



# **Systemic Leverage Index:** *Measuring the Performance and Health of Complex, Multi-stakeholder, Social Networks*

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# Assessing performance and health of complex social networks

To help communities across the globe realize individualized solutions to reducing poverty and injustice requires that Oxfam America be able to:

- *Assess its network's abilities to contribute* to this reduction as (1) a coordinated network of (2) individual stakeholders, each with their own needs, where the network is making (3) strategic, philanthropic interventions
- *Align these three levels of effort* – global goal, local stakeholder goals, direct interventions
- *Determine what strategic efforts are required*, within the network, at any given time, whether at the level of (1) coordinating stakeholder contributions, (2) shifting stakeholder incentives and systems, or (3) shifting strategic intervention points

# What we do and do not understand about performance measurement

STRATEGIC MEASUREMENT	What We Understand	What We Think We Understand	What We Do Not Understand
What we want <i>mission/vision</i>	One financial measure	One mission-driven measure	One integrative measure
Who cares <i>stakeholders</i>	Shareholder value	Supply chain value	Multiple stakeholder value
What is needed <i>resources</i>	Cost drivers	Value drivers	Resource dynamics
How we each contribute <i>functions</i>	Net benefit from program	Process contribution	Systemic contribution
How we influence each other <i>relationships</i>	Cost per impact	Handoffs in process	Relationship dynamics
What happens then <i>system</i>	Single indicator of financial health	Multiple indicators of process health	Multiple indicators of system health

# To include

## Traditional measurement expectations

- Discrete
- In and out
- Linear
- Not related to other things
- Satisfies one specific stakeholder

## Transitioning to

- Continuous
- Feedback structure to see consequences of our actions throughout understood system
  - Overall, collaborative objective
  - Individual stakeholder objectives
  - Accumulation of strategic resources
- Understanding and defining systems performance not as just outcomes or tactical or operational, rather in one system, asking whether strategic issue is one of performance and health of system as seen in its
  - Alignment of stakeholders
  - Unsatisfied single stakeholder
  - Actions are not highest leverage
- Health of system, seen as health of resources going forward, future and past orientation

# To include

## CONTENT

- Broadly speaking have drunk Kool-Aid on long-term programming, structural change, smart about leverage points in complex systems, multi-stakeholder approaches help
- SO HOW DO YOU (Measurement Perspective -- quant and qual)
- analyzing social systems (how we are doing it, where are there convergences)
- how groups think about leverage points
- how do we learn about what we are learning

## HOW WE ARE PITCHED

- at heart of practice of what we are trying to do -- developing -- deep change, bringing conflictive actors together,

### 1st Part

- pitch to large audience (communications, policy campaigns, not just programming folks)
- LEADING with Practical Example
- low on theory
- e.g. Guate getting actors together around collective conversation

### 2nd Part

- for technical
- more sophisticated

## POSSIBILITY

Dry run with Kent Glenzer on Aug 3 or 4

# Good systemic assessment

To meet the challenges of measuring the past performance, current health, and future sustainability of global efforts, an assessment must be integrated in a clear, comprehensive, and rigorous fashion.

A good systemic assessment both:

- 1.integrates broad network and local partner levels of performance and leverage of philanthropic investments
- 2.indicates the network's ability to leverage systemic coordination among and within partners.

# Strengths of systems approach

A systems approach is particularly useful when trying to obtain a holistic picture of the environment in which a network operates.

In the context of global issues of poverty and injustice, the “system” is extremely complex and includes parts that cannot be understood independent of the broader network. A systems approach takes this complexity into consideration and assesses how the various stakeholders and network partners are embedded in and interdependent with the whole system. Key to this is the premise that aggregated component analysis does not yield the same information as analysis of the system itself.

A particular strength of implementing systems approaches is that it can include both qualitative and quantitative forms of inquiry (including, but not limited to, direct observation, informal interviews, and fieldwork). Its emphasis on inquiry and understanding also makes the approach naturally open to learning as an objective.

# Basis of SLI

More specifically, the Systemic Leverage Index (SLI) assesses the effectiveness, efficiency, and innovativeness of:

- the Oxfam global network in achieving the broader collective goal of reducing poverty and injustice
- the network partners in their contribution to this effort

The SLI is based on a synthesis of:

- *strategy theory*, especially the resource-based view of the firm
- *systems theory*, especially system dynamics

Its basic measurement is the gap between aspirations and current reality.



# Three levels of SLI

Drawing on a variety of data, the SLI inquiry focuses on defining and measuring the gaps at three different levels of the system:

1. The **system level**, where the aspiration is the broad impact the network as a whole is trying to achieve.
  - Are we coordinating all of the efforts in the system to achieve the network's goal?
2. The **level of the individual network partners**, where each organizational entity has its own aspirations, in addition to the collective desired outcomes it shares with the system as a whole.
  - Are the stakeholders in the network having their individual needs (the needs that drive their behavior) met? Are they remaining aligned with the overall network goals?
3. The **level of activities**—the interventions being made to effect change.
  - What leverage (effectiveness + efficiency) are we getting for our efforts?

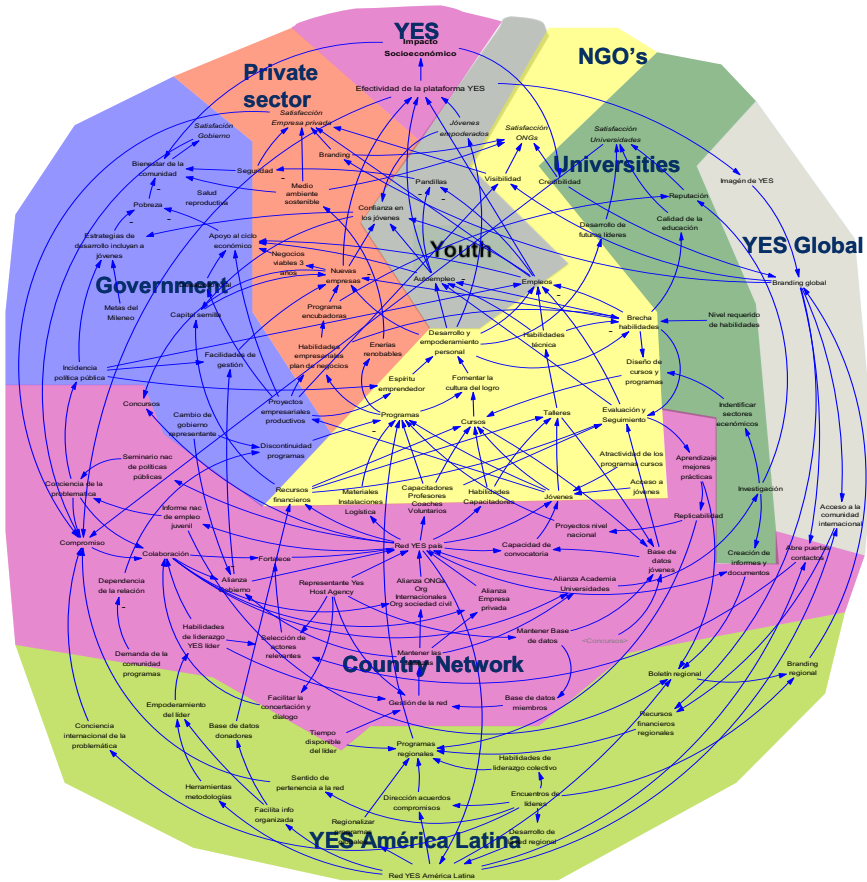
# “Good” performance and health assessment systems

As a “systems” approach to assessment of network performance and health, the Systemic Leverage Index defines, measures, and integrates three network levels in one system.

- *System level.* Structural leverage assesses how much resource is required to close the gap between the desired, broad impact and current reality.
- *Network partner level.* Dynamic leverage assesses the amount of resource necessary to close the gap between the partner’s own desired impact and its current reality. A partner can only contribute to the network when it also meets its own needs within the network.
- *Activities level.* Direct leverage assesses the amount of direct resource is required to achieve direct impacts.

By interrelating these levels, in a quantitative and qualitative systems depiction of the network, leadership can see how the efforts of each partner contributes to their own needs and those of the network.

# Global network example of SLI Youth Employment Systems



$$SLI = 0.5 = 0.37^{1/3} * 0.7^{1/3} * 0.7^{1/3}$$

→ moderate level of overall leverage of network to achieve socio-economic impact

$\lambda_{struct} = 0.3 = (\text{shift in socio-economic impact, aspiration level – actual level}) / \text{resources contributed}$

→ low level of coordination among stakeholders toward overall economic impact objective

$\lambda_{dyn} = 0.7 = (\text{shift in stakeholder impacts, aspiration level – actual level}) / \text{local resources contributed}$

→ moderate level of stakeholder satisfaction with contributions and own achievements

$\lambda_{dir} = 0.7 = (\text{shift in direct resource gap, aspiration - actual}) / \text{philanthropic resources contributed}$

→ moderate level of impact of investments in direct policy advocacy and program integration

# Guatemala multi-stakeholder inquiry

## Global level – overall impact

- Capacity to determine one's own potential (qual)
- % of population earning < \$1/day (quant)

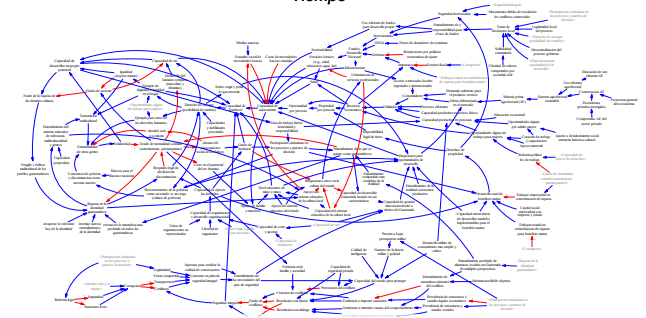
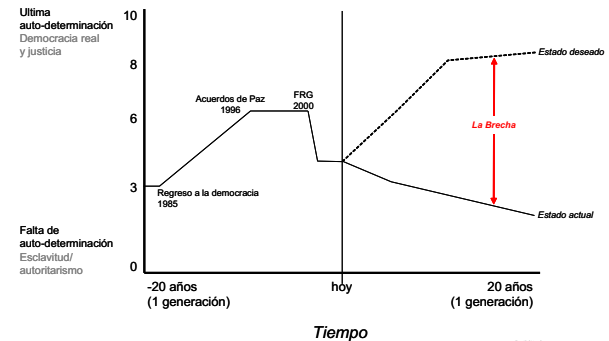
## Local level – regional, national context-specific goals

- Capacity of community leaders to see the whole and how to act (qual)
- % of community with dignified work (qual)
- Targeted community as % of whole community (quant)
- Excess demand for community's products/services (quant)

## Action level – specific intervention strategies

- # of girls staying in school more than one year
- # of women with greater empowerment through microfinancing

Capacidad de desarrollar  
mi propio potencial  
(control de auto-determinación)



# Civil society example of SLI Institute for Strategic Clarity (as of 08/06)

## The Institute for Strategic Clarity Systemic Scorecard

The state of ISC health

### Systemic Leverage Index

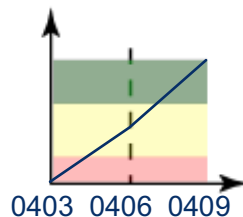
**0.5**

Range 0 - 1  
Healthy  $\geq 0.8$

System Level (Structural)

**Medium 0.5**

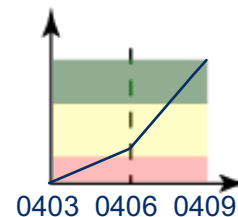
Work starting to pull together synergistically



Stakeholder Level (Dynamic)

**Low-Medium 0.3**

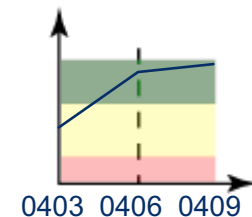
Low focus on leveraging stakeholder talents



Activity Level (Direct)

**High 0.8**

Very efficient in the few activities we do



# Formulation of the Systemic Leverage Index

## Systemic Leverage

$$\lambda_{sys,GG} = Y_{GG} \cdot X_{ERInputs}^{-1}$$

$$Y_{GG} = Y_{VCR} = f(Y_{VDR}) = \text{algorithm from stock - flow model}$$

$$\lambda_{sys,GG} = Y_{GG} \cdot (\lambda_{dir,ER} \cdot Y_{ER}^{-1})$$

$$\lambda_{sys,GG} = Y_{GG} \cdot \lambda_{dir,ER} \cdot (\lambda_{dyn,VDR} \cdot U_L (D[Y_{VDR,t+n}] - Y_{VDR,t+n}))$$

$$\lambda_{sys,GG} = Y_{GG} \cdot \lambda_{dir,ER} \cdot \lambda_{dyn,VDR} \cdot U_L^{-1} (D[U_G (D[Y_{VCR,t+n}] - Y_{VCR,t+n}) \cdot \lambda_{struct,VCR}^{-1}] - U_G (D[Y_{VCR,t+n}] - Y_{VCR,t+n}))$$

$$\lambda_{sys,GG} = f(X_{ERInputs}, U_G, U_L, \lambda_{dir}, \lambda_{dyn}, \lambda_{struct})$$

## Structural Leverage

$$G_{G,VCR} = \max(U_G (D[Y_{VCR,t+n}] - Y_{VCR,t+n})) \Leftrightarrow \forall u_{G,i} \in U_G, \sum_{i=1}^n u_{G,i} = 1.0, u_{G,i} \in (0,1)$$

$$\& G_{G,VCR} = \max(\lambda_{struct,VCR}) \cdot X_{VCR}$$

$$\max(\lambda_{struct,VCR}) \cdot X_{VCR} = \max(U_G (D[Y_{VCR,t+n}] - Y_{VCR,t+n}))$$

$$\Rightarrow \lambda_{struct,VCR} = \max(U_G (D[Y_{VCR,t+n}] - Y_{VCR,t+n})) \cdot X_{VCR}^{-1}$$

## Dynamic Leverage

$$G_{L,VDR} = \max(U_L (D[Y_{VDR,t+n}] - Y_{VDR,t+n})) \Leftrightarrow \forall u_{L,i} \in U_L, \sum_{i=1}^n u_{L,i} = 1.0, u_{L,i} \in (0,1)$$

$$\& G_{L,VDR} = \max(\lambda_{dyn,VDR}) \cdot X_{VDR}$$

$$\max(\lambda_{dyn,VDR}) \cdot X_{VDR} = \max(U_L (D[Y_{VDR,t+n}] - Y_{VDR,t+n}))$$

$D(\cdot)$  = desired value of output measure

can only maximize  $\lambda_{dyn,VDR}$  when structure generates a  $Y_{VDR}$  that gives  $D[Y_{VDR}]$

$$\Rightarrow \lambda_{dyn,VDR} = U_L (D[Y_{VDR,t+n}] - Y_{VDR,t+n}) \cdot X_{VDR}^{-1}$$

## Direct Leverage

$$Y_{ER} = \lambda_{dir,ER} \cdot X_{ERInputs}$$

$$\forall y_{i,ER} \in Y_{ER}, x_{i,ERInputs} \in X_{ERInputs}$$

$$x_{ER} \propto \text{Cost}(x_{ER})$$

$x$  &  $y$  are directly related

$$d_t, d_s \approx 0$$

∴ "how I do what I do"

$$\Rightarrow \lambda_{dir,ER} = Y_{ER} \cdot X_{ERInputs}^{-1}$$

# Further reading

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- *within strategic framework*

Georgantzas, N. C., & Ritchie-Dunham, J. L. (2003). Designing High-Leverage Strategies and Tactics. *Human Systems Management*, 22(1), 1-11.

- *for mathematical formulation*

Ritchie-Dunham, J. L. (2005). Systemic Leverage Index: Component Definitions (White Paper). Wilton, NH: Institute for Strategic Clarity.