THE BOSS PROJECT IN TIMOR-LESTE:
THIN MARKETS, THICK IMPACT?
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ABSTRACT

This paper shares lessons from Timor-Leste about making thin market systems work better for the poor.

The first part of the case study sets out the diagnostic process that led the BOSS project to focus on influential systems like input supply and knowledge, which were perpetuating low-profit and low-productivity work for poor rural producers. The second part documents a journey to arrive at right-sized measurement methods that could capture the real-time changes resulting from interventions. The third part deals with the particular challenges of stimulating systemic change - sustainable and resilient impact at scale - in a post-conflict, small-island context.

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Market Systems Development for Decent Work - ‘the lab’ - is an action research initiative run by the International Labour Organization and funded by Switzerland’s State Secretariat for Economic Affairs.

The lab aims to generate knowledge about how to measure and maximise pro-poor employment outcomes through market systems development. This case study series documents experiences from projects that have applied a market systems approach to elements of decent work, in particular to increase employment and improve working conditions.

The first case study focuses on the poor as producers. It extracts lessons from the BOSS project in Timor-Leste and its efforts to create more productive self-employment for subsistence smallholders. The paper is structured around three key reflections:

- Part one: Did we identify the most important constraints to pro-poor growth?
- Part two: How did we track and react to the impact we were having?
- Part three: Were we focused on systemic change?
1. ABOUT THE BOSS PROJECT

Business Opportunities and Support Services (BOSS), which runs from 2011 to 2015, is implemented by the International Labour Organization (ILO) and jointly funded by Irish Aid and the New Zealand Aid Programme. Its objective is to contribute directly to the generation of pro-poor economic development and quality employment for women and men and indirectly to peace consolidation and conflict prevention.

BOSS is embedded within Timor-Leste’s Institute of Business Support (IADE), an arm of the State Secretary for the Support and Promotion of the Private Sector. The project works to strengthen the capacity of IADE to deliver effective business development services to Timor-Leste’s emergent private sector, at the same time as using a market systems approach to address underlying constraints in the horticulture, cattle and tourism sectors.
Fighting a war was easy. To give food to the people, to give work to the people, to provide homes for people, to give clean water to people, to make a good life for people, that is the difficult part.

Taur Matan Ruak, President of Timor-Leste
PART ONE: WHAT’S THE PROBLEM?

DID WE IDENTIFY THE MOST IMPORTANT CONSTRAINTS TO PRO-POOR GROWTH?

This first part of the paper reflects on how BOSS set out to understand the performance of markets that were important to the livelihoods of the poor. Key learning is extracted about the need to unpack the contextual problems facing those in poverty, and to be willing to ‘go deep’ during analysis to get to the root causes of these problems.

Poverty and employment in Timor-Leste

Timor-Leste’s long journey to independence, which was finally achieved in 2002 following Portuguese colonisation and then Indonesian occupation, eroded large segments of the economy and infrastructure. Despite recent and rapid oil-fuelled growth, poverty has remained acute with half the population living on less than a dollar a day

Three quarters of the poor live in rural areas. They use a diverse range of livelihood strategies, from exploiting land assets for own consumption or for cash crops, to sharecropping and other forms of social exchange, to seasonal labour. Most of the poor are farmers, with production usually small-scale, subsistence and self-financed with only the excess sold locally. Markets in this small island state of just over one million inhabitants are thin: they remain relatively uncompetitive and private sector activities are only gradually picking up. The first ever dedicated agricultural input supplier, for example, only opened in the capital, Dili, in 2012.

The reasons for under-performing markets

Given the abundance of agricultural activities yielding low returns to labour and land, BOSS targeted growth opportunities that could raise on-farm incomes.

The horticulture and cattle sectors were prioritised for analysis (Box 2). Using a market systems diagnostic, BOSS began to understand the underlying ‘root’ causes rather than just the symptoms of under-performance in these sectors.

For example, investigating the reasons for low levels of horticulture productivity led to identifying the problem that few farmers knew about modern cultivation techniques (visualised in Figure 1, with horticulture production at the core of a ‘principal’ market system). Treating knowledge as a system in itself (supporting system 1), and again asking ‘why’ – “why do farmers not know about improved production practices?” – led to another problem being identified in the ab-
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A BOSS intervention was designed to test ways to alter this perception. Intersecting with the diagnosis of another problem about smallholder access to Dili-based markets, a ‘contract farming’ pilot got underway. This involved a lead distributor specialising in organic produce, Josephina Farm, being supported to enter into agreement with over 100 farmers across two districts. Training and inputs were provided by the distributor to farmers, in return for a guarantee to buy-back produce which would be collected and sold onto retailers in the capital.

In turn seeing private service provision as its own system (‘supporting system 2’) and asking “why are there no embedded services on offer?” allowed BOSS to consider the factors influencing the unavailability of rural vegetable collection and trade. This led BOSS to zero in on what was believed to be an important underlying constraint: a perception among wholesalers and distributors that collecting from rural areas was low-scale and high-risk, and therefore not profitable.

FIGURE 1: INTER-CONNECTED MARKET SYSTEMS IN HORTICULTURE PRODUCTION

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2. AN OVERVIEW OF BOSS SECTORS

Horticulture production in Timor-Leste is characterised by traditional cultivation methods, low use of inputs, and a culture of dependence brought about through a long history of subsidies. Government extension services are currently limited and weak.

BOSS sought to address critical constraints around land productivity, input supplies, business management, and market linkages. Interventions worked to influence the behaviour of market players including distributors/wholesalers, input suppliers and a government business development service provider. As of December 2014, 169 farmers had been trained by a distributor on improved horticulture techniques. A third of these (59 farmers: 21 women and 38 men) were regularly growing and selling vegetables through contract farming to record annual net attributable income increases of US$274. Over half (56%) were poor producers living below the national poverty line.

The cattle sector is important to the Timorese given the high number of households owning heads of cattle. Livestock, however, are kept as a form of savings or for use in cultural activities rather than for economic exchange. Timor-Leste previously exported live cattle to Indonesia, although this ceased in 2011 and is yet to resume. Imported meat products from Australia and New Zealand represent a significant substitution opportunity for local production, if appropriate standards of slaughter and processing can be met in a cost-effective way. Estimates vary wildly that there are between 80,000 and 175,000 cattle in Timor-Leste.

BOSS targeted improvements in meat slaughter and processing, as well as access to animal medicines and treatment. Interventions have worked with local animal health workers in districts, relevant government departments around livestock legislation and management, and private enterprises to attempt to stimulate sector growth. As of December 2014, BOSS had leveraged $180,000 in investment to revive the national abattoir, with nearly 1,000 head of cattle bought, slaughtered and sold through two newly established butcher shops.

LESSONS ABOUT DIAGNOSING MARKET SYSTEM UNDER-PERFORMANCE

Lesson 1: Unpack the employment problem

The disadvantages that people face in their employment depend on who they are, where they are, and the type of work they do. Female or male, not working enough hours, for enough money or in risky conditions: understanding what they are currently doing to earn a living and the problems they are experiencing allows any response to be grounded in the ‘real world of the working poor’. Analysis can then be shaped around context-specific issues.

In Timor-Leste’s horticulture sector, the main problem facing the rural poor was that existing ‘self-employment’ as producers was providing a very low return. Lacking access to more lucrative markets combined with a reliance on traditional techniques and inputs, the challenge was to generate higher incomes for smallholders. Understanding this helped analysis to focus on the most pertinent question: why was there a lack of market access, inputs and knowledge which meant work as a farmer was not providing a higher income?

Lesson 2: Focus on root causes, not symptoms

Projects have to be willing to explore and intervene in different market systems. Looking at under-performance in a principal market, like a commodity value chain, often leads to constraints being identified in the ‘supporting functions’ or ‘rules of the game’ which determine how well this principal market operates for the poor. Inadequate, absent or mismatched functions or rules then need to be analysed as inter-connected market systems in their own right.

In Timor, the search for root causes helped identify issues which cut across multiple sectors, increasing prospects for scale. In another area of horticulture, for example, analysing the reasons for the lack of hybrid vegetable seeds led BOSS to the under-performing system of rural retail outlets. This eventually resulted in an intervention with small village kiosks that were supported to stock productivity-enhancing inputs for possible use across all crop and livestock sectors.
Evidence needs to be redefined as a means of assessing approaches to development so that lessons can be learned and adapted to different contexts rather than a means of assessing which tool should be applied universally.

Dr Ben Taylor
The BOSS project in Timor-Leste: thin markets, thick impact?

All that glitters is not gold

Market systems are ‘messy’. In order to understand the impact interventions were having, BOSS had to untangle the web of players, actions and interactions at play.

However, the range of methods available to BOSS seemed limited to a single so-called ‘gold standard’, with the only defensible means of assessing impact presented as experimental evaluation. Yet randomised designs are usually not suited to the learning needs of systemic interventions. BOSS therefore persevered with alternative ways to measure change. This involved thinking through practical trade-offs: assessing methodological options based on learning objectives, available resources, and a degree of rigour which reflected the reality of conducting research. In Timor-Leste these realities bit hard: there were no national research firms; recall of expenditure, consumption and revenues was poor due to the largely subsistence way of life and low levels of education and literacy; and there were challenges as basic as having no word for “inputs” in the Tetum language.

The best-laid schemes o’ mice an’ men

To measure impact, BOSS adopted the DCED Standard. This structured approach to data collection and analysis attempts to verify impact through theory, making arguments on the probability of contribution using results chains. This seeks to describe and explain change by asking: has the expected change happened, and why or why not?

HOW DID WE TRACK AND REACT TO THE IMPACT WE WERE HAVING?

The second part of the paper looks at how BOSS measured impact. Key learning is extracted about the need to consider a broad range of research methods and designs to allow measurement to match the project context, constraints and learning needs.

PART TWO: MEASURING TO LEARN, LEARNING TO MEASURE

The quantity of produce being sold by the original group of farmers to Josephina Farm under the contract farming arrangement had dramatically fallen. This was despite data showing a ‘win-win’ on both sides: the farmers were reducing wastages and the company was making
a small profit. It became clear that the intervention logic was not holding in reality and it was critical for BOSS to determine why.

During monitoring visits, the BOSS team saw that technical information, materials and services were no longer flowing from the distributor to producers. Changing farm-gate prices were not clearly understood by the farmers and it seemed the firm had not adequately communicated how basic grading was influencing this. The owner of Josephina Farm was taken sick, interrupting technical support, and a company-supplied greenhouse was lost due to adverse weather conditions. However, it was thought that the problems around production ran deeper.

The team therefore probed the ‘hypotheses’ underpinning their theory of change. This allowed BOSS to narrow in on a particular assumption that farmers would remain mo-

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**FIG 2: RESULTS CHAIN FOR HORTICULTURE PRODUCTION, WITH ASSUMPTIONS:**

- **Assumption 9** No external shocks, especially in terms of environmental conditions (drought, excessive rain, winds)
- **Assumption 7** Sufficient availability of on-farm labour (family or hired farmhands)
- **Assumption 5** Sufficient demand exists for enhancing knowledge about modern horticulture cultivation techniques
- **Assumption 6** Josephina Farm able to access “acceptable” quality inputs (e.g. seed, materials)

**ENTERPRISE IMPACT**

1. Facilitate support for Josephina Farm to expand provision of training on production techniques

**SERVICE PROVIDER CHANGE**

2. Link Josephina Farm with vegetable producing organisations across Timor-Leste

**PROJECT ACTIVITIES**

3. Provide financial and technical support to Josephina Farm to pilot organic horticulture “contract farming” arrangement with farmer groups in Ainaro and Ermera

**Assumption 3** Josephina Farm has necessary technical knowledge, is able to build social capital with farmers, and would not have “contracted” them anyway

**DIRECT IMPACT**

1. Improved (self and on-farm) employment in the horticulture sector
2. Farmers increase incomes from horticulture production and sales
3. Farmers increase production (yield) of quality (size, marketable and in demand) produce
4. Backstop Josephina Farm training to farmers on improved horticulture production techniques
5. Lobby government for results-based private sector operation of existing greenhouses
6. Josephina Farm provides advisory service to farmers on organic horticulture cultivation
7. Josephine Farm agrees “contract farming” relationship with selected farmers and provides inputs and training
8. Josephina Farm “buys back” and collects agreed volume of produce
9. “Contracted” farmers use inputs and apply improved production techniques
10. Farmers reduce wastage, save “selling” time, and receive higher margins
11. Trained farmers apply improved production techniques
12. Improved (self and on-farm) employment in the horticulture sector
13. Farmers increase incomes from horticulture production and sales
14. Farmers increase production (yield) of quality (size, marketable and in demand) produce
15. Farmers increase incomes from horticulture production and sales
16. Improved (self and on-farm) employment in the horticulture sector
tivated over multiple harvests (Assumption 8, Figure 2). During reflections on the survey enumeration process, staff documented information they had gathered from informal side-conversations with farmers. Such ‘tacit’ knowledge was then used to identify an underlying issue with the farmers themselves, who were still dependent on regular technical support to sustain new cultivation methods. Rooted in social norms and a culture of subsidies and benefits distributed by government or, increasingly, donor projects – the farmers had relied on Josephina Farm in a similar manner. As soon as support from the distributor became less intensive, farmers reverted to more familiar and traditional methods. This impacted on the quantity and quality of produce, which in turn affected farmers’ earnings.

Such real-time analysis helped shape the project response. BOSS advised Josephina...
Unsurprisingly, reality threw up numerous challenges that highlighted the need for adaptive impact measurement systems. Identifying suitable control groups unaffected by the intervention was not feasible. Communities talk and news spreads like wildfire within rural areas. Instead, BOSS identified key criteria to select control groups that were “more or less” similar to the treatment groups to provide a reasonable counterfactual argument.

In horticulture, farmers within the intervention group proved near-impossible to survey, even after multiple attempts to engage them. Cultural considerations surpass all others. Despite having an agreed data collection schedule, it turned out the farmers were instead engaged in rehabilitating traditional houses, which is an essential cultural aspect of Timorese life and a process that can take months. So farmers were “iha leten” (at the top of the mountain) and not home, with vegetables being tended to by a small number of family members.

Moreover, it became clear there were relationship challenges between farmers and the firm. Relationships form the basis of most transactions in this post-conflict nation as in most places, and cannot be under-estimated. To express dissatisfaction, some farmers were unwilling to meet with enumerators until their complaints were addressed by the distributor. The research team had to adjust plans, change sample sizes, and pull forward data collection for the control groups.

LESSONS ABOUT MEASURING IMPACT

Lesson 3: Measure the meaningful

Measurement metrics must be relevant to the type of employment challenge a project is seeking to address. Looking at the quality of existing employment as well as the quantity of new employment may be particularly important for market systems interventions, which often respond not just to the exclusion of the poor from labour markets, but their adverse inclusion.

BOSS initially set out to track on-farm self-employment armed with a job creation indicator that risked precisely measuring the wrong thing. As well as capturing net attributable income change among target groups, BOSS also tested the use of an additional indicator to gauge changes in productive employment (see Box 4).

Lesson 4: Measurement needs to be right-sized

Impact measurement should be consistent with the norms and context of the market system and intervention in question. It is not about striving to apply a particular research design but about finding a best fit: research designs and methods that are appropriate given learning needs and limitations. This is pragmatic rigour - using a level of rigour relative to the degree that is desired and feasible, as well as timely and practically useable for the project, rather than the absolute highest level.

In BOSS, the journey to right-size methods helped impact measurement become part of the process of facilitating change in market systems. Rather than using an experimental protocol which would deliver large quantities of data after the project had closed, more real-time measurement was able to influence implementation as it went along – meaning it was not too late to adapt based on understanding what was working, what wasn’t and, most importantly, why.
4. MEASURING CHANGES IN PRODUCTIVE EMPLOYMENT

While additional net income accruing to individual enterprises like farms is relatively easier to isolate and attribute - and there is more experience about how to do this - it is harder and there is less experience in measuring what weight these income increases have relative to a producer’s (or a worker’s) overall employment situation. If a farmer earns an extra $10 a month from vegetable farming, has their self-employment been improved? This clearly depends on their other sources of income (whether on- or off-farm), the number of family members they have to support and, most importantly, their current income levels. None of this is simple or cheap to reliably measure.

To examine whether changes in employment are yielding sufficient returns to permit people a level of consumption above the poverty line, BOSS is currently testing the use of an indicator on productive employment. While conceptually easy to grasp, operationalising a practical measure of productive employment at the intervention level is a challenge. As a result, the indicator being tested by BOSS is built on a number of proxies and assumptions, again taking into account the trade-offs of rigour and practicality:

- Surveys capture the overall net attributable income accruing to producers or labourers as a result of the intervention-stimulated change. After subtracting costs, Joao now receives an additional $10 per month by making regular horticulture sales through a distributor instead of selling locally and sporadically as he did before.
- As this net income needs to be shared with — and support — four other members of his family (the number of dependents is also captured in the survey), Joao’s per capita income increase is $2 per month.
- This figure, per capita Net Attributable Income Change (NAIC), can then be referenced against Joao’s income poverty likelihood, which is his Progress out of Poverty (PPI) score, which is also captured through the survey. Matching the poverty likelihood from PPI with median incomes per percentile from the latest National Living Standards Survey gives an estimate of Joao’s likely overall monthly per capita income.
- Using a proxy based on the poverty gap in Timor-Leste (which is currently 14.2%), if Joao’s NAIC has increased his overall monthly income by 14.2% or more then it is considered to have made a real difference to household income, and therefore BOSS counts that Joao now has more productive employment.
- For example, if Joao’s poverty likelihood was in the 90-100% range - meaning he and his family were extremely likely to live under the poverty line - a $2 increase from horticulture would make a significant contribution to household income (NAIC would be a 20% increase in overall income). But if Joao’s poverty likelihood was 50-60%, meaning it is equally likely he is or is not poor, then the $2 would not make a significant enough contribution to overall finances to count as having significantly improved the productivity of his employment (since it would be just a 1% increase in overall income).
“Don’t just focus on the parts. Don’t start picking and choosing elements… Think holistically… The whole is the whole, even as it changes and evolves.”

Michael Quinn Patton
PART THREE: STRIVING FOR SYSTEMIC, NOT SHORT-LIVED CHANGE

WERE WE FOCUSED ON SYSTEMIC CHANGE?

The final part of the paper covers the BOSS project’s attempts to influence large-scale, long-lasting impact. Key learning is extracted about the importance of keeping focused on the pathway to systemic change, and to carefully and continuously assess levels of support being given to partners, in order to manage sustainability risks.

The particular challenge of thin markets

Market development is about transforming systems. It is about stimulating enduring changes in the behaviours, business models and practices of market players, where benefits are shared and spread across a sector.

A common pathway towards this is to begin with a pilot intervention, which works intensively with a few public or private players to test whether or not necessary innovations are feasible. The focus then shifts - if the pilot has been deemed to be both pro-poor and of benefit to the player - to activities that aim to crowd-in others. Interventions work less intensively with more players to encourage wider behaviour and practice change.

In thin markets, this is often more challenging and risky. The pool of motivated, able partners is usually shallow, if not empty. During piloting, support is often more intensive, recurrent or long-lasting than in thicker markets. Yet experience tells interventions to proceed with caution. Not supporting enough will cause nothing to happen, but supporting too hard will back-fire: over-loading nascent partners, introducing behaviours or practices that are not suitable, and eroding local ownership of change.

A systemic change mindset

There are few domestic players in Timor-Leste’s agri-business sphere, but the field of overseas donors looking to support them is increasingly crowded. Development initiatives have often become part of the market system: driving up the price of critical inputs and being seen by the local private sector as direct competitors. Compounded by the ongoing transition out of relief aid (see Box 5), BOSS faced a context of significant market distortions.

Despite these challenges, BOSS grew to realise the importance of developing a credible vision for the future functioning of the market system. In horticulture, for exam-
ple, strategies began to focus not just on introducing the new business practice, but on getting the pilot partner to invest their own resources, independently of BOSS, and to think through how similar or competing players could replicate the innovation. This was aimed at decreasing the fragility of change and to break out of the ‘comfort zone’ of a pilot. The risks of change reliant on just a few firms was highlighted when the sole owner and operator of Josephina Farm was taken sick, all but halting his business operations and the services he was able to provide to participating smallholders.

To help keep attention on systemic change, BOSS began to use results chains in a slightly different way. As shown in Figure 3, thinking became less about the vertical movement from the bottom to the top of results chains (pilot activities to impact on a few farmers), and more about the horizontal movement from left to right (from pilot partner ownership to more players crowding-in to enable broader impact):

![Figure 3: Stylised and Simplified Horticulture Results Chain](image-url)
LESSONS ABOUT SYSTEMIC CHANGE IN THIN MARKETS

Lesson 5: Focus on the big picture

Tools like results chains should help focus on the big-picture, and not just on the minutiae of pilot partnerships. The effective use of such tools can provide a means for structuring reflection and re-assessment of the vision for pro-poor market systems change and the pathway to get there in light of experience or changes in context.

Operating in thin markets, shaped by a history of conflict, colonisation and occupation, it proved difficult for BOSS to move beyond small-scale pilots towards a credible strategy for large-scale change.

To rectify this, BOSS augmented results chains to help identify where market players were likely to start ‘owning’ new ways of working, and where change could begin to take on a more systemic quality rather than just being intervention-supported. This was designed to help BOSS better structure scale-up interventions, identify an appropriate point of exit from partnerships, and avoid giving the impression of open-ended support to market players.

Lesson 6: Work towards your endgame

Facilitating change in thin markets means planning and executing strategies to achieve a clear endgame: usually, the replication of a breakthrough idea, practice or behaviour through crowding-in. This involves recognising the challenges presented by the thin market context and being creative in testing ways to confront and overcome them. Projects need to consider different tactics to see what might work. Crowding-in may be phased, incremental, or take place over longer time periods – but it must be thought through based on a credible understanding of the willingness (incentives) and ability (capacity) of players to change, and the functions and roles they are best suited to perform.

In BOSS, the project’s original results chains did not include crowding-in, since this was assumed to be something that would occur over time based on pilot successes. Yet weak competition and demonstration effects meant that replication had to be actively tracked and intervention-stimulated. Once this was realised, BOSS drew pathways for sustainability and scale in results chains. Teasing out supplementary interventions necessary to achieve crowding-in and scale - and therefore towards ‘thicker’ impact - BOSS positioned itself to build on its pilots during the final years of project implementation.

5. MARKET DISTORTION

“The currently over 95% of new [seed] varieties are obtained by Timorese farmers through government and NGO aid - for free. This type of system creates an ethic of farmer dependency and undermines the development of more ongoing systems, based on either formal or informal seed channels. Simply giving away free seed repeatedly (across crops and varieties) is bad practice. Further, as the [recent experiences with] vegetable packets show, Timorese farmers are willing to buy seed if it is available, accessible and of a quality that meets their needs. Variety delivery systems need to move from a ‘donor aid optic’ to market-oriented ones that can serve all farmers on an ongoing basis.”

Seed System Security Assessment, USAID October 2013
A FINAL REFLECTION: DEVELOPING MARKET SYSTEMS FOR DECENT WORK

In Timor-Leste, there was an abundance of low-productivity subsistence work in agriculture, where the majority of Timorese were engaged. The most feasible and relevant strategy for BOSS was a focus on developing market systems to increase returns for those who were currently “working hard, but working poor” as self-employed rural producers.

In attempting to do this, BOSS learnt that it first needed to unpack the contextual problems facing those in poverty, and then understand and address the root cause reasons why important market systems were underperforming. During implementation, BOSS required appropriate measurement methods to track, in real time, whether it was having an impact. It also needed tools and a clear strategy to keep the project’s attention on the challenging pathway to sustainable, resilient impact at scale in thin markets.
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ANNEX 2: ENDNOTES

1 All guidance in this paper on the market systems approach is drawn from the Springfield Centre’s Operational Guide for the Making Markets Work (M4P) Approach (2014).

2 This is a self-reflection, based primarily on work the Lab and BOSS undertook over 2014 and 2015 to set up an impact measurement system.

3 According to the BOSS design documents, the project was “guided by the M4P approach to increase business opportunities for enterprises in target sectors”. This paper focuses on interventions in the horticulture and cattle sectors. Tourism is excluded as activities were yet to be launched at the time of the impact assessment. BOSS’s work to develop IADE’s capacity is not covered, as this is covered by a separate case study “Working within institutions: ILO’s embedded approach in Timor-Leste” (ILO, forthcoming).

4 Quoted in Peake, 2013.

5 In 2011, Timor-Leste had the 4th fastest growing GDP in the world (See World Bank Databank). In 2007 almost half of the population were living below the upper poverty line (see World Bank, 2008). The districts Ermera, Ainaro and Viqueque are ranked as having the highest multi-dimensional poverty in the Asia-Pacific region (see Alkire & Robles 2015).

6 Approximately 51% of the employed population work in agriculture (See Timor-Leste Labour Force Survey 2010, p.34). 76.2% of those classified as poor live in rural areas. 23.8% in urban areas, using the upper national poverty line (See World Bank 2008: 10).

7 There are few without any land in Timor-Leste: 90% of the poor have some land (World Bank 2010, p.36).

8 75% are thought to be subsistence farmers (see World Bank 2013, p.15). Almost 90% report their primary occupation as being a farmer (World Bank 2008, p.15). The remainder of goods not consumed or sold in markets is shared informally among households.

9 See the Springfield Centre’s Operational Guide for the M4P Approach (2014, p.56). In investment terms, a ‘thin’ market is “…where limited numbers of investors and entrepreneurial growth firms within the economy have difficulty finding and transacting with each other at reasonable costs” (National Endowment for Science, Technology and the Arts; British Private Equity and Venture Capital Association 2009, p.5). For information on private sector activity trends in Timor-Leste, see Beck 2014.

10 The first ever dedicated agricultural inputs supplier was Loja Agricultura Bemori, which opened in 2012 and was the only supplier until the latter half of 2013 (see Mercy Corps Progress Report).

11 Across all crops, Timor-Leste only produces between 20-25% of the productivity (mt/ha) achieved by Cambodia, Thailand, Vietnam, India, China and Laos PDR (World Bank 2010, p.35). So although ‘employing’ 50% of the labour force, agriculture accounts for just 20% of national output (see World Bank 2013: 14). Note: This paper uses, in general, figures from the 2010 Labour Force Survey rather than the 2013 update. This is because the 2013 survey changed the statistical treatment of subsistence foodstuff producers who were classified as employed in 2010 and outside employment in 2013, making comparisons difficult.

12 These sectors were identified during BOSS’s inception phase, based on the criteria of relevance to the poor, growth potential and feasibility of intervening. BOSS started out with a local economic development lens, focusing on Ainaro, Bobonaro and Lautem districts but, like another ILO project Enter-Growth in Sri Lanka, BOSS intuitively grew out of these narrow geographical boundaries as markets – and their problems and solutions – often lay outside of artificial project imposed constraints. (see ILO Employment Report No 11 The Enter-Growth Project, Barlow, 2011).

13 This was conducted using the ILO Value Chain Development for Decent Work guide (see Herr & Muzira 2009), which utilises a market systems lens. Both reports are available online (see Ikelberg, J.; Cormaci, S.; Sequeira, G. 2014 and Ikelberg, J.; Sequeira, G. 2011).

14 There are no clear limits in the iterative process of moving from one market to another to understand root causes. See the Springfield Centre’s Operational Guide (2008a): decisions about where to ‘stop’ are usually based on a consideration of capacity/resources, along with the level of project ambition. There is also no single ‘silver bullet’ underlying constraint to address – and indeed there are usually several – but the key is to identify a limited set of priority constraints and sequence which to tackle based on an assessment of feasibility and importance.

15 This was felt to be a changeable perception. Based on analysis, the project staff concluded that business opportunities did exist. In Timor-Leste, retail firms often rely on expensive, imported horticulture products, whereas only around 10% of potential land in Timor is currently used for horticulture cultivation (see Ikelberg et al. 2014).

16 During the pilot, Josephina Farm provided training and selected inputs as well as a buy-back guarantee to farmer groups, in return for a steadier supply of different variety vegetables to bring to markets in Dili. BOSS brokered relationships with remote rural communities and provided business management support to the owner of Josephina Farm.

17 The Indoneisa system’ heavily subsidized inputs, guaranteed Government purchases of essential food products at subsidized prices and had approximately 6,000 public sector staff devoted to agriculture, livestock, fisheries and forestry. This declined to around 300 after independence, practically eliminating extension services. The removal of these support systems resulted in a significant decline in agricultural productivity (see Ikelberg et al. 2014)

18 BOSS horticulture impact assessment data (unpublished)

19 See World Bank Diagnostic Trade Integration Study, p.5


21 See Fields 2012, p.2

23 This intervention is being piloted by Mercy Corps. The impact of this pilot – titled “Expanding Access to Agriculture Inputs and Services in Timor-Leste” has yet to be measured. Since April 2013, Mercy Corps has been working with an agriculture input supplier in Dili (Loja Agricultura in Beironi) and 8 general stores/kiosks in Ainaro and Manufahi districts to increase rural farmers’ access to agriculture inputs - in particular to vegetable seeds and small horticulture related inputs (Mercy Corps).

24 Taylor 2013, p.22

25 Term originally used in Making Sense of Messiness (Ripley & Nippard 2014)

26 The lack of awareness and knowledge of how to apply other research methods resulted in randomisation being advocated as a so-called ‘gold standard’, even when this was clearly not suitable. For example, in the 2013 Fund for Evaluation in Employment, only those projects proposing a randomised design were selected for funding. This meant that more ‘complex’ programmes were forced into reductionism: selecting narrow parts of their programme that could be ‘randomised’. An initial proposal put forward by BOSS to run an impact assessment was rated as ‘poor’ because it lacked an experimental design and there were “broader context doubts about the usefulness [of the evaluation]… since the intervention is very context-specific”. These were the comments of reviewers from 3ie and the World Bank, under the assumption that the objective of impact evaluation is the search for a single treatment (a technical fix, tool or intervention model) that can be “cookie cutters” across different contexts. This does not hold true in systemic change programmes which are, above all context specific. According to Taylor (2013, p.17); “if a programme that had worked with a fertiliser producer in Nigeria to deliver training in usage at the point of sale was shown to have increased yields more than any other programme with the same goals, verified by an RCT, does not mean to say that this would be the most successful strategy in another part of Nigeria let alone in other developing countries”.

27 The limitations of randomised control trials (RCTs) have been written about extensively. See Ramalingam Aid on Edge of Chaos (2014, p.113). In short, RCTs are not suited to examine complicated impact pathways involving multiple, interacting and non-linear causal factors. Market systems interventions do not apply a consistent ‘treatment’, and so are not ‘randomisable’, and they require more real-time data than the infrequent data dumps of experimental designs. Also see "Why randomised control trials really are the 'gold standard' for private sector development" (The Lab 2014).

28 This was inspired by USAID’s degrees of evidence framework (see Creevey et al. 2010a). The learning objectives were to improve as much as prove impact, resources consisted of available research expertise and funds, and rigour involves the principles of validity, triangulation and transparency.

29 See The Louis Berger Group working paper (2014)

30 The DCED Standard provides programmes working in complex market systems with the framework, tools and incentives to monitor their results in a systematic way. In this paper, impact measurement is the term used to describe the process of monitoring results up to the level of beneficiary impact, whilst considering the issue of attribution.


32 This involves establishing links all the way up the results chain, and considering the counter-factual for each ‘link’. Research then took place to combine rigour with practicality: in horticulture, for example, a quasi-experimental design - using a comparison between a non-random treatment group and a control group - was used to validate the link between access to inputs and markets and on-farm productivity, but used a low confidence interval, reconstructed baselines and simple matching to select the control group. The small population size necessitated lowering confidence intervals; it was often simply not possible to locate all members of a farmer group to survey them (at a standard 95% confidence level, a confidence interval of 5% would have involved surveying all but four of the farmers). Matching was based on 5 similar observable characteristics, rather than on propensity scores. Baselines were timed to the adoption of new on-farm practices, and so took place after the contract farming has begun but in most instances before farmers had begun to see a return from their new ways of working.

33 Prices were also being adjusted due to end-market (retail) price changes in Dili.

34 “Tacit knowledge is ‘understanding developed through experience, difficult to transfer because its foundations are built implicitly’. Capturing tacit knowledge allows intangible and hard-to-define aspects of the market system to be monitored, early signs of impact to be detected and acted upon, and field staff to be able to input into decision making processes”. (Kessler 2014: 12). BOSS captured tacit knowledge by giving staff the space to reflect on survey enumeration, and documenting their observations in a short summary note. This meant the most useful information was gathered from the process of data collection - rather than the actual formal, coded survey results themselves.

35 In this sense, the best response to the cultural norm was counter-intuitive: if farmers do less, stick to the deal and avoid the temptation to do more, since that will just re-enforce the perception that the distributor was there to do everything.

36 These matching criteria were proximity to a road-head, landholding size, proportion of produce sold to markets, and irrigation.

37 Quote adapted from the Chronic Poverty Advisory Network (2014, May 15).

38 This was a full time equivalent (FTE) indicator that relates to just one dimension of work: time inputs.

39 Market systems programmes do not provide goods and services directly to the poor, but instead attempt to facilitate changes in the behaviour and practice of permanent public or private players to offer these goods and services. Systemic interventions are therefore less interested in constructing experiments to see what kind of ‘one size fits all’ development fix fits (which is unlikely to apply in different contexts). For sustainable impact, market systems programmes are more interested in the process of change: how underlying, inter-connected systems are developing in the given political, economic and cultural context.

40 Rigour - the quality of being extremely thorough and careful - is not a binary concept or the domain of one particular methodology. It is a matter of degree. There is more than one acceptable way to look at impact, and
The BOSS project in Timor-Leste: thin markets, thick impact?

insightful and credible results can be obtained by assessing projects using a variety of methods providing different aspects of rigour (see USAID’s Time to learn: an evaluation strategy for revitalized foreign assistance).

See case studies on the DCED website for examples of enterprise income measurement: http://www.enterprise-development.org/page/case-studies

Productive employment is considered “… as employment yielding sufficient returns to labour to permit the worker and his/her dependents a level of consumption above the poverty line” (ILO 2012a: 3).

See Johansson & Söderbäck 2013

PPR is a cost-effective poverty measurement tool, which provides a statistically sound estimate of poverty rates without the need for complex household expenditure/consumption surveys. See Grameen Foundation’s website for the Progress out of Poverty Index.

Household incomes are notoriously difficult to capture. This is an extract from an ADB project in Timor-Leste on Socially Inclusive and Gender Responsive Components for the Road Sector: “Field-testing revealed that it was difficult for people to provide any reasonable figures on their incomes… The local population’s inability to provide estimates of income appears to be due to the fact that a large portion of them are subsistence or near-subistence farmers without any regular cash incomes or expenditures. Farmers’ incomes vary greatly from one season to another depending on crops produced. They appear to spend what they have without much consideration for next year, or the coming months. Many farmers interviewed coped with the shortage of food and/or income by selling what they had, if anything, at the very moment their needs arose on an irregular basis. It appeared that the seasonality of harvests, the irregular sales they make, and unplanned spending make it difficult for the farmers, with no or very little education, to calculate and provide information on their approximate monthly or annual incomes or expenditures” (The Louis Berger Group 2006: 12)

The poverty gap measures the average consumption shortfall relative to the poverty line.

Note that this is not an absolute measure of what would constitute a ‘Decent Job’, but a relative measure of an incremental improvement over a given baseline.

Patton 2010

For a constraint to be systemic it must affect, to a reasonable degree, the whole industry in a given sector in a way that influences pro-poor participation. Likewise, a change that is systemic means that new behaviours/practices/business models are taken up across a market, rather than just with the few players the intervention works with.

An innovation is a new product or service offering by a public or private market player which is proven to benefit the poor.

In Timor-Leste, there were few players for BOSS to choose from to partner with who were not already working with donor agencies. As of 2014, there were just seven supermarket retailers selling a mixture of local and imported horticulture produce - Lita, Leader, Kmanek, Landmark, Pateo, Jacinto, and Dilimart (see USAID report The fresh vegetable value chain in Timor-Leste).

This experience is documented by the Springfield Centre, 2014

Private market players attributed large purchases of chicken manure to driving up the price of this critical fertiliser. BOSS partner firms in horticulture listed the acronyms of prominent development programmes in their list of primary competitors (key informant interviews, June 2014).

This is consistent with a post-conflict scenario where relief goods and services help meet critical needs, but can distort markets and create dependency (Diane Johnson, Springfield Centre Making Markets Work training)

Possessing a clear vision of systemic change, and focusing on this, helps mitigate a risk associated with market systems development programmes: that projects end up supporting individual organisations more than they had intended. The risks of this include distorting the market the programme is attempting to develop and promoting unfair competition.

This was based on a recognition that systemic change programmes cannot become preoccupied with, or indeed gauge their success by pilot impact alone, and that it is much more about how new behaviours/practices/practices are becoming embedded in a market system.

An independent evaluation of BOSS took place in 2013 (see D’Achon et al. 2013), recommending that ‘careful attempts to stimulate crowding-in’ (Ibid, p.23) be made: however, no advice was given on what strategies might look like, or who or how to crowd-in – meaning project understanding of this critical area was not advanced.

See Gugalev & Stern (2015). Market systems projects work to enable impact at scale. They do not do this through ‘scaling up’ - doing the same ‘proven’ activities over and over again - but through creating the right conditions to enable new locally-led innovations to ‘reach scale’. This usually involves an ‘end game’ of replication: getting others to adopt new ways of working, and therefore pushing out the access frontier for new products/services to a wider segment of the population.

For example, even though there were few other retail or distributor firms dedicated to collecting and selling horticulture produce, a crowding-in strategy might work with firms in different sub-sectors (e.g. livestock or other rural services) to get them to diversify into horticulture. Creative strategies for crowding-in therefore need to be based on sound market intelligence about potential players: those already established in the industry, those emerging, and those who could diversify into it.

See The Springfield Centre, 2014

Running a DCED ‘in place’ audit during year one would have checked that a pathway to systemic change had been considered. This emphasises the importance of investing in monitoring systems from very beginning of implementation. Resources for impact measurement, and a dedicated international staff monitoring position, only became available in the fourth year of BOSS following a recommendation by the evaluation.

Fields 2012: 4: “For every worker in the world who is unemployed, four-and-a-half workers are working poor”.

Even if rapid structural change and labour-intensive growth takes place in manufacturing and services in Timor-Leste in the future, it is still likely that the majority of those in poverty will continue to rely on farming for their incomes (Fox et al. 2013).