexity

The Role of Mental Models



Strategies to Overcome:

- Surface and respect current beliefs
- Ask "Do these mental models help us achieve what we truly need?"
- Develop a collective vision of what we want and the mental models that would support it

Source: "Systems Thinking for Social Change" by David Peter Stroh, 2015

SYSTEMS THINKING: LIFEBANK CASE

THE LEVERAGE POINT: NEW LOOPS

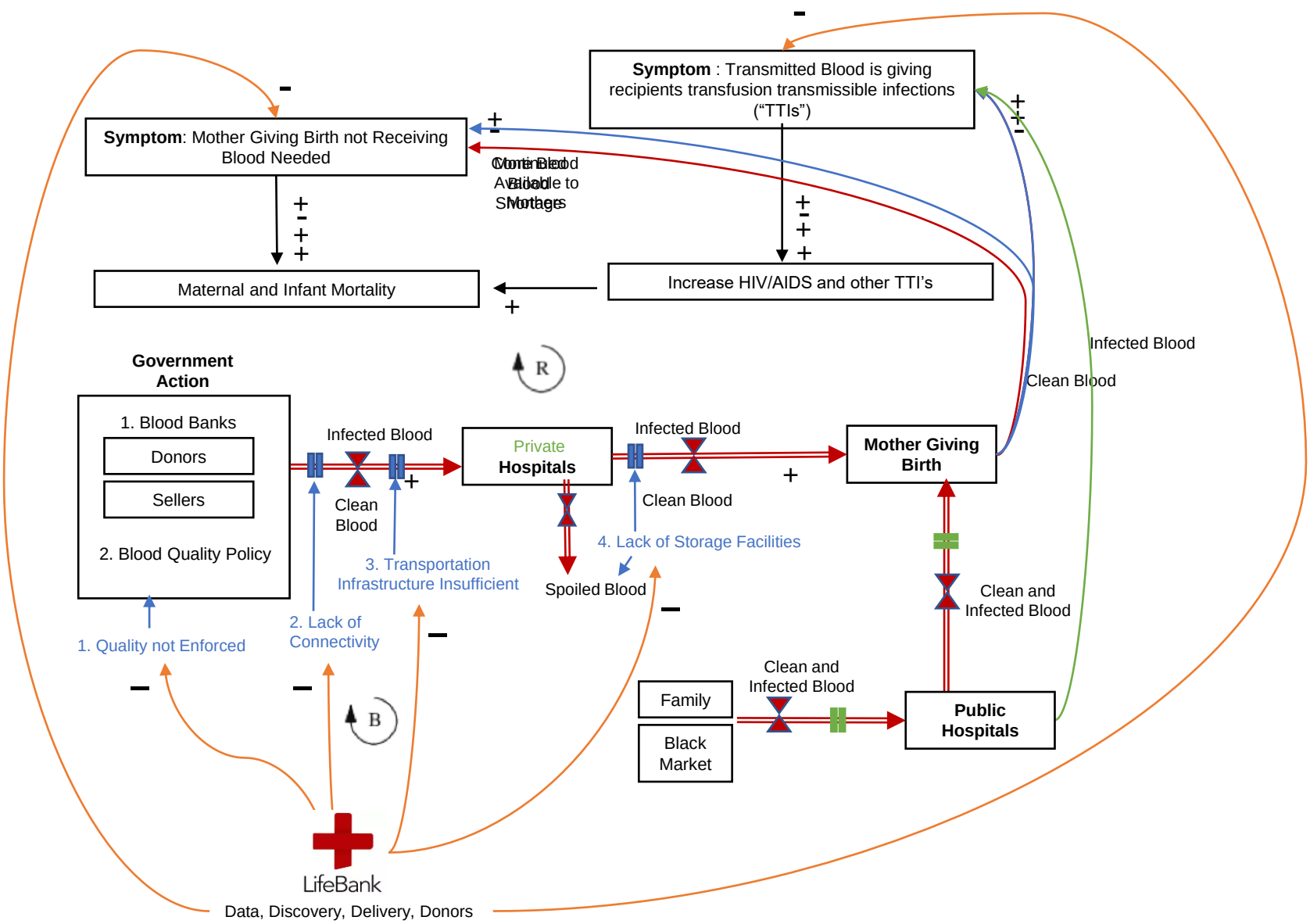
The Symptoms: The Lagos Blood Ecosystem

The Fix: Government Action

The Backfire: What Was Actually Happening in the System

In Addition…

The LifeBank Intervention



On Leverage...

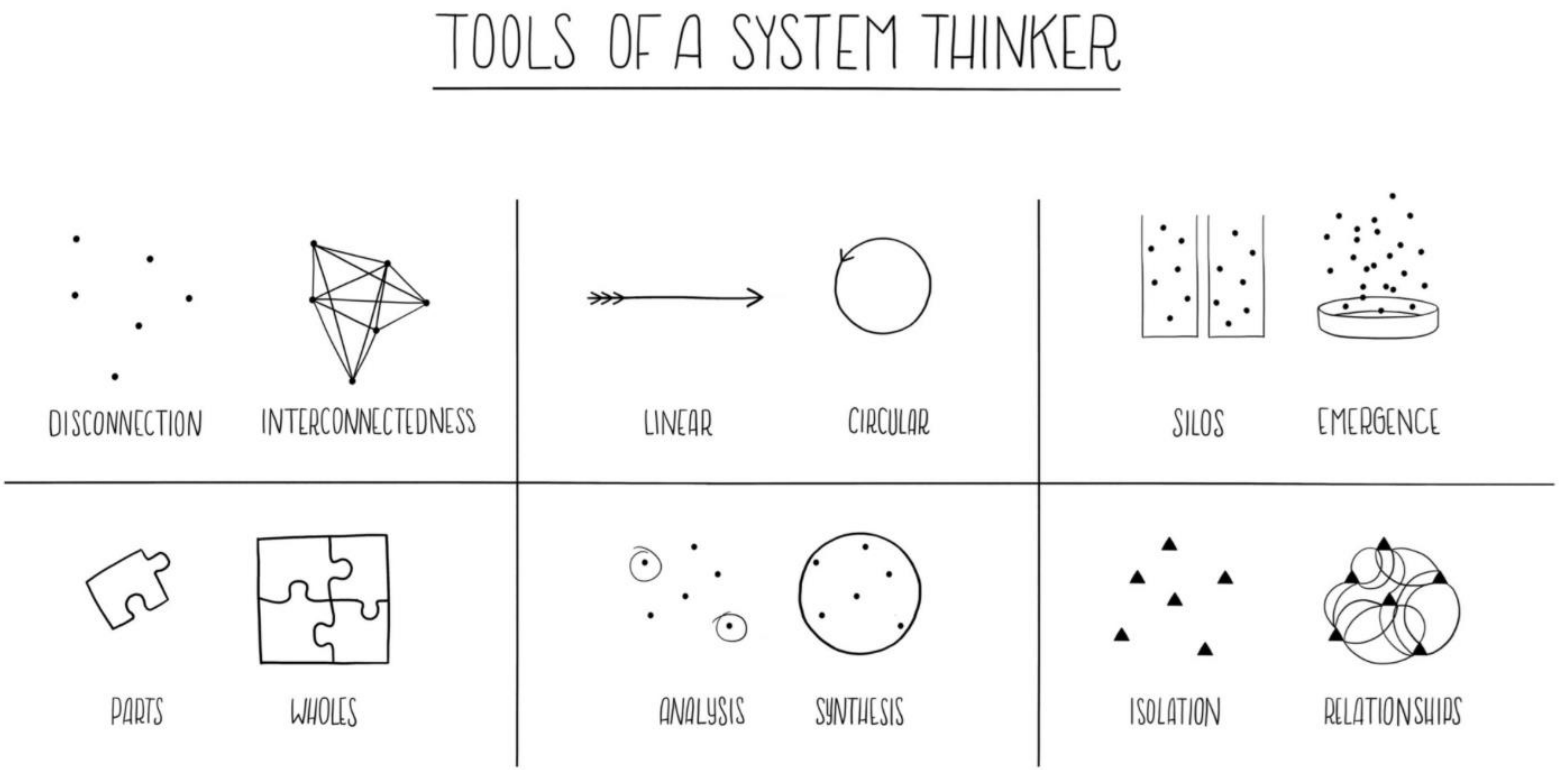
"The bottom line of systems thinking is leverage—seeing where actions and changes in structures can lead to significant, enduring improvements. Often, leverage, follows the principle of economy of means: where the best results come not from large-scale efforts but from small well focused-actions."

Peter Senge

To Sterman, systems are…

- Constantly, imperceptibly dynamic
- Tightly coupled
- Governed by feedback
- Nonlinear
- History (path) dependent
- Self-organizing
- Adaptive
- Counterintuitive
- Policy Resistant
- Characterized by trade-offs

Great Medium Post on Systems



Source: https://medium.com/disruptive-design/tools-for-systems-thinkers-the-6-fundamental-concepts-of-systems-thinking-379cdac3dc6a

Closing Thought

If a factory is torn down but the rationality which produced it is left standing, then that rationality will simply produce another factory. If a revolution destroys a government, but the systematic patterns of thought that produced that government are left intact, then those patterns will repeat themselves. . . . There's so much talk about the system. And so little understanding."

Robert Pirsig, Zen and the Art of Motorcycle Maintenance