

## *Getting to impact: enriching Logframes with Theories of Change*

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Accountability pressure to demonstrate how research for development projects will bridge the 'output - outcome gap' and achieve impacts 'at scale' has increased. Consequently, efforts to develop 'Theory of Change' (ToC) and impact pathways that steer programs and projects to outcomes have grown within Australia's Official Development Assistance (ODA) strategy. In response, the cross agency Food Systems Innovation (FSI) project piloted the use of ToC thinking within Australian Centre for International Agricultural Research (ACIAR). ACIAR projects typically deal with agricultural technology research, adaptation and adoption, are structured with logframes and describe an impact pathway. FSI was invited to engage with the large ACIAR-managed Sustainable and Resilient Farming System Intensification (SRFSI) project running from 2014 to 2018 in the Eastern Gangetic Plains. Reviewers of the SRFSI proposal suggested that the project needed strengthening in terms of achieving institutional change and widespread impact. ToC thinking was introduced to SRFSI's partners during an FSI Symposium in Australia and strategic planning meetings and workshops in-country. We discuss three observations arising from this engagement. Firstly, in-country partners expressed frustration with 'Business as Usual' and corresponding interest in exploring new concepts and approaches that could increase impact. Secondly, ToC is not a narrow or fixed approach. It is a framework that can function like a thread that pulls in concepts and bodies of evidence that would not usually be aired or discussed. Thirdly, pulling the ToC thread can unravel assumptions that underpin and stabilise the project's Logframe. We discuss the implications of these observations for the ODA in general and project cycles in particular.

## Introduction

Accountability pressure to demonstrate how research for development projects will bridge the 'output - outcome gap' and achieve impacts 'at scale' has increased since the Paris Declaration on Aid Effectiveness in 2005. One response, arising from the field of evaluation, is advocacy for use of Theories of Change (ToC) to map out plausible impact pathways for programs and projects. The proposition is that ToC are an improvement on the use of linear Logframes which by focusing on inputs, activities and outputs fail to connect outputs to on-ground and ongoing impacts. An account of the 'miracle' or 'missing middle' is needed that connects the project or program to outcomes and impacts including food security, poverty reduction and gender equity (Vogel, 2012; Figure 1).

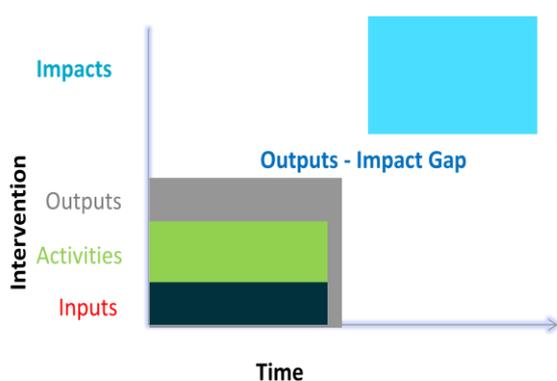


Figure 1: The 'output - outcome gap'

This advice constitutes a significant challenge in the International Agricultural Research for Development (IAR4D) domain where impact paths can be long, complex and uncertain. IAR4D projects confront the difficult dynamics of agrarian change, which in South Asia means migration and remittance economies are feminising agriculture, urbanisation reconfiguring rural labour markets, population pressure degrading land and water resources and tenurial arrangements are deeply contested, to the point of a decade long Maoist insurgency on the Terai Plains of Nepal.

Ironically, because increasing crop and animal yields is technically uncontroversial, it has traditionally been viewed as involving a certain impact path: agronomists and extensionists transferring technology to farmers, with limited consideration of institutions and markets. The Transfer of Technology (ToT) paradigm has become less tenable as Structural Adjustment policies have reduced public funding for subsidies and extension services (World Bank, 2007). Evidence has accumulated that uptake by *subsistence* farming households of technologies and practises is poor because 'adoption' depends on secure access by smallholders to credit, advice, land and water, inputs and profitable markets. Consequently, the Agricultural Innovation Systems (AIS) paradigm has arisen that emphasises the involvement of a far broader range of actors in agriculture aligned along value chains (Scoones, et al., 2008, Figure 2).

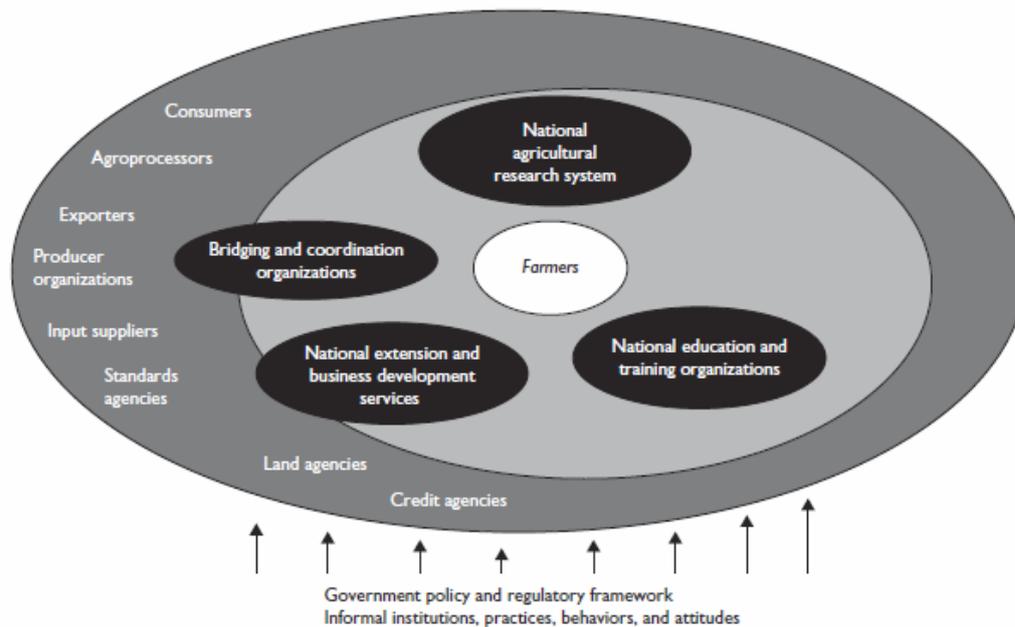


Figure 2: Representation of an Agricultural Innovation System

The combination of pressure to demonstrate effectiveness of expenditure and the eroding persuasiveness of traditional accounts of effectiveness in the IAR4D domain in Australia inspired the Food System Innovation (FSI) project. FSI is a partnership that began in mid-2012 between the Australian Centre for International Agricultural Research (ACIAR), CSIRO's Sustainable Agriculture Flagship (SAF) & the agriculture and rural development teams within the Department of Foreign Affairs and Trade (DFAT). In the context of this South Asia project experience reported on herein, ACIAR's mandate is to broker partnerships for international agricultural research, DFAT provides resources to projects considered in the national interest, and SAF is an interdisciplinary research provider. These roles are different yet complementary; FSI is necessarily an evolving project, is up to its third iteration and the partnership agreement was formally updated in late 2014.

FSI's objective is to encourage and facilitate the: "application of more effective, evidence-based approaches to the development, implementation and evaluation of agriculture, food security and nutrition interventions". The project aims to: strengthen the analytic evidence base for food security interventions; connect relevant research outputs with development practice; improve coordination and integration between Australian agencies; and promote organisational learning to build professional capacity (<http://foodsystemsinnovation.org.au/>).

One of FSI's activities is a case study of the Sustainable and Resilient Farming Systems Intensification (SRFSI) project which is jointly funded by ACIAR and DFAT. SRFSI sits within DFAT's Sustainable Development Investment Portfolio (SDIP) which is focused on better management of South Asia's water, energy and food nexus. The International Maize and Wheat Improvement center (CIMMYT), a member of the Consortium Group for International Agricultural Research Centres (CGIAR), is the lead agency (commissioning organisation) for SRFSI. FSI offered support to various aspects of SRFSI's design and implementation. In FSI's first year (2012-13), a situation analysis of the prospects of agricultural intensification

of the Eastern Gangetic Plains was undertaken that concluded that historical consolidation of institutional trajectories in India, Bangladesh and Nepal will need negotiation to achieve widespread impact. This analysis provided a valuable input into the formulation of SRFSI. Subsequently, reviewers of the SRFSI proposal that suggested the project needed strengthening in terms of achieving institutional change and widespread impact. To this end, FSI introduced ToC thinking into SRFSI planning via meetings and workshops held in Australia, India and Nepal. The aim was to use ToC thinking to air and discuss assumptions regarding the relationship between institutional change and agricultural intensification.

The remainder of this paper explains the Logframe framing of SRFSI which follows ACIAR conventions, as background to the introduction of ToC thinking to preface deliberations on scaling strategies at the project's inception with its civic and public sector partner agencies. Preliminary findings arising from the on-going case study are then described and discussed. Finally, we discuss the tensions between a traditional Logframe approach to project planning compared with a ToC approach to project design that entertains the emergent AIS paradigm.

## Case study background

SRFSI focuses on conservation agriculture. Conservation Agriculture (CA) is a zero-tillage, crop residue conserving movement that developed into widespread commercial practices in America and Australia. The core practises identified in the *Nebraska Declaration on Conservation Agriculture* are:

- minimum disturbance of soil with tillage;
- retention of crop residue to cover bare soil; and
- a diversified cropping rotation that include at least three species including a legume (CGIAR, 2013:1).

These practises are uncontroversial in Australia where ploughing a paddock is now considered 'recreational tillage' (see Darbas & Lawrence, 2011). Better management of stored soil water in dryland (unirrigated) cropping is a proven, elegant solution to the problem of variable rainfall. Furthermore, as such variability is increasing due to climate change; CA is an indispensable adaptation and risk management strategy.

However, CA strategies are more complex in developing country contexts because subsistence smallholders are often reluctant to adopt given the high entry costs in terms of machinery, knowledge and modern inputs (hybrid seeds, fertiliser, herbicide etc). This is particularly so in rice based paddy systems in South Asia where repeated tillage and puddling is a centuries' old tradition and monsoon rains *were* reasonably reliable. In a region such as the EGP which has a pronounced dry season, the intensification (more crops per year) being sought also favours the use of at least supplemental irrigation enabled by widespread availability of groundwater via tubewell extraction.

Table 1: CA advantages and adoption barriers:

CA practice	Advantage	Smallholder adoption barrier
Minimum till	Improves soil water storage & soil structure	Requires new/modified machinery, e.g. direct drill seeders Requires chemical weed control
Retention of crop residue	Improves soil water storage & soil structure	Conflicts with use of residue as livestock fodder
Rotations with minimum 3 species, including legume	Systemic management of pests & diseases, fixes nitrogen	Requires significant level of experimentation, learning, planning and management skill

ACIAR's standard procedure for designing IAR4D projects such as SRFSI has been Logframes in conjunction with clearly specified impact pathways that enable adaptive testing of the project's design. Meanwhile, DFAT is exploring ways to improve impact through aid effectiveness discourse and experimentation. From this perspective, it is inadvisable to bracket institutionally entrenched barriers to adoption 'at scale' as program assumptions. Indeed, ACIAR reviewers of the SRFSI proposal and scaling extension (under the fourth objective) have suggested that the project needed strengthening in terms of achieving institutional change and widespread impact via public-private partnerships and inclusive value chains.

SRFSI could be used as a platform supporting comparative analysis of institutional change (or lack thereof) towards regional food and nutritional security. In focusing on the unrealised agronomic potential of the South Asia's 'poverty square', the Eastern Gangetic Plains, the project covers two northeast Indian States of West Bengal and Bihar, the northwest region of Bangladesh and the eastern Terai Plains of Nepal. These jurisdictions were historically differentiated due to: the British India Company defined the India-Nepal border in 1815, World War Two triggered the partitioning of India from its Muslim populations on its eastern and western fronts in 1947; and civil war separated (eastern) Bangladesh from (western) Pakistan in 1971. As a consequence, the four jurisdictions have quite different institutional arrangements and development trajectories and subsequently, global shocks, such as structural adjustment and the Global Financial Crisis, have manifested differently in each country.

For example, agricultural intensification is most advanced in Bangladesh, with up to four crops per year being grown (compared to one crop in Bihar). This is a remarkable achievement given the country's infrastructure and elite were lost during the civil war which necessitated the highest food aid flow in history. This outcome is testament to conditional aid, well executed by international expertise and the strength of Bangladesh's now internationally famous civil society groups (Banerjee et al, 2014). In contrast, conditional aid did not galvanise concerted cross-sector effort in Nepal.

### Incorporating ToC into SRFSI

Treating SRFSI's scaling challenge as a FSI case study; we held workshops in Australia, India and Nepal to introduce ToC thinking as a vehicle to discuss project assumptions regarding institutional change, scaling and impact.

Table 2: SRFSI workshop details

Workshop	Participants	Focus
India – New Delhi Strategic Planning Meeting Three days May, 2014	Major SRFSI partners: ACIAR, DFAT (SDIP), CSIRO CIMMYT, IWMI, IFPRI ICAR, UBKV, BARI, NARC iDE + speakers USAID India, NFSI	Kharif (monsoon) trial planning M&E as component of SDIP M&E Out-scaling SRFSI: principles & strategies
Australia – Brisbane FSI Symposium Four days June 2014	Program & project staff from South Asia (SRFSI socio-economists), Indonesia, Timor Leste, PNG & Sub Saharan Africa	ToC & pathway to impact (panel 4 speakers + activities + SRFSI team network mapping activity) Integrating nutrition into projects Partnering and Innovation (including pro-poor value chains and public private partnerships)
Nepal – Dhulikhel SRFSI ToC, Inception, Planning & Scaling Workshops Six days July, 2014	All SRFSI partners ACIAR, CSIRO, UNE, UQ, USyd CIMMYT, IFPRI, IWMI Bangladesh: BARI, RDRS India: ICAR, DoA, UBKV, CABI, CRISP, JEEVIKA, Sahki Nepal: DOA, NARCC, iDE	Clarify project logic/M&E to facilitate adaptive implementation Network mapping exercise in four jurisdictional groups to refine impact pathways Share current understanding of scaling principles & strategies for local to national scales Develop elements of SRFSI scaling project to support full proposal development

NGOs Australian agencies CGIAR institutes National public sector Consultant

FSI chose network mapping as the key activity through which ToC thinking could be applied to the scaling barriers and pathways posed by SRFSI's multiple jurisdictional settings. This exercise was successfully trialled with the SRFSI socio-economists at the first workshop in Brisbane in May to help participants think through how change could occur given the current institutional structures, incentives, behaviours and attitudes within their jurisdiction. Network mapping was repeated in July in Nepal with the full gamut of scientists from SRFSI partners. The most persuasive current and desired network mapping was undertaken by the Bihar partners with strong input from the NGOs JEEVIKA and Sahki which specialise in socio-economic mobilisation of landless sharecroppers and fisherwomen. The Bihari participants presented a cross-sector collaboration vision whereby more strategic alignment of resources and skills could be achieved by focusing on collective purchase of inputs/sale of products and unified public/civic modalities of extension.

Although SRFSI's design involves the use Innovation (multi-stakeholder) Platforms (IPs) as the central scaling method, it became clear in this workshop that very different notions of what an IP is and at what scales they should operate were held by the partners. Key to this controversy was the distinction made between out-scaling horizontally to further farmers through village level IPs and up-scaling through policy pathways by establishing IPs at the state/regional level (Figure 3). The proposition was put to the plenary that these pathways are synergistic as more sympathetic policy settings, for example, better extension services, facilitate further out-scaling. NGOs and the policy centric CGIAR partner IFPRI were enthusiastic about pursuing a policy impact pathway, as this would engage their expertise. Public sector agricultural departments and agencies were more reserved. Nepalese public sector participants, facing longstanding coordination dilemmas, viewed this strategy as potentially powerful. West Bengal participants, with their well established system of farmer

groups, were more confident that their current institutional arrangements would serve well. Bangladeshi participants were sanguine as cropping intensity is already high and reliance on NGO effort is standard and effective practice. However, the techno-centric CGIAR partner CIMMYT was reluctant, viewing up-scaling as a departure from their established and successful experience with horizontal scaling. Their long history of running CA projects since their pivotal role in Green Revolution that unfolded on the Western Gangetic Plains and Pakistan from the 1970s.

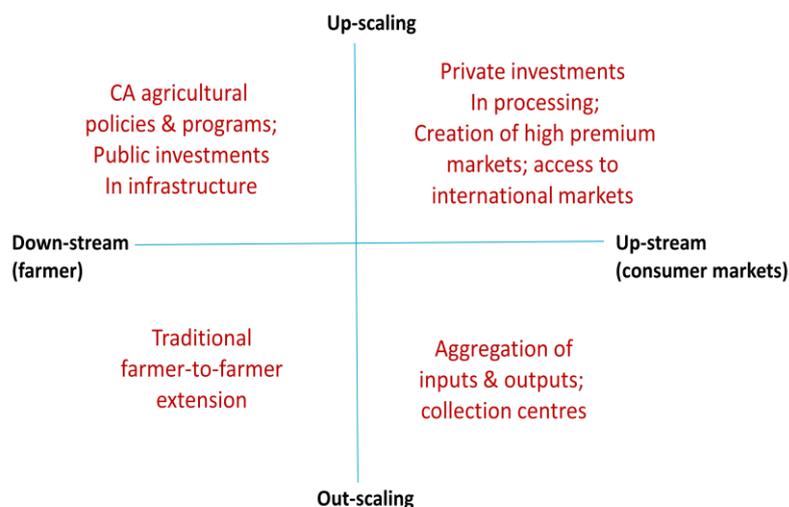


Figure 3: Scaling pathways

## Discussion

This case study is ongoing and evolutionary, punctuated by seasonal trials as the basis for planning, monitoring, evaluation and learning, so the following comments are necessarily provisional. That said, our experience is that preceding the scaling strategy workshop with introduction of ToC thinking elicited some longstanding, deeply held assumptions elided by the strong agronomic framings of SRFSI by some of the partners. Process is important, although key speakers were used to open topics in both workshops, the dominant technique was to keep a jurisdictional boundary around small group exercises and discussions to ensure participants communicate across the NGO – public sector divide and repeatedly move back to a regional perspective in plenary discussions. The opening ACIAR proposition on scaling was also provocative: that the core SRFSI research project targets 7000 farmers whereas the supplementary scaling component needs to reach 3 to 3.5 million households mostly headed by vulnerable women. This task means scaling with AUD \$1-2 per household, which is only achievable with strong private sector involvement that provides strong incentives for farmers and businesses associated with input and produce value chains.

However, deliberately destabilising an intervention’s logic leads naturally to the task of restabilising the Logframe detailing of timelines, staff and activities; all of which have to be apportioned funds. Thus, the balance of funding apportioned to technical activities such as

field trials and institutional activities such as establishing and running IPs, remains hotly contested.

Three implications for ODA can be drawn from this case study experience. Firstly, as Sumberg et al writing on the politicised nature of agronomy note, there is a: “tendency for powerful actors and institutions to try and close down or limit discussion” (2013:76). We confirm that such deliberative truncations (Darbas, 2008) are a risk that needs to be actively but delicately managed. In this case, the workshops and experimentation with process within them have been actively encouraged by ACIAR and other Australian partners involved in SRFSI. Secondly, the difficulty of negotiating commitment to use of the emergent AIS paradigm and ToC approach to project implementation highlights the risk that development effectiveness discourse will give rise to isomorphic compliance pressure rather than collaborative learning (Andrews et al, 2013). Consequently, resources and activities underpinning collaborative learning across project sites need to be clearly planned. Finally, a four year project timeline is unlikely to provide a long enough window in which to achieve the underlying goal of institutional change through collaborative learning within and across the EGP jurisdictions involved in SRFSI. One solution to this dilemma is the establishment of a longer term vision by SRFSI’s South Asian partners.

## Bibliography

Andrews, M., Pritchett, L. & Woolcock, M. (2013) Escaping Capability Traps Through Problem Driven Iterative Adaptation (PDIA), *World Development*, 51, 234-244.

Banerjee, O., Darbas, T., Brown, P.R. and Roth, C.H. (2014) Historical divergence in public management of foodgrain systems in India and Bangladesh: Opportunities to enhance food security, *Global Food Security*, <http://dx.doi.org/10.1016/j.gfs.2014.06.002i>

CGIAR Independent Science and Partnership Council (2013) *The Nebraska Declaration on Conservation Agriculture*, CGIAR Independent Science and Partnership Council Secretariat.

Darbas, T. and Lawrence, D. (2011) The influence of agronomic advice upon soil water thresholds used for planting decisions in Southern Queensland's grains region, *Agricultural Systems*, 104, 20-29.

Darbas, T. (2008) Reflexive governance of urban catchments: a case of deliberative truncation, *Environment and Planning A*, 40, 1454-1469.

Food System Innovation project website, <http://foodsystemsinnovation.org.au/> (accessed 9/2/2015).

Scoones, I., Thompson, J. and Chambers, R. (2008) *Farmer First Revisited: Innovation for Agricultural Research and Development Workshop Summary*, Institute of Development Studies, University of Sussex, UK.

Sumberg, J., Thompson, J. & Woodhouse, P. (2013) Why agronomy in the developing world has become contentious, *Agriculture and Human Values*, 30, 71 - 83.

Vogel, I. (2012) *Review of the use of 'Theory of Change' in international development: Review Report*, DFID.

World Bank (2007) *World Development Report 2008*, World Bank, Washington DC.