Measuring the Contribution of CLA to Organizational & Development Outcomes: What have we learned?

REFLECTIONS FROM THE GLOBAL KNOWLEDGE INITIATIVE & CAUSAL DESIGN

What did we set out to do?

USAID funded five partner organizations to examine the question: does a systematic, intentional and resourced approach to collaborating, learning, and adapting (CLA) contribute to improved organizational effectiveness and development outcomes? And if so, how and under what conditions? Each partner applied the $100,000 grant to design and implement a research process to respond to these questions over 20 months ending in April 2018. Given the documented challenges associated with measuring the contribution of CLA to organizational or development outcomes, each grant was an investment in piloting and learning from measurement approaches, creating a safe space for trial, error, and ultimately improving current and future attempts at similar research.

This document describes the key findings from one learning network member, Global Knowledge Initiative (GKI). To assess BioCrop's practice of Collaborating, Learning, and Adapting (CLA) and its impact on development outcomes GKI asked: to what extent would BioCrops use the knowledge products produced by GKI to make decisions and advance their goals? The process designed operated on the logic that BioCrops then would apply the knowledge products to make operational and programmatic decisions order to achieve development outcomes—increased income for the firm and greater food security in Uganda.

What did the research reveal?

GKI's research was unable to reveal a reliable answer the question of whether an intentional, systematic, and resourced approach to CLA contributes to organizational or development outcomes as a consequence of inconsistent and unreliable engagement by its local partner in Uganda, BioCrops. We were not able to collect the quantity or quality of data required for informative or actionable results.

GKI concluded that the team was unable to assess the impact of CLA activities on development outcomes. GKI's experience with BioCrops in Uganda revealed a range of conditions that must be in place that can influence an organization's ability to practice CLA, including the value of in-person engagement with implementing partners, incentives for adoption and practice, and organizational resource constraints. In addition, our findings and reflections from this project indicated that for expanding the practice of CLA and building an evidence base to track its impact on development outcomes requires an investment in building newer mindsets, integrating failure as an adaptive action, designing experiments allowing for longer timelines, and an unflagging commitment by funders and implementers to simplify systems-driven insights to facilitate informed and effective adaptation in a complex development context.

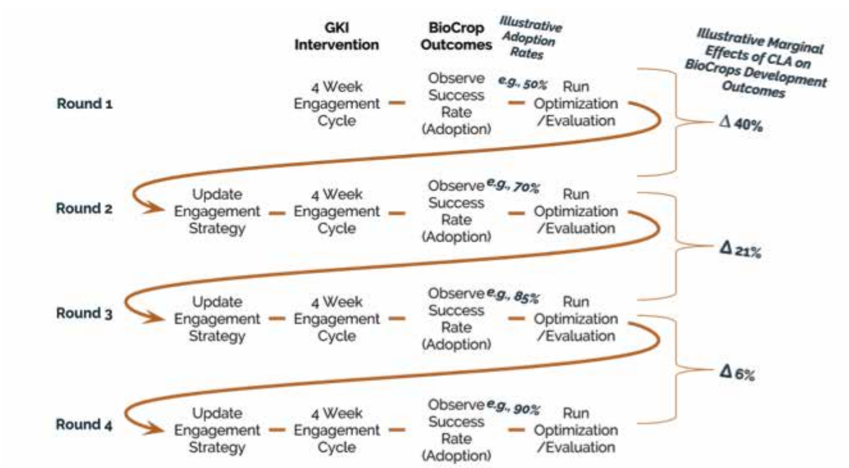
What methods and tools were used?

GKI's initial approach to evaluating the impact of CLA on BioCrops' development outcomes focused on econometric methods for estimating the impacts of GKI actions and adaptations on BioCrops outcomes (improved production efficiency, staff retention, firm expansion, revenue). However, as the project unfolded, there was concern that there were too many covariates—or variations in implementation—to appropriately model using traditional impact evaluation techniques. At this point, the research team at GKI shifted to understanding GKI's highly adaptive engagement process as an optimization problem. Approaching programs and their evaluations as an outcome focused optimization challenge could potentially close rapid feedback loops and create learning cycles during project implementation. Unfortunately, our attempt to manage this system with BioCrops did not meet our ambitions.

Optimization Approach

Optimization is an effort to find the best solution out of many of the possible approaches to solving a problem. In a system, it is the process of seeking the most efficient (from an input perspective) way to accomplish your task or goals.[1] We approached the challenge of getting BioCrops to use knowledge products as an optimization problem. We start with an assumption for the probability of success (i.e., using a knowledge product at each decision node). For example, knowledge products that BioCrops requests were more likely to be used than unsolicited materials sent by GKI. Everytime a product was delivered and feedback was received, the GKI team used that data to update its assumptions and map out the product delivery paths with the highest likelihood of use. This strategy implied that GKI adapted their operations to provide support to BioCrops in the way that is most likely to result in product use.

The image below shows the rapid-cycle of the optimization approach. Analysis happens after each period of intervention, results are applied immediately in the subsequent round, and small marginal gains in effectiveness are targeted in each cycle.



GKI addressed optimization through multiple approaches, using both a Bayesian approach to conditional probabilities and process mapping of positive deviance, elaborated below.

1 Arora, R. K. (2015-05-06). Optimization: algorithms and applications. CRC Press.

Quantitative Optimization Through Bayesian Decision Theory and Conditional Probabilities

Bayesian Decision Theory is a statistical approach to pattern classification, wherein information from the data is dynamically integrated to convey conditional probabilities. In this case, preliminary information about certain decisions made by GKI—for instance, the type and content of knowledge products sent—was used to assess the probability that the product is a "success," or in this case, perceived to be helpful and subsequently used. The analysis ranked pathways through which the knowledge product has the highest conditional probability of being adopted. That optimal pathway is then pursued more intentionally in the subsequent round. The results from the first rounds or GKI's engagement with BioCrops encouraged a shift in programming to focus on *collaboration* products, stop providing *research* products, and continue to support BioCrops with knowledge products—even when unsolicited.

Unfortunately, we were unable to run multiple iterations of the quantitative model. After two rounds of data, BioCrops did not provide feedback on any further knowledge products. This initial dataset consisted of 16 knowledge products; five of which had no response values from BioCrops. Because of this, not all calculations were possible or informative.

Qualitative Optimization Through Process and Positive Deviance Mapping

Positive deviance is a qualitative method used to evaluate change ex post. By examining positive outliers—individuals or groups that have reached optimal outcomes—it seeks to identify the conditions and strategies that have led to those outcomes. This backwards mapping starts from the right side (end) of the pathways mapped and works backwards to contextualize their success. Like the mathematical approach, the successes identified are integrated into the implementation strategy for the next knowledge product cycle.

Pathway/Decision Mapping

To analyze the success of individual knowledge products (via positive deviance and conditional probabilities) we had to map the pathways they followed from request through to adoption. The maps (Sankey Charts illustrated below) created both the opportunity for the team to discuss their expectations for success at every decision node and ground truth those assumptions after every round of data. The width of the bars, or flow rates, represent the quantity of products that followed a specific route.

In applying the positive deviance approach to the current project, two indicators were used to assess the products that were "successful" relative to the others: 1) ratings on the perceived helpfulness of the products and 2) whether the products were used. Of all 16 knowledge products sent to BioCrops, the GKI team discovered that four out of five knowledge products that were rated as helpful corresponded to just one of the twelve key system variables prioritized by BioCrops.

Managing Confirmation Bias in the Research Process

At every level in our logical framework, indicators were identified to capture both positive and negative effects of the knowledge products presented to BioCrops. Further, the research design and analysis of GKI's theory of change was implemented by an outside partner, Causal Design, who had fewer incentives to demonstrate the positive effect of CLA on development outcomes—or the success of the intervention more generally.

What else did we learn about integrating CLA?

First, there are necessary conditions required to adequately scale and expand CLA within an organization or activity. Without those capacities in place, it is incredibly challenging to encourage further adaptive behavior within an organization. We have suggested that the CLA Maturity Tool could be an appropriate diagnostic tool to use before beginning an initiative.

Second, it is hard to know when to stop adapting—or adapt away from a partner or program. The GKI team pursued an extensive and iterative process of adaptation to support BioCrops and make this intervention a success. However, a CLA mindset may have unintentionally nudged the team towards a sunk cost fallacy (i.e., we can continue to adapt our approach rather than stop it altogether). CLA practitioners should be mindful that stopping an activity or approach is also an adaptation and consider that option when determining how best to proceed.

In addition, its important to consider the opportunity costs of practicing a CLA approach. For example, our team recognized that BioCrops engagement with our team and products was significantly improved by in-person engagement. That moment provided an example of a true cost (travel or relocation expenses for a GKI staff member to Uganda). Those expenses can be quantified and benchmarked against the alternate uses for those dollars. If we cannot find a more effective place to improve development outcomes with that money, then it should be used to adapt our approach in Uganda. However, if the same cost could be applied to another program—and increase the impact on outcomes by a larger margin—than the adaptation should not be pursued.

Finally, enabling environment for an organization influences its ability to practice CLA activities. In GKI's case, differences in mindset, incentives, resources, and decision-making processes at BioCrops influenced the practice of CLA activities and assessment of their impact. In other case studies we've understood that a single person or leader within an organization can create the enabling environment for CLA success. We would note that the logic applies inversely as well; an individual can undermine success as was the case in GKI's project. Additionally, the external enabling environment also influences the application of CLA and assessment of its impact. For example, regulatory structures or complex social norms can be barriers confronting project operation, and also offered challenges to subsequent measurement activities.

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