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Towards appropriate mainstreaming of "Theory of Change" approaches into agricultural research for development: Challenges and opportunities

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ABSTRACT

Food insecurity persists in many parts of Africa and Asia, despite ongoing agricultural research for development (AR4D) interventions. This is resulting in a growing demand for alternative approaches to designing and evaluating interventions in complex systems. Theory of Change (ToC) is an approach which may be useful because it enables stakeholders to present and test their theories and assumptions about why and how impact may occur, ideally within an environment conducive to iterative reflection and learning. However, ToC is yet to be appropriately mainstreamed into development by donors, researchers and practitioners. We carried out a literature review, triangulated by interviews with 26 experts in African and Asian food security, consisting of researchers, advisors to programs, and donors. Although 17 (65%) of the experts had adopted ToC, their responses and the literature revealed four challenges to mainstreaming: (i) different interpretations of ToC; (ii) incoherence in relationships among the constituent concepts of ToC; (iii) confused relationships between ToC and project "logframes"; and (iv) limitations in necessary skills and commitment for enacting ToC. A case study of the evolution of a ToC in a West African AR4D project over 4 years which exemplified these challenges is presented. Five recommendations arise to assist the mainstreaming of ToC: (i) select a type of ToC suited to the relative complexity of the problem and focal system of interest; (ii) state a theory or hypotheses to be tested as the intervention progresses; (iii) articulate the relationship between the ToC and parallel approaches (e.g. logframe); (iv) accept that a ToC is a process, and (v) allow time and resources for implementers and researchers to develop ToC thinking within projects. Finally, we suggest that communities of practice should be established among AR4D and donor organisations to test, evaluate and improve the contribution that ToCs can make to sustainable food security and agricultural development.

1. Introduction

Finding ways to improve the effectiveness and impact of food security interventions is one of the key challenges facing the development assistance community (Foran et al., 2014; Ozor et al., 2013). Interventions have an uneven record of success and worryingly high rates of food insecurity remain in many parts of Africa and Asia (E.g. Banerjee et al., 2014; Deaton and Lipka, 2015). One of the major responses to limited success has been an increasing demand for demonstrating achievement of results and value for money from food security interventions (Buntaine et al., 2013). Under this growing results-orientated culture there has been more reflection on the conceptual and theoretical foundations of project design, and how and why success or failure occurs.

From this reflection, a number of concepts and approaches have gained prominence, including developing a Theory of Change (ToC) to underpin intervention design (Davies, 2004; Vogel, 2012). ToC refers to a process where stakeholders develop, monitor and evaluate theories that underpin the design of an intervention and explain how and why impact will be achieved through the implementation of the intervention

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(Blamey and Mackenzie, 2007; James, 2011).

The literature traces the dominant ToC lineage to the field of theorybased evaluation approaches (Vogel, 2012). These evaluation approaches were introduced over four decades ago to explain how and why an intervention achieved or contributed to impact (Weiss, 1972), rather than focusing only on measuring whether or not an intervention had achieved stated outputs and outcomes (Chen and Rossi, 1983; Connell and Kubisch, 1998; Pawson and Tilley, 1997; Rogers et al., 2000). The call for ToC-informed design of interventions was thus triggered by the needs of evaluation practitioners.

James (2011) identifies a second contribution to the evolution of ToC – the community development domain's work on participatory approaches (such as Participatory Action Research, action learning and empowerment) that have long advocated for conscious and continuous joint reflection as a catalyst for learning and informed action to bring about positive changes. This strand is also important because it connects ToC to proactive change through single-, double- and triple-loop learning. Single-loop learning refers to modification or incremental improvement of action strategies without questioning the underlying assumptions and goals. Double-loop learning is the revisiting and reframing of assumptions and goals (Argyris and Schön, 1999). In tripleloop learning, one starts to reconsider underlying values, beliefs and paradigms, because the initial world-view no longer seems to hold (Flood and Romm, 1996; Pahl-Wostl, 2009).

Proponents argue that theory-based design and evaluation enhances learning from programs (Funnell and Rogers, 2011; Vogel, 2012) through its explanation of mechanisms of how, why and in what context an intervention achieves or contributes to impact (Mayne, 2012). In other words, it provides information beyond answering whether or not the intervention simply achieved or contributed to impact (Shaffer, 2013), particularly in relation to complicated, dynamic and complex issues (Funnell and Rogers, 2011; Rogers, 2008).

At the turn of the 21st century, ToC and impact pathways thinking were introduced to the agricultural research for development (AR4D) sector. Thornton et al. (2017) define AR4D as a set of applied research approaches that aim to contribute directly to the achievement of international development targets, usually involving demand-led prioritization of research, participatory and action research, and stakeholder involvement and capacity development. Most AR4D interventions have lofty food security and/or agricultural development goals, but often the theories and pathways for how and why the particular intervention would contribute to or achieve impact were not well articulated, encapsulated in design, or tested (Douthwaite et al., 2003). Kuby (1999) refers to this as the "missing middle" or "output-impact gap."

Douthwaite et al. (2003) developed Impact Pathways Analysis (IPA) as a version of program theory or ToC (Rogers et al., 2000) that incorporated recent conceptual advances and articulations of the "missing middle" and "attribution gap" in AR4D. They used the terms "ToC" and "IPA" interchangeably, but preferred the latter because of the familiarity and pragmatic nature of the term to practitioners working in agricultural research and development interventions (Douthwaite et al., 2003; Douthwaite et al., 2007; Kuby, 1999; Mackay and Horton, 2003; Secretariat, 2000; Springer-Heinze et al., 2003). More recently, key developers of IPA have made distinctions between IPA and ToC, where the former "maps out causality – normally using boxes and arrows", and the latter "explains the assumptions behind the arrows" (Douthwaite et al., 2013).

These differences between ToC and IPA echo Weiss' (1997) distinction between "implementation theory" and "program theory", which she noted are often confused or lumped together. Implementation theory focuses on the necessary steps through which an intervention will be carried out, thereby mirroring IPA. In contrast, program theory focuses on the responses an intervention generates, or the mechanisms of change triggered by the intervention (Pawson and Tilley, 1997; Blamey and Mackenzie, 2007). These distinctions are important, since most current work on Impact Pathways, and indeed the application of ToC in AR4D, is largely about implementation logic rather than deep reflection on underlying worldviews, assumptions and theories that explain the mechanics that generate the desired change – in the manner of triple-loop learning.

More than a decade on, ToC is becoming a more common requirement in the design and funding of AR4D interventions (Thornton et al., 2017; Vogel, 2012). This evolution of development thinking is important and likely to continue, but there are concerns that ToC could simply become another burdensome administrative requirement that brings no substantive change beyond simplistic compliance or "box-ticking" (e.g. Green, 2012; Valters, 2014).

This paper assesses the challenges and potential solutions to appropriately mainstreaming ToC into the design and evaluation of AR4D interventions. By "mainstreaming" we refer to the process of embedding a new concept, principles or an approach into a routine practice of individuals and organisations of relevant domains (McCarthy, 2010), while recognising that there is no guarantee that the new approach will be institutionalised as originally intended (Squires, 2005). First, we conducted a literature review, triangulated via interviews with experienced practitioners and donors in the agricultural and development field to ascertain the current understanding and application of ToC (Section 2). Four major challenges to mainstreaming emerging as themes from the analysis of literature and interviews are described in Section 3. We then present a case study of the evolution of ToC practice in an AR4D project in West Africa, which exemplifies several of these challenges (Section 4). We conclude with some recommendations about how ToC can be mainstreamed into AR4D, and its practice refined and improved through ongoing testing, reflection and learning.

2. Methods: literature review and interviews

The literature review included recent books, journal publications and grey literature about ToC practice generally and also within the A4RD and food security domain. Based on their networks and knowledge, the authors developed an initial list of 70 potential interviewees considered to be at the forefront of the AR4D domain and who were focused on Africa and Asia, the global hotspots of chronic food insecurity and poverty. The potential interviewees worked in different national, regional and international research, academic, non-government, donor, private, and public organisations, and included equal representation of women and men. Of the 70 in the original list, 44 individuals were prioritized and invited to an interview; 28 individuals accepted the invitation and ultimately 26 (8 women and 18 men) made themselves available for interview. Twelve interviewees were researchers, nine were managers or advisors in development programs, and five were from governmental or philanthropic donor organisations.

The interviews involved a set of semi-structured questions about the expert's understanding of ToC and impact pathways, and their experience of applying ToC in intervention design, implementation and impact assessment.

Interviews were transcribed and analysis of transcripts was assisted by use of NVivo qualitative analytical software (QSR International Pty Ltd, 2012). Analysis of both the literature and interview transcripts employed a constant comparative technique from a grounded theory approach (Glaser, 2017; Strauss and Corbin, 1997) in order to develop an understanding of the state of, and constraints to mainstreaming ToC in AR4D.

3. Emergent challenges

Four thematic challenges emerged from the research: (i) different interpretations of ToC; (ii) incoherence in relationships among the constituent concepts of ToC; (iii) confused relationships between ToC and the "logframe" which is still a dominant design tool in AR4D interventions (Prinsen and Nijhof, 2015); and (iv) necessary skills and commitment for enacting ToC.

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