2022 CLA CASE COMPETITION

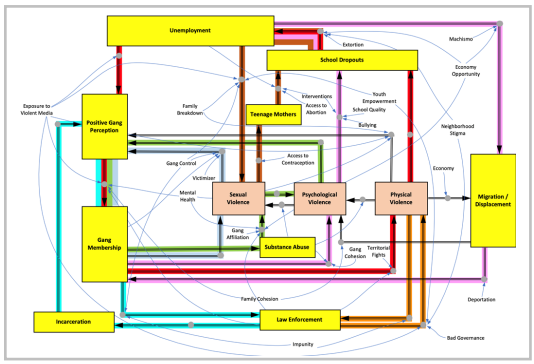
COLLABORATE • LEARN • ADAPT

Case Title:

Clarity in the Complex: Modeling & Preventing Violence with System Dynamics

Name: Travis Roberts (World Vision US)

Organization: World Vision & Johns Hopkins University



An initial system dynamics model of Community Violence Against Children in El Salvador and Honduras. (Credit: Tak Igusa, Johns Hopkins University)

Summary:

Problems in International Development are often wicked: they are difficult to solve because of complex causes and effects that interact in unpredictable ways. Typical problem-solving approaches focus on immediate or root causes, failing to grasp complexity and creating inefficient or insufficient solutions. System Dynamics (SD) presents a novel solution. By integrating multiple CLA components (particularly continuous learning and improvement with an eye towards scenario planning), community-led participatory research joins with cutting-edge scientific methods to build better understandings of complex problems and potential solutions.

In El Salvador and Honduras, community violence against children is part of a dynamic system that has been difficult to untangle. Development programs with finite life cycles and limited resources must target specific vulnerabilities to produce maximum results – a difficult task given the lack of evidence and shifting contexts that interventions occur in. Without a research approach that allows for complexity and dynamism it is impossible to confidently target interventions or accurately forecast the conditions that interventions might create.

For World Vision and Johns Hopkins, in partnership with USAID, System Dynamics represents an opportunity to bring existing Monitoring & Evaluation (M&E) infrastructure with new methods and partners to solve the problems that current approaches create. While this CLA effort is still reaching maturity, previous use cases in other industries and our lessons from the process so far give confidence that this approach can have a fundamentally transformative impact on how we approach problems in international development and design innovative, effective, solutions.

Which two subcomponents of the Collaborating, Learning & Adapting (CLA) Framework are most reflected in your case? Please reference them in your submission.

- Internal Collaboration
- External Collaboration
- Technical Evidence Base
- Theories of Change
- Scenario Planning
- M&E for Learning
- Pause & Reflect
- Adaptive Management
- Openness
- Relationships & Networks
- Continuous Learning & Improvement
- Knowledge Management
- Institutional Memory
- Decision-Making
- Mission Resources
- CLA in Implementing Mechanisms

1. WHAT: What is the general context in which the case takes place? What organizational or development challenge(s) prompted you to collaborate, learn, and/or adapt?

World Vision's work in Central America is known for its community-led approach to improving the well-being of children. Many of the problems children face (such as violence) are complex, without effective, standardized solutions. While the development community has increasingly prioritized the advancement of "evidence-based interventions," relatively little evidence exists in the child protection space. Further, most intervention evidence is generated through Randomized Control Trials, which typically only speak to what can be addressed in unchanging situations with no fluid variables, along a linear pathway of change.

In El Salvador and Honduras, community violence against children is part of a dynamic system that has been difficult to untangle. Development programs with finite life cycles and limited resources must target specific vulnerabilities to produce maximum results – a difficult task given the lack of evidence and shifting contexts that interventions occur in. Without a research approach that allows for complexity and dynamism it is impossible to confidently target interventions or accurately forecast the conditions that interventions might create.

Considering this, WV joined experts at JHU and USAID to create a systems model of community violence against children in El Salvador and Honduras. For two years, we have mapped causes, effects, and moderating factors to identify ecological vulnerabilities that fuel violence. We have committed to five years of data collection to build and mature a predictive model that illustrates the complexity of the problem in digestible and actionable ways and uses AI and What-If Scenarios to help target solutions.

Through Collaboration, Learning, and Adaptation, implementers (WV), academics (JHU), and donors (USAID) have built a cross-organizational culture of continuous learning and improvement, bringing novel methods and tools to produce world-class scenario planning – all in service of bringing a new methodology to bear in the development space that resonates with every aspect of the CLA approach.

2. WHY: Why did you decide to use a CLA approach? Why was CLA considered helpful for addressing your organizational or development challenge(s)?

This project emerged organically, without an explicit and single-point decision to create a CLA-like project. Instead, leaders at each partner institution had already been practicing and prioritizing CLA approaches and thinking, emphasizing collaboration between fields and a willingness to experiment with novel approaches without guarantees of overnight success.

We have found the SD approach to be synonymous with CLA due to the project requiring: blending of expertise that relies on openness across relationships and networks, with team members across disciples collaborating as equals; Internal and External Collaboration, with JHU colleagues collaborating across the Engineering and Public Health schools, WV collaborating across National Offices and US-based technical experts in both research and child protection, and the institutions collaborating with each other and donor partners at USAID; a persistent acceptance of fail-fast and fail-forward approaches that allow program setbacks to contribute to continuous learning and improvement, moderated by periodic pauses and reflection; and use of existing M&E processes and data for learning, rather than isolating data in untouched and repositories after program conclusion.

In addition, the partnership views this project as an inlet into how CLA practices can be implemented industry-wide. WV's privately funded multisectoral work and long-term (10+ year) community presence, it serves as an excellent pilot setting for SD. However, from the onset, it was key for all parties to agree on how SD would benefit and could be used by the various USAID missions across programs and implementors.

3. How: Tell us the story of how you used a collaborating, learning and/or adapting approach to address the organizational or development challenge described in Question 2.

In 2019, JHU received a grant from USAID in order to develop SD models for community violence against children in El Salvador and Honduras, and approached WV as a field collaborator. In June of 2019, WVUS and JHU staff traveled to Costa Rica to meet with National Office staff from El Salvador and Honduras to develop the first casual loop diagrams of the problem. This diagram was further refined with the help of expert academic partners and a comprehensive literature review before being presented to additional staff and community members (including youth) in El Salvador and Honduras. The iterative process of developing these diagrams virtually and in-person refined our thinking about the problems and causal loops and contributed to intangible things that make collaborations work – we bonded. Spending time in the field was a huge help for our academic partners to understand what the neighborhoods look like and to hear stories from the staff and local community members. Our software engineers are now among the first to advocate for validating their products and qualitative findings with World Vision's community partners and program participants.

This participatory research process allowed engineers at Johns Hopkins to create a pilot SD model incorporating factors as far-ranging as migration, access to education, and gang membership. In partnership with M&E staff in the relevant NO offices, we evaluated what existing, accessible, data sources could be used; what data WV staff were already collecting in violence-affected communities; and finally, what new questions we could ask to community members to generate additional data for model factors such as community reputation of gangs.

Since that point, our team has been cleaning existing data sources, collecting new data, and feeding it into the model. With the initial model up and running, the team is now working to incorporate the impacts of evidence-based interventions. At regular intervals, we have been pausing & reflecting in order to change our primary data collection methods, select new secondary sources, and refine and adjust the model. We have done so in a highly collaborative context that brings in stakeholders and research partners living in three countries and representing expertise disciplines as diverse as Child Protection to Qualitative Research Methods to Systems Engineering. And because our group is genuinely on the forefront of integrating SD in the Child Protection space, we have cultivated a team culture that is values continuous learning and improvement, accepting that our pilot model will only truly come to maturity over a 5-year timespan, allowing us to experiment and learn as our model does. This learning enables us to use comprehensive technical evidence base generated from our ongoing M&E efforts to generate new theories of change and plan scenarios incorporating different theoretical interventions and community conditions.

An important hallmark of System Dynamics is its participatory nature, involving not only M&E experts, but also program implementers at the national and local levels as well as the participants themselves. Once the first versions of our SD dashboards are completed, participants at all levels will be given the opportunity to engage with this tool and provide feedback. Given the highly visual and accessible nature of many of the System Dynamics products, those who work and participate in data collection will be able to see where their data fits into the system and can better appreciate the value of their efforts. The dashboard will be developed to be user-friendly so that any member of the participatory research team can be able to see aggregated forms of data, trends in the area program outcomes, and even simulate and observe projections.

4. ORGANIZATIONAL IMPACT: How has collaborating, learning and adapting affected your team and/or organization? If it's too early to tell, what effects do you expect to see in the future?

The Systems Dynamics approach is contributing to three main areas of change at World Vision, and specifically the teams engaged in our child protection work in the target countries. First, it is helping us view problems as complex systems and not linear processes. Second, it allows us to responsibly re-use data in a way that directly serves community priorities. Third, it has opened the doors to new partnerships that would not have been considered prior to this work.

In our field, typical problem-solving approaches focus on immediate or root causes, failing to grasp complexity and creating inefficient or insufficient solutions. Even before we fed a single data point into the model, we were forced to look at the problem differently – searching for feedback loops, considered a wider array of factors, and appreciating the community-identified impacts and relationship that define the system of violence.

Because many of the factors in the model correspond directly to data we are already collecting from the communities (and because we've integrated new data collection efforts into existing privately funded child sponsorship programs M&E processes), World Vision has been able to reduce the burden of research on participants and use existing data in new ways –multiplying the benefit to the community and learning more from our existing evidence base.

Finally, it is crucial to acknowledge that this type of partnership is unprecedented for World Vision, opening up a new pipeline between the JHU School of Engineering and M&E staff in our National Offices. This allows especially local staff to become increasingly sophisticated regarding System Dynamics, as our engineering partners have the opportunity to learn about on-the-ground humanitarian and development work (including through direct field visits). The diversity of experts engaged in this project has allowed for a collaborative culture where mutual learning is prioritized and prized.

5. DEVELOPMENT IMPACT: How has using a CLA approach contributed to your development outcomes? What evidence can you provide? If it's too early to tell, what effects do you expect to see in the future?

While the model is still too young to create accurate predictions about planned interventions or changed conditions, we are extremely confident that it will increase our efficiency and effectiveness. It is important to remember that our ultimate goal for SD is to integrate it into our typical DME process across sectors and contexts. SD will bring information to the table that's currently missing, but it will bring it to a process that has produced proven results. In other words, SD will improve already powerful processes, and will build off effective practices to do so.

Right now, WV interventions are developed in concert with community partners, incorporating evidence-based practices wherever possible. SD allows us to more effectively capture the mental models community experts have, potentially leading to greater and more organic fidelity and uptake once we reach the implementation stage. SD also generates additional evidence, allowing us to weed out less powerful or efficient interventions, or designing new ones that address existing problems from novel starting points. Finally, by incorporating data on a wide range of factors (and not relying solely on Theories of Change developed within specific disciplines), we see SD encouraging more cross-sectoral collaboration and programming, as we've already seen in bringing together engineers, Qualitative researchers, child protection experts, and M&E professionals around the same table.

Over the next five years, we hope to expand our use of SD to new geographic contexts and sectors beyond child protection (including livelihoods, WASH, and education). This will allow multiple models to be linked together, creating multi-sectoral models and dashboards. This both streamlines data collection and allows teams to see the mutual impact of their interventions, and ultimately will allow communities and leadership to determine the most crucial points of leverage for transformative change.

6. ENABLING CONDITIONS: How have enabling conditions - resources (time/money/staff), organizational culture, or business/work processes - influenced your results? How would you advise others to navigate any challenges you may have faced?

There were several key factors that enabled World Vision to implement SD. First, our persistence in communities via a child sponsorship model gave the JHU team confidence that a modelling process could begin, mature, and re-iterate over a period of years without worrying about the termination of grant funding (private donor persistence throughout COVID only increases this confidence). Second, the fact that SD could integrate into WV-developed data collection processes also meant that we could gather new programmatic data without extensive back-and-forth with a donor and allowed for a longitudinal research design that is vital for the SD research architecture. Thirdly, WV's federation model and community reputation and relationships enabled the team to rapidly develop community buy-in, bring local stakeholders into the design process, and maintain enthusiasm in the National Offices. Finally, a common culture of risk-taking and earnest investigation at JHU and WV allowed our team to bring this methodology into the international child protection field for the first time ever.

On the other hand, we have certainly faced challenges in implementing SD research and modeling. First, we identified a need for WV to communicate our programming, including the design and implementation processes in a more straightforward way. This will allow research partners to navigate the existing M&E data structure, including indicator indices, data collection processes, and our data analysis and utilization practices more easily and intuitively. Second, we underestimated the amount of time that would go into collecting and cleaning the primary data, as well as the availability and quality of secondary data. Initially we had a workplan with a clear timeline. However, during the second year we found the timing for primary data collection to be too tight to meet every critical deadline, and team turnover at both JHU and WV contributed to delays in implementation.