Contribution Analysis in MSD

An Example from Sri Lanka

Introduction

It is well-recognised that market systems development (MSD) programs operate in complex and dynamic environments, posing particular challenges in assessing attribution and impact to any one intervention or causal factor.[1] Good practice in MSD evaluation suggests that programs should focus on measuring which changes are systemic, consider and document other contributory factors, and measure impact following the intervention to ascertain the sustainability of impact2.[2] One possible approach to implementing the recommended practices is Contribution Analysis (CA), a theory-based approach to evaluation that sets out to establish plausible evidence of a program's contribution to change.[3] CA recognises that pathways to change are complex and many factors contribute to outcomes in addition to a specific program intervention.[4] Rather than a definitive, binary assessment method (i.e. did the program cause this change or not), CA is similar to the process of building a case in a court of law, in which evidence is presented and a judgment made on the validity of the argument.[5] At its simplest, CA sets out the evaluation question to be examined and uses a blend of qualitative and quantitative research methods to build a case that an external intervention either contributed or did not contribute to the outcome. It has not been widely used in MSD programs,but offers a compelling approach to making reasonable claims about causality in complex situations.[6]

[1] BEAM Exchange (2016). *Guidelines for Evaluating the Impact of Market Systems.* Available at https://beamexchange.org/uploads/filer_public/db/d8/dbd87972-6d39-46bf-a78b-c033c1697e30/guidelines_for_evaluating_the_impact_of_market_systems_programmses.pdf.

[2] Ruffer, Tim and Wach, Elise (2013). *Review of M4P Evaluation Methods and Approaches.* Available at: https://www.itad.com/reports/review-of-m4p-evaluation-methods-and-approaches/.

[3] Mayne, John (2008). *Contribution analysis: An approach to exploring cause and effect.* The Institutional Learning and Change (ILAC) Initiative. Available at: https://www.betterevaluation.org/resources/guides/contribution_analysis/ilac_brief.

[4] Koleros, Andrew and Mayne, John. (2019) Using Actor-Based Theories of Change to Conduct Robust Evaluation in Complex Settings. *Canadian Journal of Program Evaluation* 33(3), March 2019.

[5] FSD Africa (2016). *Developing an Impact-Oriented Measurement System.* Available at: http://www.fsdafrica.org/wp-content/uploads/2017/08/Developing-an-Impact-Oriented-Measurement-System.pdf.

[6] The exceptions are FSD-Africa, which used CA to evaluate FSD-K's contribution to the transformation of the financial sector and ITAD's evaluation of Samarth Nepal's contribution to agricultural growth.

Market Development Facility Sri Lanka

The Australian-funded Market Development Facility (MDF) in Sri Lanka recently implemented CA to better understand positive, unintended consequences in the fisheries sector.[7] One of MDF's initial intervention areas was to increase business activity in the conflict-affected North. MDF's analysis showed that most of the poor in the North made their living in either fishing or agriculture so looked for opportunities to increase employment and income in those sectors. The interventions in fisheries sought to generate employment in value-adding fish processing facilities in the Northern districts of Jaffna and Mannar. While their support to several companies did result in over 300 jobs, of which 90% were for women, regular monitoring picked up a sustained increase in prices for Blue Swimmer Crab (BSCs). MDF opted to use CA to understand why the price increase happened, why and to what extent MDF may or may not have contributed, and how.

Case Study: Contribution Analysis in the Blue Swimmer Crab Sector

Good practice in CA includes a six-step process, and the rest of this section describes the general approach to CA using the MDF Sri Lanka BSC example as a case study.[8]

STEP 1 Set out the research question to be addressed

Regular post-intervention monitoring of changes in the wider fisheries market system by MDF revealed that the market price for BSCs in three Northern Province districts had more than doubled since 2016, coinciding neatly with MDF's interventions in the region. Yet, as MDF did not explicitly aim to facilitate an increase in BSC prices, the program decided to probe the following research question: what caused the price hike?

STEP 2 Develop the postulated theory of change for the intervention

The initial theory of change was as follows: increased competition from new Northern Province-based processors and exporters supplying crab meat to the North American market led to an increase in market price for crabs in Mannar, Jaffna and Kilinochchi. MDF's support to three Northern Province-based processors contributed to this increase in competition. A summary of this theory of change is presented in Figure 1.

[7] For more information on MDF Sri Lanka, see http://marketdevelopmentfacility.org/content/where-we-work/sri-lanka/.
[8] Mayne (2008).

Figure 1: Summary Theory of Change to be Interrogated

Poverty reduction	BSC fishers benefit from improved incomes
Growth / Access	BSC fishers' incomes increase
Market System Change	Competition leads to increased prices for crabs Increased number of processing and exporting countries active in the seafood market in the North
MDF Key interventions	Support to three companies to expand their processing operations in the North

STEP 3 Gather existing evidence on the theory of change

A mixed methods approach to data collection was used to interrogate the theory of change:

1. **Review of previously collected data:** MDF began collecting information on wider changes in the fisheries market system in early 2017, six months after the start of it first intervention. This included monthly pricing data for a range of species – including different sizes where relevant – from multiple sources such as fishers, traders, cooperatives and processing companies for triangulation purposes. Additional quantitative data on volumes collected and qualitative data on relationships between sellers and buyers was also collected.
2. **In-depth interviews:** MDF outsourced in-depth interviews with fishers supplying to the processors supported by MDF as well as those that sold to other companies.
3. **Poverty Probability Index:** As part of the in-depth interview process, MDF tasked the research firm to also collect data on poverty levels of fishers using the well-recognised Poverty Probability Index to be able to understand the probability of poverty among BSC fishers.
4. **Key informant interviews:** MDF conducted several key informant interviews to understand industry experts' perceptions of the changes and the likely causes of those changes. This included speaking to traders who sold to companies supported by MDF and those who sold to other companies, exporting companies, seafood experts and government fishery inspectors.
5. **Women's economic empowerment:** MDF wanted to understand the impact of female employment and increased crab prices on intrahousehold dynamics and social norms towards women working. Using a purposive sampling strategy, the team interviewed females from fisher households and employees over a one-week period in July 2019.[9]

[9] For more information, see "Reflections on Women's Economic Empowerment in the Northern Sri Lankan Crab Sector".

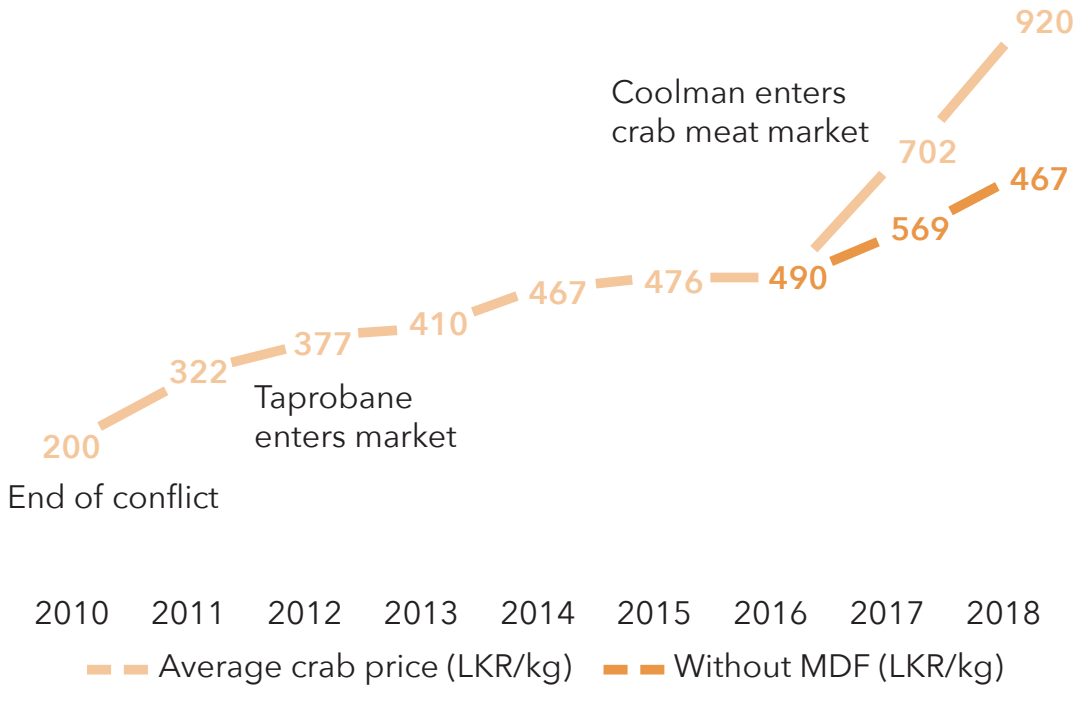
STEP 4 Assemble and assess the contribution claim and the challenges to it

Several data points are important to mention here, as MDF wanted to interrogate multiple levels of the theory of change, including what alternative explanations to its hypothesis may explain the price spike.

Firstly, the ***price increase*** was reviewed. Because of fishing cooperative records, MDF was able to reconstruct the price trends from as early as 2010, when the crab industry began to pick up after the 30-year conflict. As Figure 2 shows, average BSC prices accelerated post-conflict until the price normalised over 2011-2016 and grew at an average annual rate of 10%. Extrapolating the 2011-2016 CAGR of 16% illustrates that the prices have spiked 20% higher in 2017 and 2018 over the usual growth trend, coinciding with Coolman, one of the firms that MDF supported, entering the market.

Secondly, the ***causes of the price increase*** were evaluated. Nearly 60% of traders interviewed attributed the price increase to more competition in the market. An additional 30% of traders attributed it to both increased competition and reduction in supply. Although the cause appeared to be increased competition, because several mentioned reduced supply, MDF sought to verify whether a decrease in supply could have been a major factor contributing to the increase in price. Historical governmental data showed that both crab production and prices grew over the period 2011-2016, suggesting that the increased supply of crabs did not in fact drive prices down. Lastly, evidence was gathered on whether international pricing trends may have contributed to the price spike in Sri Lanka. Although consolidated international data was difficult to come by, the perception of the key informants in the Sri Lankan industry was that international prices remained mainly static, while costs in Sri Lanka escalated, putting downward pressure on profits.

Figure 2: Average BSC Prices



STEP 5 Seek out additional evidence to verify the theory of change

From the primary research conducted, it was evident that a price spike of 20% likely occurred because of increased competition from Northern processors supplying the American market. However, MDF also wanted to understand whether, and how, their support may or may not have contributed to increased competition. To critically evaluate this, they reviewed documented communications with partners and brought in an external consultant to provide an opinion on whether and how MDF contributed to increased competition. Several contributing factors led to greater competition and increased prices, with ranges, of MDF influence as detailed in Table 1.

Table 1: Factors contributing to price change and MDF role

Contributing Factor	MDF's Role
Signalling to market of new entrants/increased competition	Direct MDF attribution through offers of support to three processing companies
Coolman's entrance to the crab canning business	Timing: Coolman had been building a processing facility in the North for the past four years, so they likely would have entered the market eventually. MDF's support allowed them to operationalise faster, prioritise products that generated employment and be better positioned to respond to additional opportunities.
	Sardine ban: MDF initially planned to support Coolman to enter the sardine canning market, but when a government ban made that impossible, they needed to find an alternative product. However, the training and equipment that MDF cost-shared on were not species-specific so allowed Coolman to pivot to another species when the opportunity presented itself.
	Thampaddy facility: MDF supported the operationalisation of a defunct processing facility in Thampaddy, allowing Coolman to begin processing crabs.
Coolman's contract with Harbour Seafood for regular canned crab production and exports	Although MDF did not broker the deal, their support to Coolman positioned them well to be able to respond to Harbour's request for a local processor of canned crab meat when the opportunity presented itself.
Coolman's ability to survive the escalation in prices	Coolman has multiple revenue streams outside of the canned crab market, which allowed them to sustain the price increases. MDF has not influenced their other revenue streams but is conducting research into premium crab markets, which may benefit Coolman.

STEP 6 Revise and strengthen the contribution claim

Having established that MDF likely contributed a more competitive crab sector, which in turn shifted market dynamics from buyers to sellers, MDF wanted to understand how many crab fishers benefited and why they benefitted. The primary research included fishers selling to the private companies supported by MDF, as well as to those not supported by MDF. MDF found that all BSC fishers benefited due to several external factors. As there is no comprehensive national data set on fishers, MDF first modelled fishing populations and took the most conservative number of 21,380. MDF then sought to understand how the market had evolved to display such high levels of pricing information symmetry. Multiple key informants cited complementary DFAT programs that implemented strategies to improve market price information symmetry, through piloting a texting process among different landing sites and to wholesale markets in Colombo, as well as increasing the bargaining power of cooperatives. Thus, other DFAT programs also likely contributed to the high levels of outreach among BSC fishers.

Conclusion

By following good practice in MSD evaluation processes, MDF was able to identify a positive, unintended outcome of increased incomes for all BSC fishers in the formerly conflict-affected North. Contribution analysis has allowed the program to make a reasonable claim about its own contribution to the increased competition, as well as recognise and document other factors that also contributed to the changes, notably other DFAT programs that increased market price symmetry and industry developments. Considering the counterfactual of how prices would have increased without the price spike, it is estimated that an additional USD5.5 million has been captured by over 21,000 fishers. Other MSD programs may want to consider CA in their toolbox of evaluative methods, as it proved to be an effective evaluation option in the MDF Sri Lanka case.

Market Development Facility is an Australian Government funded multi-country initiative which promotes sustainable economic development, through higher incomes for women and men, in our partner countries. We connect individuals, businesses, governments and NGOs with each other, and with markets at home and abroad. This enhances investment and coordination and allows partnerships to flourish, strengthening inclusive economic growth. In Sri Lanka, MDF works in diversifying tourism and improving authentic Sri Lankan goods.

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