

Sustainability Programs, Livelihoods and Value Chains in Southern Sumatra, Indonesia

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A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy
(Human Geography)

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Statement of Authorship

I declare that this thesis is the result of my own independent research and that all authorities and sources that have been used are duly acknowledged. This work has not previously been submitted for a degree or diploma in any other university. All sources have been appropriately acknowledged.

Some of the material in this thesis has been published in peer-reviewed academic journals. These publications are listed under “List of Publications”

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Joshua G.P. Bray

5th April 2019

Ethics Approval

Human research ethics approval was granted for the thesis prior to commencing fieldwork through University of Sydney Human Ethics Committee. Project number: 2013/451

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Acknowledgements & Dedication

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List of Publications

This thesis contains three articles that have been published in peer reviewed journals, namely:

- Bray, J.G., Neilson, J. (2017) Reviewing the impacts of coffee certification programmes on smallholder livelihoods. *International Journal of Biodiversity, Ecosystem Services & Management* **13** (1) 216-232.
- Bray, J., Neilson, J. (2018) Examining the interface of sustainability programmes and livelihoods in the Semendo highlands of Indonesia. *Asia Pacific Viewpoint*
- Bray, J. (2019) Institutional environments and the livelihood impacts of voluntary sustainability standards: Village case studies in southern Sumatra's coffee sector. *Singapore Journal of Tropical Geography*

Where I have co-authored articles, the following page includes documentation verifying primary authorship of publications, and the contribution of other authors.

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To Whom It May Concern,

Re: Statements of Authorship

This letter states the various author contributions to publications that will be submitted as part of Joshua Bray's PhD thesis.

Chapter 2 includes "Reviewing the impacts of coffee certification programmes on smallholder livelihoods", which was published in Volume 13 of the *International Journal of Biodiversity Science, Ecosystem Services & Management*. The following contributions were made to the publication:

- Joshua Bray is the principal author of this publication. He conducted the systematic review, analysed the data and wrote the paper, prepared the design and writing of the manuscript and responded to two anonymous reviewers and submitted the manuscript. He is the corresponding author and grants permission for the material to be published in this thesis.
- Dr. Jeffrey Neilson is the second author of this paper. He contributed to the study design, writing, data analysis and editing of the paper. He also contributed to the response to reviewers.

Chapter 4 includes "Examining the interface of sustainability programs and livelihoods in the Semendo highlands of Indonesia", which has been published by *Asia Pacific Viewpoint*.

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- Joshua Bray is the principal author of this publication. He conducted fieldwork, analysed the data and prepared the design and writing of the manuscript. He responded to reviewers and submitted the draft and final manuscripts.
- Dr. Jeffrey Neilson contributed to the study design, the data analysis, writing and editing of the paper, and assisted with part of the fieldwork. He also contributed to the response to reviewers.

Chapter 5 includes "Institutional environments and the livelihood impacts of voluntary sustainability standards: Village case studies in southern Sumatra's coffee sector", which has been accepted for publication by the *Singapore Journal of Tropical Geography*. The following contributions were made to the publication:

- Joshua Bray is the sole author of this paper. He conducted fieldwork, analysed the data and prepared the design and writing of the manuscript and responded to two anonymous reviewers. He submitted the draft and final manuscripts for review. He is the corresponding author and grants permission for the material to be published in this thesis.
- Dr. Jeffrey Neilson contributed to edits and proof-read the document.

Chapter 6, entitled "Smallholder perceptions of coffee certification in southern Sumatra", has been written with the intention of submitting it to *Development Policy Review* for peer-review. The following contributions were made to Chapter 6:

- Joshua Bray is the principal author of this Chapter. He completed part of the data collection, analysed the data and prepared the design and assumed primary responsibility for writing of the manuscript. He intends to submit the manuscript to *Development Policy Review* and respond to reviewers as necessary.
- Professor Bustanul Arifin and Dr Hanung Ismono, international research partners on a project funded by the Australian Centre for International Agricultural Research, coordinated the fieldwork program and initial data analysis. While neither researcher had contributed to writing of the chapter (as currently included in the thesis at the time of submission), their input has been requested prior to journal submission.
- Dr. Jeffrey Neilson contributed to the idea and study design of the paper, and assisted with data analysis and writing of the paper.

As supervisor for the candidature upon which this thesis is based, I can firm that the authorship attribution statements above are correct.

Yours sincerely,



Dr. Jeffrey Neilson

November 29, 2018

Abstract

This thesis examines the impact of voluntary sustainability standards (VSS) on coffee producing smallholders in southern Sumatra, Indonesia. Many studies of VSS over the past 20 years have found the roll-out of VSS rarely mirrors the theories of change presented by standards organisations. To understand why, this thesis eschews a technocratic, objective analysis of this problem, instead adopting a producer-centric view of VSS roll-outs in the highlands of Lampung and South Sumatra provinces. Using a case study, an examination of the institutional environments of VSS roll-out, and a producer perception survey, the thesis explains the way VSS is rolled out by leading exporters and assesses who benefits. In doing so, it questions whether VSS are effective beyond a means to secure quality improvements in supply of coffee to lead firms and major exporters in the value chain. This is pertinent given the gross oversupply of VSS on world markets.

Through the regular provision of training associated with VSS, major exporters advocate labour and capital intensive means of agricultural modernization to improve supply and attempt to remove the worst quality coffee from the supply chain. However, southern Sumatra's producers are not sufficiently motivated to increase their focus on coffee by this advocacy, as their livelihood strategies are low-risk and seek to generate income from diverse sources. Coffee derived income is valued by smallholders because it is a low-input, low-output, reliable source of income, and sacrificing off-farm work opportunities to focus on coffee is largely unfeasible.

Nevertheless, the training appeals to producers, as it consolidates their social capital and some less labour-intensive aspects of training are willingly adopted. The extent to which this occurs is varied across the study area, reflecting the heterogeneous institutional environment that exists across southern Sumatra. Differences in exporter roll-out strategies, existing government programs, and local trading and patronage relationships can influence training programs and the amount of verified coffee that is sold to the exporters. Exporters appear to have had greater success in using VSS where their influence has co-opted, or been sympathetic to these local relationships.

Regardless of the variations in institutional environs across the study areas, and tepid uptake of training, producers have a positive perception of VSS, as revealed by survey findings presented in this thesis. This is attributable to the low existing base of institutional support for producers, and the growth in social capital, particularly the management of their farmer groups, and their greater degree of representation. This growth of producer capital is important if VSS is to be considered as more than a means to secure the supply of lead firms and exporters. It offers one of the few avenues through which the gross imbalance of power along the coffee value chain can be redressed, albeit modestly.

There has been an oversight of the varying goals of stakeholders, not least producers, and how these influence the outcomes of VSS. This thesis addresses these shortcomings by broadening our understanding of the nature of VSS roll-outs in the southern Sumatran coffee value chain. It presents a complex picture of smallholder livelihoods, the varied nature of corporate policy with regards to VSS, and the resulting shortcomings of the overly-simplistic VSS theories of change. In doing so, it details the way in which lead firms are adapting their use of VSS to meet these challenges. Paramount in these discussions is the engagement of producers in an ongoing attempt to improve their livelihoods.

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¹ We found similar answers to open-ended questions within farmer groups, but not between them, making presentation of these results as percentages misleading.

List of Abbreviations

4C	Common Code for the Coffee Community
GAP	Good Agricultural Practice
GCP	Global Coffee Program
HKm	Hutan Kemasyarakatan
ICS	Internal Control System
KUB	Kelompok Usaha Bersama
LB	Lampung Barat
NGO	Non-Government Organisation
RA	Rainforest Alliance
VSS	Voluntary Sustainability Standards

1. INTRODUCTION

This thesis explores the impacts of voluntary sustainability standards (VSS) on the livelihoods of coffee producers. The thesis takes a producer-centric view of VSS interventions in the southern Sumatran coffee value chain, including its interaction with producer livelihoods, and the perception of VSS among enrolled producers². Attempts to address non-economic costs of production, particularly those related to local social and environmental concerns, by communities, government and industry, have relied on VSS to normalise good agricultural and social practices. But the dominance of lead firms over the coffee value chain means they are closely involved in the way VSS are rolled out across producer communities, without necessarily committing to appropriate levels of community consultation and involvement. This is important because of the purportedly large impact on producer livelihoods to arise from VSS enrolment. The thesis comes at a time when global coffee production faces an existential threat from climate change (Panhuysen & Pierrot 2014), particularly in southern Sumatra (Baker & Cardenas 2016), and the proportion of final coffee sales that are returned to producers remains small. This is indicative of the precarious livelihoods of coffee producers around the world.

The southern Sumatran highlands, which I define as the areas of the Bukit Barisan mountain range within South Sumatra and Lampung provinces (refer to Figure 1), are the major contributor to Indonesia's total coffee production (Neilson et al. 2015). Indonesia has firmly cemented itself in the world's top four coffee producing countries, with the majority of Indonesia's coffee produced by smallholders: family-run farms of one to two hectares. Mono-cropped plantations are very rare on smallholdings, with most producers choosing to include coffee in a mixed-cropping scenario. Despite these similarities, the quality of coffee produced varies wildly, presenting challenges for downstream buyers.

While the southern Sumatran highlands have supplied the world with cash crops for centuries (Andaya 1993), the governance of today's coffee supply chain comes from major coffee exporters and roasters, usually based in the global north. According to Kaplinsky & Morris (2000, p.4), the "value chain" describes the full range of activities required to bring a product or service from conception, through the different phases of production, delivery to final consumers, and final disposal after use." Roasters are known as "lead firms", and generally possess superior technical knowledge enabling them to dictate the conditions of production along the value chain. This typically requires the commodification

² Producers enrolled in VSS are referred to throughout the thesis as "enrolled producers", or "4C-enrolled producers". Those who are not enrolled are referred to as "non-enrolled producers".

of coffee, leading to stringent buying conditions, which in turn, influences growing requirements. Their influence is compounded by the absence of authentic group representation of Indonesian smallholders, beyond very small farmer groups of around 20 members, which have rarely developed beyond their original intent as distributary vehicles of government supports.

In Indonesia, the insubstantial contribution made by industrial scale coffee plantations and the absence of united producer representation may be attributable to the rugged, remote and tropical landscape that is typical of coffee production (London 2012), combined with the specific political history of the area, which is referenced throughout the thesis. This geography also causes the value chain to be highly segmented between producers, small traders and transporters, and large traders and exporters. This segmentation allows major coffee roasters to hold superior technical and financial power, towards the end of the supply chain, which leads the governance of the coffee value chain to be strongly “buyer-driven”.

However, this dominance of the value chain has not shielded lead firms from two major challenges outlined at the outset; climate change and demonstrating social and environmental responsibility. Without changes to the way coffee is produced, Indonesian coffee supply is forecast to fail to meet increased demand from consumers, particularly in the context of a rapidly expanding domestic market. Sumatra acts as a major global source of *Robusta* coffee along with Vietnam and Brazil. While more resistant to warm weather, pests and diseases than *Arabica* coffee, *Robusta* is still susceptible to a warming climate. The second challenge is to provide adequate supports to demonstrate social and environmental responsibility by improving coffee producers’ livelihoods and preventing environmental degradation within their supply chain. The control of lead firms over the coffee value chain means they are increasingly held responsible for the social, economic and environmental conditions of production even when they are not proximately responsible.

These problems require solutions on a landscape-scale, and specific partnerships and cooperation between smallholders, their communities, governments and corporations. With a third, competing incentive to secure their supply in a hyper-competitive global market (Panhuysen & Pierrot 2018), major roasters and international traders have experimented with coffee value-chain interventions as a way of meeting all three challenges. VSS have been described as “instruments to translate the vision of sustainable development into concrete and practicable steps” (Schmitz-Hoffman et al. 2014, p.133). They may be developed by industry, civil society, the government or a combination of these to find solutions to specific problems, although the extent to which VSS is contributing to improved producer livelihoods continues to be debated in the literature (Oya et al. 2017).

This problem of accountability is a recurring theme of this thesis, which seeks to contribute to the literature by examining how VSS is used as part of corporate policy, and to examine their consequent impacts on producer livelihoods. The thesis details the interaction between these interventions, which have been rolled out across southern Sumatra with support from several large exporters, and the communities of southern Sumatra's coffee producers. The thesis forms part of a broader push from civil society to compel good quality impact evaluation of sustainability standards at the producer level (Rangan et al. 2017).

1.1 Sustainability Standards in the Coffee Sector

Sustainability standards were first used in the 1960s, after Rachel Carson's 1962 book *Silent Spring* acted as a catalyst for community awareness of the use of chemicals in food production. A number of small, independent organic certifications were established, firstly in the United States and then across Europe, before being unified by the International Federation of Organic Agriculture Movements (IFOAM). In the same period, growing awareness in developed countries of unfair agricultural trade rules between the global north and south led to the establishment of an "alternative trade organisation" in Europe. This included Max Havelaar, the precursor of Fair Trade. Community awareness of a number of differing labour- and environment-related challenges around the globe continued to grow, which saw the establishment of a variety of voluntary standards, including Fairtrade and Rainforest Alliance in the 1980s, and Utz Kapeh in 2002.

Undoubtedly due to the unique biodiversity of coffee producing regions and the generally low living standards of communities in these areas, standards were soon expanded from foods, to forests and to coffee. Coffee was first certified by IFOAM in 1995, by Fairtrade in 1997, by Rainforest Alliance in 1995 and by Utz in 2002 (Panhuysen & Pierrot 2018). The emergence of these third party VSS was likely assisted by the end of export quotas imposed by the International Coffee Organisation's member countries in 1989. This effectively ceded governance of the global coffee market to a non-state-regulated regime that persists today. Rainforest Alliance and Utz have recently merged, and while the market is crowded with VSS, the major third party schemes of IFOAM, Fairtrade and Rainforest Alliance have shown a remarkable persistence. In 2003, the German Coffee Association developed cooperation between representatives of industry, producers, trade unions and others to develop the Common Code for the Coffee Community (4C); a non-branded, internal VSS that encourages a "baseline" of social and environmental sustainability. The development of 4C is further discussed in Section 1.2.1.

Today, sustainability standards are estimated to cover 55% of global coffee production – up from 40% in 2013 (Panhuysen & Pierrot 2018; Panhuysen & Pierrot 2014) – and while only 20% of global

production is *sold* as certified, this still accounts for an annual value of \$350 million (Panhuysen & Pierrot 2018). The inability of sales to match the supply of certified produce indicates a willingness among lead firms to continue their (financial) support of VSS despite limited market demand. This is part of a push to normalise VSS within supply chains for corporate purposes, potentially shifting the underlying intent of VSS away from its earlier concerns for labour and the environment.

In the eyes of its advocates (including lead firms), the application of sustainability standards to coffee production represents a major point of confluence between the increasing environmental stress on supply chains, consumer ethical concerns about coffee production and the economics of capturing and sustaining supply for lead firms in the coffee value chain. Organisations like the International Trade Centre have breathlessly promoted coffee as being “on its way to becoming the first sustainable agricultural product” (Global Coffee Report 2017). VSS are cited as being able to fill gaps in governance, because they can influence “all stages of the policy process: agenda setting and negotiation; implementation, and monitoring and enforcement” (Savilaakso et al. 2017, p.116). For firms in the coffee value chain, VSS are used as a tool to reduce liabilities associated with perceived inefficient production, and to secure their supply through relationship building with producers.

The primary mechanism through which improvements are theorised to occur is through “upgrading” (in the language of value chain analysis - see Humphrey, J., Schmitz (2002) and Neilson (2014)), whereby producers who participate in a value chain may acquire skills, knowledge or technology that can improve production. This may include upgrading farm management practices or processing capabilities, which are seen as crucial (among other requirements) to remove the worst quality practices and coffee from the supply chain (upgrading is further discussed in Section 1.2.3). Such a broad goal requires explicit coordination throughout the value chain, which is proving difficult given its dynamism in the form of constant shuffling and takeovers of lead firms (Grabs 2018; Panhuysen & Pierrot 2018). This has frequently necessitated the re-introduction of concepts of improved social and environmental practices through process-related upgrading to new lead firms, making progress slow (Grabs 2018).

Despite this, the breadth of VSS roll-out (55% of global coffee production) offers potential for change at a landscape scale. A representative of Rainforest Alliance told me that 4C was becoming the norm in global coffee production and, together with Rainforest Alliance, offered a genuine opportunity to implementing change on a landscape scale (per comms, Bandar Lampung, 2016). Some lead firms have claimed a desire to source 100% sustainable coffee (Kolk 2013), largely in response to pressure from NGOs. However, many continue to buy only a small proportion of final sales as certified. Even so, “the implementation, monitoring and impact of the industry’s inclusive 4C baseline verification system has

hardly been investigated” (Panhuysen & Pierrot 2018, p.16), while the commitment of lead firms to sustainability of supply is yet to result in validated outcomes (Bray & Neilson 2017; Kolk 2013). It is ultimately this validated evidence of improved (sustainable) producer practices, improved livelihoods through increases in human and social capacities, improved natural resource management, and improved access to markets that will determine the success of VSS (DeFries et al. 2017; Panhuysen & Pierrot 2014).

One barrier to the success of VSS is the often poor relationship between lead firms and producers, which is crucial for the success of upgrading (Neilson 2014). Upgrading through VSS relies on the long-term provision of training in good agricultural practices or their equivalent, but it is not always clear whether lead firms are willing to commit to this investment. Southern Sumatra is a case in point. JDE, the largest lead firm in the coffee supply chain, has withdrawn support for purchase of verified coffee and associated training, despite extensive prior investment by Mondelez, which JDE acquired in 2015. At the same time, other companies, like Nestle, have had a presence in southern Sumatra for over 25 years.

This has been enabled through a mechanism referred to as "strategic coupling", whereby Lampung-based exporters (in this case) have come to a commercial agreement with lead firms. The commercial benefits of strategic coupling accrue to both parties. The local exporting firms typically supply coffee exclusively to a given lead firm, and in return the firm has greater capacity to influence on-the-ground activities. In particular, training activities associated with upgrading stem from lead firm influence and demands on commodity specifications, not from lead firms (the latter view the training programs as a significant expense). Nevertheless, the prospect of more certain sales in a tightly competitive market is enough to encourage local exporters into these agreements.

Detractors attack the use of VSS by lead firms as “greenwashing” –the use of standards to manage reputation, quality and supply chain risk (Thorlakson et al. 2018; Levy et al. 2016), rather than actively improving the livelihoods of enrolled producers or achieving environmentally positive outcomes. This is true for both private/internal VSS (such as Starbucks CAFÉ practices) and third party VSS (such as Rainforest Alliance and 4C), although this thesis focuses primarily on the latter. In the 13 years since Daviron & Ponte (2005) detailed the extent of control by lead firms over the supply chain, there is little to indicate these challenges have been met.

Recognizing the need for greater engagement with their producers, many lead firms are using VSS as a prompt to extend their direct influence further up the supply chain by establishing warehouses and training services in producer communities, where previously this role was outsourced to local firms

and small traders (Neilson et al. 2015). These firms are providing directives regarding quality management requirements directly to their suppliers at the farm-gate, through measures such as training and semi-formal contracts.

In the Sumatran context, VSS have had a long presence in the Arabica regions of Northern Sumatra, but there have been much lower levels of penetration in the Robusta regions of southern Sumatra. This is primarily because Indonesian Robusta is valued approximately four times less than Indonesia's specialty Arabicas by global markets, making any VSS-associated cost premiums risky in a competitive market. Indonesian Robusta producers compete with counterparts in Vietnam, which is not only the world's largest exporter of Robusta (Agergaard et al. 2009; International Coffee Organisation 2018), but also has the world's highest Robusta productivity at ~3.5 t/ha (although Haggard & Schepp (2012) note that this comes with extensive environmental degradation). There is certainly limited market access to be currently gained through verifying Robusta (Panhuysen & Pierrot 2018).

Despite this, demand for Robusta (particularly in Indonesia and emerging markets like China and the Middle East) is forecast to increase, prompting firms to search for ways to meet the shortfall. The perception of inefficient production of Robusta among Sumatran exporters has been a primary target. Given its aims of improving baseline levels of production (described in further detail below), 4C appeared well suited to improve production among southern Sumatran producers. As a result, lead firms and their local export partners in southern Sumatra made a concerted effort to introduce and normalize practices associated with 4C over the last five years.

1.1.1 The Common Code for the Coffee Community: an industry-wide standard

The Common Code for the Coffee Community (4C) was initiated in 2003 and established in 2006 by the German Coffee Association in conjunction with the German Ministry for Economic Cooperation and Development, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The purpose of 4C is to bring together the coffee industry as a whole, including producers, companies, NGOs and other stakeholders, in achieving a baseline level, and continual improvement, of social, environmental and economic sustainability in the production and processing of sustainable coffee (4C 2013; Neilson & Pritchard 2007; Bitzer et al. 2008). The verification is granted to individual producers, producer cooperatives, NGOs and trade/industry participants. It has had the support of a number of global traders, including Nestle, and Tchibo, while also presenting itself as an "entry level" standard, where producers might subsequently "upgrade" to more demanding social, environmental or economic standards.

The 4C Association was recently rebranded as the "Global Coffee Platform" following a merger with the Sustainable Coffee Partnership, an initiative from IDH, which now works through various national

platforms to improve coffee sustainability without the use of VSS. At the same time, the 4C verification marks and sustainability standards were spun off to a third party organisation - Coffee Assurance Services. For the purposes of this thesis, I have maintained the nomenclature “4C” throughout, as it is still widely referred to, and acknowledged as 4C by producers, and industry figures alike. 4C is perceived to have low barriers to enrolment relative to other major coffee schemes, like IFOAM, Fair Trade, Rainforest Alliance. As of 2009, approximately 6% of world coffee was certified by 4C (Auld 2010), and by 2017 this had expanded to approximately 20% of world coffee, still well short of earlier forecasts of up to 80% of production (Muradian & Pelupessy 2005).

To guide this process, 4C presents expected short-term, medium-term and long-term outcomes, which theoretically lead to improved quality of life for workers and farmers, and ecosystems that support efficient farming of coffee by meeting the Code of Conduct detailed above (4C, 2013). There are no guaranteed price premiums in the code, although it is expected that adherence to the code will improve quality and quantity of produce. The conditions of joining 4C include compliance with the International Labor Organisation regulations, including the payment of minimum salaries and abolition of child labour, and compliance with various environmental standards.

The producers subject to 4C’s Code of Conduct must also exclude a list of 10 “Unacceptable Practices” and are judged against a traffic light system, which facilitates continuous improvement by listing practices as Red (practice that must be discontinued), Yellow (indicating a practice that needs to be further improved) or Green (indicating a desirable practice). “Red” practices are not “Unacceptable Practices” but must be balanced by a similar number of Green for verification to be maintained (4C, 2013). This approach means that an audit is only part of the 4C verification process; failure to meet one standard will not result in disqualification from the process. There is an implicit requirement for training of producers prior to audit, and this means that a more collaborative approach between buyers and producers is generally encouraged.

4C has not escaped criticism. Exporters hold the 4C farmer group verification titles in southern Sumatra, and pay for third party auditors to visit farms annually (Ibnu, 2015). This means exporters are afforded the ability to pick and choose which producers are enrolled in 4C, and which producers are audited to verify their group. This has led to both NGOs and non-enrolled producers criticising roll-out partners in southern Sumatra for only enrolling producers who already meet standards, resulting in limited improvements as a result of participation. One representative of a major roasting firm happily affirmed this, asking “What would you do? Make your life *more* difficult?” (per comms, Jakarta 2017). Conversely, some producers may never be audited, and may attend only one training session,

yet are considered capable of supplying “4C verified” coffee. This low barrier does not, however, prevent the most vulnerable (and poor) producers from being excluded from the verified coffee value chain.

Another criticism of 4C is the capacity for enrolled producers to mismanage some aspects of coffee production as long as they are balanced out by good management practices. Some have argued that human rights, for example, have not been expressly incorporated into the Code (MSI Integrity 2013). These types of problems have precipitated questioning of the effectiveness of 4C in eliminating social and environment externalities. This has intensified as lead firms have abandoned their original vision of 4C as a “stepping stone” between no certification and a “high barrier” certification like Rainforest Alliance, and begun to view 4C as sufficient to secure sustainability of supply in its own right (Grabs 2018). This may leave VSS like Rainforest Alliance struggling for traction in the absence of return to lead firms from “branded” VSS.

4C in southern Sumatra was initially rolled-out in Lampung Province, where coffee growing regions are more proximately located to the exporting port of Bandar Lampung. Some exporters have rolled out VSS as far away as the Pasemah highlands, near Pagar Alam – over 12 hours by car (double by truck) to Bandar Lampung. However, the presence of VSS across the more remote areas of South Sumatra Province and Bengkulu is generally patchier than Lampung. There are indications that the roll-out of certification schemes across Sumatra has now stalled somewhat, ostensibly due to a lack of strong demand among buyers for certified Robusta, but just as likely because lead firms have begun reassessing whether VSS are the most effective way to improve producer performance on the ground.

Certification programs are also coming to terms with this, and appear to be altering their own business models accordingly. They have “switched to a strategy of cooperation rather than confrontation, repositioning their expertise and networks as ideal preconditions to become partners for rural development projects, consultants in sector transformation, and stakeholders in broader public-private partnerships” (Grabs 2018, p.16). A pertinent example of this is Rainforest Alliance, which has acted as a service provider for lead firms after its standard proved too difficult for producers in the area.

1.1.2 Rainforest Alliance: Third-party Certification and Branding

4C has been frequently used in southern Sumatra as a “stepping stone” for producers to a “high barrier” certification like Rainforest Alliance (RA)³. A key difference between 4C and RA is the overt branding of the latter on final products, which seeks consumer-level recognition to value-add to final products. VSS with prominent branding, like RA, aim to transfer “*part of the intangible values of the landscape to the products originating from it*” (Marie-Vivien et al. 2014, p.382).

During the period of this research, Rainforest Alliance and Utz, the world’s largest certifier of coffee, combined under the name Rainforest Alliance. While Rainforest Alliance’s enrolment numbers were relatively modest, Utz had the second largest number of enrolled producers in a VSS, after 4C, (Panhuysen & Pierrot 2014)⁴, meaning Rainforest Alliance has jumped to the forefront of any future discussion regarding coffee-value chain interventions like VSS. These large, rapid changes are characteristic of VSS in the coffee value chain and as a result, there is both a lack of continuity in the use of VSS, and a degree of uncertainty regarding the impact on the whole value chain, from producers through to consumers (Grabs 2018).

Having originally focused on preserving biodiversity in timber production areas, before expanding to include coffee certification in 1995, RA today aims to facilitate the payment of a premium to producers that improve local biodiversity by maintaining shade trees and other canopy vegetation (Perfecto et al. 2005). RA generally insists on compliance with local laws, and the adoption of good practices (Muradian & Pelupessy 2005). Certified farms must also have a management system and demonstrable ecosystem conservation. A market-based premium is paid to producers who meet the standards, which has historically yielded the largest premiums of all certification schemes (Rueda et al. 2015).

The majority of RA-certified coffee comes from Latin America, with other source areas in India and South East Asia (Marie-Vivien et al 2014). RA has been a popular tool for coffee estates, owing to interest in RA expressed by the likes of Kraft (later Mondelez and JDE) and Nespresso (Auld (2010) and Bitzer et al. (2008)). However, it appears market demand for Rainforest Alliance has softened since these earlier studies. JDE - a major buyer of Lampung’s Robusta produce - decided to cease buying RA certified produce from Lampung during writing of this thesis. While the lower-impact and cheaper 4C program is still in favour, it appears lead firms are seriously considering a shift to internal sustainability standards similar to Starbucks CAFÉ practices for a variety of reasons (discussed in Chapter 5). This has

³ The number of Rainforest Alliance producers has been scaled back over the last 3 years in southern Sumatra, although Rainforest Alliance staff assist some major exporters in training 4C-enrolled producers.

⁴ Utz certification applied to 727,000. Assuming similar totals to date, the merger of Utz and RA will produce volumes upwards of 1,100,000 tonnes, or about half that of 4C.

prompted RA to also adjust its role to a more service oriented one, which sees its trainers and verifiers acting on behalf of exporting roll-out partners and acting as mentors for more junior agronomists. However, there is still an expectation expressed by RA employees that those enrolled in 4C will eventually become suitably skilled for enrolment in RA.

1.1.3 What are Sustainability Standards trying to achieve? Introducing theories of change

Most VSS present a theory of change, which is a conceptual explanation of how their intervention will interact with the target community and surrounding institutions, and subsequently produce benefit(s). The theories are ubiquitously positive, particularly when forecasting improved incomes of enrolled producers. Prior to its merger with Rainforest Alliance, UTZ (2016) noted that “Field development enable(s) farmers to become entrepreneurs... [and] trainers, farmers and groups are trained”, which eventually leads to “More farmers effectively implement[ing] good agricultural practices and manage[ing] their farms profitably with respect for people and planet.” 4C's (2013) theory of change is even more direct, noting that by implementing its strategies, “Producers strive to comply with the code and improve, which leads to adoption of better farming practices, improving yield and quality. Over time, better use of resources, better workers’ welfare, efficient use of inputs and avoided pollution are achieved.”

The theories of change typically seize on an absence of state-regulation regarding a given problem, and present an intervention as a means of providing a transnational system of governance implemented by the private sector (Bose et al. 2016). For 4C, the problem is the absence of a baseline level of social, environmental and economic sustainability in the supply chain (4C 2013). 4C's (2013, p.2) theory of change outlines how producers will be assisted to exclude the worst practices from the supply chain, and “defines the intended social and environmental and economic change 4C Association aims to create with the code of conduct and other strategies.” Chapter 2 (Bray & Neilson 2017) details several likely pathways through which these changes might be expected to occur. These include enhancing the networks of producers, the encouragement of the investment in, and construction of, physical infrastructure, the promotion of good agricultural and environmental practices, which may also lead to improved incomes and subsequent greater access to financial assistance.

The promotion of good agricultural practices is particularly important in 4C's theory of change, and the primary mechanism through which most of the theory of change is implemented. 4C (2013, p2) note “Producers strive to comply with the code and improve, which leads to adoption of better farming practices, improving yield and quality. Over time, better use of resources, better workers’ welfare, efficient use of inputs and avoided pollution are achieved.” This is a type of process

upgrading, whereby participants acquire a set of skills and access new markets by participating in a value chain (Daviron & Ponte 2005, p.29).

The literature on global value chains generally follow's Humphrey & Schmitz's (2002) four-fold classification of upgrading, namely:

- Process upgrading, which relies on a more efficient transformation of inputs into outputs through introducing superior technology or better production systems;
- Product upgrading, which relies on moving into more sophisticated or higher quality product lines;
- Functional upgrading, which increases the capacity of participants in the chains to adopt new value chain functions; and
- Inter-sectoral upgrading, which relies on the knowledge acquired in one chain function to move to another sector.

VSS theories of change typically rely on process upgrading. In southern Sumatra, the primary mechanism of VSS implementation is the employment of agronomists (sometimes referred to as ICS – internal control system officers), who have specific knowledge of coffee production, and who assist in organising producers into groups. The coffee exporters deploy the agronomists to regional offices in coffee producing areas to train producer groups in theoretical and practical aspects of coffee tree management, with the aim of increased efficiency and yields, while also improving environmental practices.

VSS enrolment denotes a producer as a “preferred supplier”, who produces better quality beans *and* demonstrates a capacity to cope with the verification processes (Muradian & Pelupessy 2005). “From this perspective, voluntary regulatory systems of [good agricultural practices] are not instruments for upgrading per se, but rather facilitate coordination with other agents of the chain, which eventually may lead to access to particular commercialization channels, and to upgrading opportunities” (Muradian & Pelupessy 2005, p.2085). Bray & Neilson (2017) detail several pathways through which this specific information is expected to lead to improvements in human, financial, social, physical and environmental livelihood capitals.

The development of recent theories of change reflects an industry perception of pathways to rural development through improved agricultural practices. These highly technical theories of change may be somewhat detached from the lived realities of producers. To address this, 4C has supposedly lowered the requirements for producers to meet enrolment criteria, enabling 4C's advocates to present the standard as a tool to improve collaboration between roll-out partners and producers. This shift in focus of the intervention towards producers supposedly moves VSS verification away from an audit system that can only target technical requirements, instead building trust, changing

management practices and fostering two-way communication (Thorlakson et al. 2018). At the moment, however, an audit approach to 4C verification persists.

Corporate policy has essentially used VSS in an attempt to extract value from the land with greater efficiency through a form of agricultural modernisation. Together with highly developed ideals of coffee plantation growth and management, this modernisation pushes agricultural production towards homogeneity and legibility, reminiscent of forestry systems described by Scott (1998). Some critics have described this as being part of a “commodification of everything” (London 2012, p.1051). Certainly, there has been an attempt at commodification of high-value agricultural goods (Daviron & Ponte 2005), which has often replaced agro-forestry systems that have sustained rural livelihoods for extended periods.

Proponents of this commodification ignore the many benefits of heterogeneous agricultural production exemplified by smallholders (Rosset 1999). They overlook “Land [as] an element of nature. The economic function of land is just one of the many vital purposes land has for human communities” Polanyi (1944, p.187). In Polanyi’s view, to subject land to the laws of the real estate market threatened the cultural basis of human existence (Rajan & Duncan 2013). Even as people move away from agriculture, the observation that villagers may have “culture in their blood, soil under their finger nails, and bodies stretched by their labor on the land” - used rhetorically to explain an ill-informed, static and generalised view of rurality by Rigg (2006, p.183) - resonates in southern Sumatra. This underlines the difficulty to be had in displacing local economic and cultural valuation of productive landscapes. There is a strong consensus among coffee exporters in southern Sumatra that smallholders could achieve yields of up to three tonnes per hectare using good agricultural practices, compared to less than one tonne per hectare using traditional practices. These expectations are often met with pushback from producers.

A more pertinent point, however, is “The logic driving the increasing intervention of roasters into production sites, and the logic of upgrading, may not match the logic that drives rural actors and their livelihood decisions within particular social and political contexts” (Vicol et al. 2018, p.36). Theories of change too frequently downplay smallholders’ already-efficient-production of a number of crops on small parcels of land, focusing on the low production rates of individual crops. They also ignore the more efficient contribution of smallholder farms to economic development *and* environmental conservation (Rosset 1999), and the remarkable resilience of smallholders over an extended period of time (Rigg et al. 2016). Proponents of agricultural intensification as a means of yield improvement and rural development also ignore that the nature of a diversified income means that indicators of livelihood improvement set by VSS, like improvements in yield, may be an inaccurate measure of

financial performance in a diversified system (Jezeer et al. 2017). This reflects a need for rural areas to “be viewed in terms of non-agricultural development because of the need of increased employment and the impact on and linkages to the broader global economy” (Leinbach 2004, p.3).

The use of VSS to intensify production has proved problematic for some producers. Some Indian producers report dissatisfaction with 4C because of the lack of recognition afforded to their existing, social, environmental and economic systems that had been functioning effectively over a long period of time (Bose et al. 2016; Neilson & Pritchard 2007). These studies demonstrate the check point system of 4C may not sufficiently accommodate local based knowledge or local approaches to conservation, as applied more broadly to the major schemes by Ouaamari & Cochet (2015).

1.2 Coffee production in southern Sumatra

Sumatra is the sixth largest island in the world, stretching south east from Aceh, the western-most province of Indonesia, to Lampung, which borders the Sunda Strait to the east. To the west and south lies the Indian Ocean, while the Strait of Malacca, to the north, separates the island from the Malay Peninsula. The island has 8 of Indonesia’s 34 provinces, and approximately 50 million of the 264 million strong population of Indonesia in 2017 (World Bank 2018). The provinces of Lampung and South Sumatra have similar characteristics, each with their own primate city (Bandar Lampung and Palembang respectively) and populations of approximately 8.5 million, a majority of which still live in rural areas. The dominant geographic feature of Sumatra, and indeed southern Sumatra, is the Bukit Barisan Mountains, which is the setting of this thesis. The study area for the thesis is shown in Figure 1.

The highlands of southern Sumatra are well suited to the growth of Robusta coffee, the harvest of which typically peaks in July and August. The highlands form part of Sumatra’s Bukit Barisan mountain range, which runs down the west coast of Sumatra. The highlands have an average elevation of between 300 m - 1,500 m above sea level, with peaks up to ~3,200 m (e.g. Mt Dempo). The area has predictable rainfall with a climate characterised by a wet season from approximately December to May and a dry season from June to November. Weather stations in the highlands of southern Sumatra record approximately 2,500-3,000 mm of annual rainfall (Climate-Data.org 2015). Temperatures in the highlands are constant year-round, with mild to warm days (average maximums of approximately 26°C) and cool evenings (average minimums of approximately 16°C).

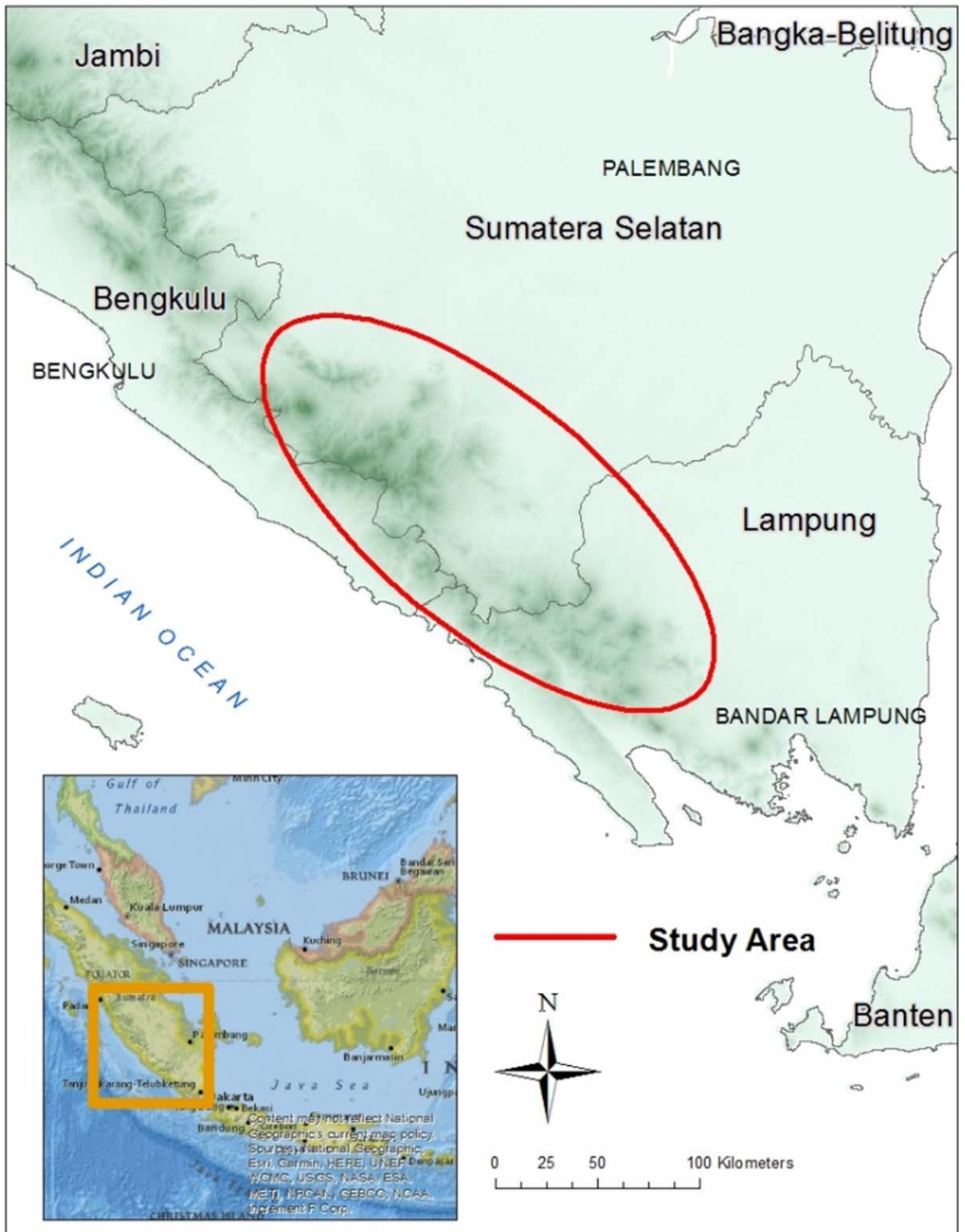


Figure 1: Study Location, Southern Sumatra.

The soil distribution of the area is complex, being strongly influenced by the degree of volcanic activity along the mountain range. The steep slopes of the ranges leave the soils prone to erosion, particularly in the event of deforestation and poor ground cover. These soils once supported vast tracts of lowland evergreen rainforest communities, which have been extensively cleared for agriculture over the last 100 years (Whitten & Damanik 2000). As evidenced during my field visits, these soils have been subject to a range of management practices, even over a small area, owing to the dominance of smallholders. These producers typically own between 1 and 2 hectares of land, and plant a wide variety of crops, including rice, coffee, bananas, pepper and chilies. The wetland rice requires the maintenance of terraces, but there is little erosion control beyond these terraces.

The study area covers a number of catchments, including the Enim River, a major tributary of the Musi River, which flows east and then north through to Palembang and into the Bangka Strait, and the Batu Tegi Dam catchment, in Tanggamus. The latter contributes to the water supply of Bandar Lampung, 50 km to the south east, while Palembang lies 150 km to the north. Palembang was the centre of the former Srivijaya empire that spread from the Malay peninsula to the north west through to east Java from around the eight to the 12th century. The region has been exporting cash crops for centuries, historically dominated by pepper (Takaya 1980), which was central to the economic fortunes of the Palembang and Jambi sultanates that eventually replaced Srivijaya and indeed to the Dutch colonial occupiers that followed.

Coffee was probably first propagated in Sumatra in West Sumatra, Jambi or Palembang near the turn of the 19th Century (Locher-Scholten 2004). In Pagar Alam, near Mount Dempo, coffee was probably first propagated in the early 20th Century, although there is a curious record indicating the propagation of coffee in Palembang was banned as early as 1755 as part of an agreement between the VOC and the local sultanate of the day (Andaya 1993). The indigenous Semendo people, based around the shores of Lake Ranau and the Pasemah highlands near Mount Dempo, and speaking a Malay dialect, expanded production of the crop throughout the region as part of their swidden agricultural systems. This expansion was a continuation of the *rantau* (“branching-out”) of the matrilineal societies that characterise Sumatra (Murad 1980). The government’s transmigration program of the 1970s and 1980s changed the cultural diversity of southern Sumatra by bringing large numbers of Javanese to southern Sumatra, many of whom pushed back the boundaries of remnant highland vegetation and joined the Semendo people as coffee producers. Many of today’s highland villages consequently consist of both the Semendo and Javanese diaspora, and transmigration has greatly increased the population of Lampung.

Coffee production in southern Sumatra continues to encroach on both conservation and forestry zones in spite of tighter regulations surrounding forestry on the periphery of the Bukit Barisan Selatan National Park (BBSNP). Attempts have recently been made to formalise boundaries with the Ministry of Forestry, although the exact extent of these boundaries is a source of disagreement between the Ministries of Forestry and Agriculture. In a compromise approach, a land management system known as *Hutan Kemasyarakatan* (HKm, or community-based forests) has been introduced to forestry land where communities have crop planting rights as long as designated tree densities are maintained. The approach appears to have proven effective at restricting the amount of deforestation and land degradation arising from coffee production (Kerr et al. 2006). There are similar community forestry programs in South Sumatra, and local communities in the Semendo highlands have typically excluded forest lands from traditional swidden systems, in recognition of the valuable environmental service they provide, particularly with regards to local water quality.

Given the global concern for the disappearance of tropical lowland and highland rainforests, it is unsurprising that highland areas of southern Sumatra have been the subject of much attention from NGOs like WWF and World Conservation Fund (WCF). These NGOs have called for a decrease in the incentives for coffee cultivation in order to reduce deforestation (Gaveau et al. 2009). However, given coffee cultivation provides such a reliable source of income for so many smallholders, this is unrealistic, both economically and politically.

Both WWF and WCF have instead drawn attention to the inability of coffee buyers in the region to track their coffee in local supply chains, and the subsequently high likelihood that the exporters are unable to exclude product sourced from BBSNP. The NGOs have also been strong advocates of the HKm system, which has demonstrated that coffee production can play an important role in forest conservation. They have previously been active in providing training to producers in these areas and have enrolled them in certification schemes (although without guaranteeing market access, these attempts have foundered). Subsequent efforts have focused on pressuring major coffee exporters in the region to take greater ownership for responsibly sourcing coffee. Several exporters have been able to point to their use of VSS to demonstrate their seriousness in addressing this challenge, as it enables exporters to train enrolled producers, and more easily track the origin of coffee (although this point is disputed by WWF). However, the use of VSS as a means of environmental conservation implicitly shifts responsibility for environmental management back onto producers, who are often unwilling or unable to undertake this management, not least of all for want of resources.

While various levels of government provide support to Indonesian smallholders, very little specific assistance appears to be afforded to the production of coffee. In southern Sumatra, local government

has (until recently) provided minimal policies of support or promotion of the local coffee industry, despite its economic significance. While major events like the 2018 World Coffee Day Expo in Bandar Lampung had some government backing, the intervention of major exporters into the supply chain reflects the absence of government support channelled through the Ministry of Agriculture, which faces political pressure to instead focus on food crops.

This has left something of a governance void surrounding coffee production, which has been filled by lead firms in the Sumatran coffee value chain. Writing about the rural political economy of Indonesia, Bebbington et al (2006, p.1963) describe the Indonesian state as being particularly susceptible to private sector influence and primarily interested in exercising social control over the rural population through patronage relationships. Much has been made of the ability of powerful private interests to influence policy making at a provincial and national level in Indonesia, and this has ensured that “the application of environmental governance approaches remains largely figurative” (McCarthy & Moeliono 2012, p.256), thus creating space for corporate policy to govern the local coffee value chain.

1.2.1 Southern Sumatra’s Coffee Value Chain

The port of Panjang in Bandar Lampung exports the vast majority of coffee produced across southern Sumatra, including the provinces of Lampung, South Sumatra and Bengkulu. As of 2013, each province produced approximately 159,000, 161,000 and 61,000 tonnes of coffee respectively (AEKI 2014). The port itself is responsible for up to 65% of Indonesia’s total exports (Neilson et al. 2015). This coffee production falls across more than 10 *kabupaten* (sub-provincial levels of government) in South Sumatra and Lampung alone. Unsurprisingly, the larger coffee exporters in Bandar Lampung now coordinate the activities of training extension officers across the area, and are either directly affiliated with lead firms located in the global north, or have specific buying agreements with lead firms.

This means that the roll-out of VSS across southern Sumatra has exclusively targeted exported product, and domestic consumers of Indonesian coffee are yet to place market pressure associated with social and environmental externalities on local suppliers. This contributes to a highly competitive local market in southern Sumatra, as exporters to the global north are also aware of how readily their supply can be substituted by Robusta from other parts of the world, such as Vietnam and Brazil (Neilson et al. 2015). Due to the technical nature of the roasting process, use of intellectual property and branding by major roasters in Europe and America, these firms generate large profits towards the end of the supply chain. According to Daviron & Ponte (2005, p.141):

“Roasters have complete information on quality when they buy coffee and release next to no information to their clients. This... has allowed them to gain a driving seat in the global value

chain for coffee.... They have downgraded the quality of their product to increase their margins."

This profit generation enables the key decisions of production and purchase to be made by these companies, who are also able to influence the markets requirements for low quality Robusta coffee. As a result, many stakeholders hold lead firms responsible for the social and environmental conditions of coffee production. Given most of today's exporters have had a presence in southern Sumatra for over 15 years, this is not unfair; even as corporate policies change, and takeovers disrupts global markets, the exporters are hardly a transient presence and have both time and resources to influence how coffee is produced.

An exporting company based in Bandar Lampung, which I refer to throughout the thesis as "Exporter A", claims to have been the first to introduce 4C in Lampung in 2008. Since then, major exporters in Bandar Lampung have used 4C in their supply chain at different times for different purposes. One RA representative noted "we use it as more of a guideline than a hard standard" (per comms, Bandar Lampung, 2016). A literature review of empirical studies on the impacts of VSS is presented in Chapter 2 (Bray & Neilson 2017), highlights the pathways through which VSS might achieve improvements to livelihoods. While intended for uniform application around the world, the influence of other factors on the success of VSS roll-out, such as livelihoods and local institutional environments, can also be significant, and these are explored in the southern Sumatran context in Chapters 4 and 5 respectively.

Lead firms have typically reacted by charging their local export partners with the task of coordinating local traders and collectors, and also with removing the worst quality coffee from the supply chain. Major exporters, including ECOM, Olam, Sari Makmur, and Nestle, have established sophisticated sorting operations to remove foreign matter and grade coffee prior to the export of green beans (beans hulled, but not yet roasted, except for the case of Nestle who maintains a manufacturing plant in Lampung). However, coordinating local traders and collectors has proved far more difficult. The southern Sumatran value chain is notoriously long, with coffee regularly trading hands up to seven times between farm gate and an exporters processing facility. "Middlemen" populate the supply chain, selling coffee to one another in villages, and to business partners in larger towns. This presents its own challenges for exporters trying to source particular types of coffee, as traders frequently mix coffee from various sources, making tracking difficult. Exporters of verified coffee have responded to this challenge a number of different ways. The most successful of them appears to have adopted major traders into their supply chains, and this is further explored in Chapter 5 (Bray 2019).

1.3 Global Value Chains and Sustainable Livelihoods

This thesis draws upon various conceptual frameworks to understand the implications and impacts of voluntary sustainability standards upon the lives and well-being of coffee-producing communities in Southern Sumatra. Foremost amongst these is the broader field of global value chain theory, which is analytically capable of examining the influence of lead firms (especially multinational coffee companies) throughout the coffee supply chain. This section also introduces the sustainable livelihoods framework, which highlights the varied strategies pursued by smallholder households, drawing on various assets (or capitals) to survive, and sometimes prosper. The roles of smallholders in the value chain, however, are too often overlooked in GVC analysis. At the same time, the livelihoods analysis framework hasn't done enough to consider the institutional influences (such as those exerted through the value chain) on livelihoods. This thesis will address both shortcomings.

1.3.1 Global Value Chains

Global Value Chains (GVC) theory is a popular means of conceptualising the power dynamics between firms in the global economy. GVC theory, which for the purposes of this discussion includes global production network theory, has been extensively used in analysing the coffee value chain. The theory presents a production system with four components (Neilson & Pritchard 2009; Gereffi 1994), namely:

- An input-output structure, which envisages who sells and buys product along the chain;
- Territoriality, which envisages the spatial location of different actors in the chain;
- Governance, which envisages how the value chains are coordinated by lead firms, and who has the greatest economic and political weight to govern; and
- Institutional context, which examines how the supply chain of a commodity interacts with the surrounding "mesh" of institutions, including the private sector, government, NGO's and (in the case of coffee production, coffee producers).

This thesis pays particular attention to the way VSS roll-out is influenced by both the governance and the institutional context of the coffee value chain in southern Sumatra.

The coffee value chain is governed through "captive linkages" (Gereffi et al. 2005), whereby low-skilled producers and suppliers are provided with detailed instructions by "lead firms". Gereffi (1994) initially introduced the term 'buyer-driven global commodity chain' to denote how global buyers (lead firms) used explicit coordination ("governance) to develop a competent global supply base, over a geographically dispersed area. In addition, "co-ordination and control of global scale production systems, despite their complexity, can be achieved without direct ownership" (Gereffi et al, 2005, p81). This is because roasting is the activity which adds the greatest value to coffee production, enabling lead firms to dictate the product specifications, which may include quality *downgrading* in

order to enhance profit margins (a practice associated with southern Sumatra's Robusta). These product specifications are typically accompanied by a high degree of monitoring, allowing lead firms to control the flow of knowledge through the supply chain, rather than knowledge being exchanged discretely between different stakeholders. Lead firms therefore coordinate what is produced, how it is to be produced, and how much and when (Humphrey and Schmitz 2002).

This precipitates a key point: smallholders deserve greater recognition than that often afforded to them in GVC (and GPN) analysis (Vicol et al., forthcoming). A shortcoming of GVC analysis is its inability to "holistically capture the diversity and complexity of the actually experienced life-worlds of rural households in the developing world" (Neilson 2019). This leads to a fundamental misunderstanding of what motivates producers to (not) take action through changes to production. This includes the priorities of a diversified income stream, the institutional setting of coffee production, and obligations they may hold, such as patronage relations, as well as their available assets and capabilities. The livelihoods framework has been used in discussing smallholder livelihoods to ensure the consideration of these important topics. There must also be an understanding of the contested space of VSS roll-out and integration into VSS supply chains.

This contest for space has been framed as a series of "struggles" over influence within the value chain between institutions (Neilson & Pritchard 2009). The label of "institutions" is often applied "in terms of the external framework of laws and rules within which chains are situated" (Neilson & Pritchard 2009, p.107). However, institutions are also embedded within particular locations, and the way the institutional environment facilitates or changes the action of different actors, including governing lead firms, is an important concept to apply to VSS roll-out. In Chapter 5, I adopt the definition of "institutional environment" as the "set of fundamental political, social and legal ground rules that establishes the basis for production, exchange and distribution" (Davis & North 1971, p.6).

The institutional environment is made up of organisations able to govern the value chain, or else negotiate the extent of their ability to govern. In doing so, they pursue certain social, economic and environmental outcomes (Neilson & Pritchard 2009). For example, a government may assert influence over environmental governance, while NGOs may strive for influence over labour conditions to improve the means of smallholders. Again, the institutional environment is not generic across the value chain, but instead is location specific. This reflects that "site-specific altercations and intersections between economic actors embedded in varying ways within spaces, networks and social structures" are significantly varied at a local level (Neilson & Pritchard 2009, p.2).

Because of this local variation, "strategic coupling" between lead firms and country-based major exporters has become a common mode of "site-specific intersections". Strategic coupling can be

defined as “a mutually dependent and constitutive process involving shared interests and cooperation between two or more groups of actors who otherwise might not act in tandem for a common strategic objective” (Yeung 2009, p.332). Lead firms may direct their local partners to adopt VSS as part of a strategy to assert dominance of the local institutional environment. This may, for example, secure a certain grade of coffee for exporter and lead-firm alike, without necessarily imparting any benefits to the supplying producers. Strategic coupling and the act of VSS roll-out can also create additional institutional layers, which are tightly controlled by lead firms. Given their political and economic weight, lead firms are able to deny producers access to these institutional controls.

Where this is the case, smallholders are consequently at risk of negative impacts from value chain interventions (Challies & Murray 2011). Strategic coupling may re-enforce the defining feature of the coffee value chain: the paradox between the persistent poor prices received by producers, and the strong profits recorded by lead firms in the global coffee value chain (Daviron & Ponte 2005). This coincidence of high value coffee markets and poor tropical coffee production provides an important study of rural development issues and the political economy of coffee value chains.

Lead coffee firms had initially been confronted by the disruptive, radical concept of VSS, used by civil society to call for transformations to the entire production process, including both the power centre of the supply chain, and the methods of production. But Southern Sumatra’s coffee producing communities do not produce the very high quality coffee that has allowed, for example, some Latin American producers to step outside the value chains of major coffee roasters (Bacon 2013), nor is the history of rural social activism particularly strong in rural Indonesia. This vacuum of social activism enabled lead firms to use VSS to “achieve traditional business goals, such as increased sales, profits and market control” (Elder et al. 2014, p.86) and improve supply chain resilience, leaving producers dependent on corporate policy to determine their agency, effectively entrenching the disparity between the influence of producers and lead firms. “*Precisely what benefits are bestowed on compliant producers depends on the specific activities of the program and how they are designed and structured*” (Winters et al. 2015, p.596). Far from resisting the introduction of VSS, today’s lead firms and exporters have normalized VSS as a means of negating pressure from NGOs. Lead firms insist their programs are beneficial for farmers *and* business, as in the case of the Mondelez “Coffee Made Happy” programme, and the Nestle AAA programme (Levy et al. 2016).

My thesis emphasises the interaction between VSS (an expression of value chain governance) and local institutional environments in Sumatra, with a focus on the latter. The claimed benefits of VSS point to their ability to shorten the supply chain (notoriously long in southern Sumatra), enabling the easier transition of information to producers through more direct contact. While some producers

prefer informal contracts, in order to obtain the highest price at a local level and to maintain social relations (Ibnu et al. 2015), they are then unable to negotiate terms of participation in the coffee value chain. Being party to a VSS-enrolled producer group changes this, and presents an opportunity for the development of latent social capital through pre-existing structures (Chapter 6). The membership of farmer groups may, however, come through patronage relationships, as smallholders navigate the best strategy of receiving institutional support. These patronage relationships play a highly influential role in the institutional setting of the southern Sumatra's highlands, where social networks tend to be smaller. Where patrons are able to facilitate access to government or industry support, this reflects that "[p]rivileged access to the individuals or institutions with the authority to make and implement laws" influences who benefits (Ribot & Peluso 2003, p.170). Patronage relations between a trader and producer are a pertinent example of a relationship of actors at specific "nodes" of the global value chain. These relationships are too often excluded from value chain analysis when examining the "flow" of a resource along the value chain (Bolwig et al. 2010). Again, the role played by Indonesia's pre-1998 autocratic regime is important in shaping institutions, as farmer groups at this time could only lawfully exist with explicit permission from the state. Post-1998, these groups have been the first to gain access to interventions like VSS, as businesses tend to choose paths smoothed by the state. Producers are then dependent on relations with farmer group heads if they are to receive the benefits of interventions, ensuring the reproduction of unequal relationships across much of rural Indonesia (Nordholt 2012). I expand on the influence of patronage relationships in Chapter 5.

1.3.2 Sustainable livelihoods

Issues like food security, poverty and inequality are pertinent to the future of rural Indonesia, including the highlands of southern Sumatra, where more than 35% of the population acquires its primary source of income from agriculture (Briones & Felipe 2013; Booth 2004). These rural populations tread a threshold between the poverty-line and a sustainable livelihood, aided by occasional, if unpredictable, interventions by both government and private industry. Smallholder livelihoods amongst coffee producers in Sumatra are diverse and difficult to characterise due to the large number of producers, their disparate locations, poor organisation and limited representative voice. This complexity of a smallholder's livelihood portfolio is not always recognised by global value chain analysis or value chain interventions. However, smallholders throughout southern Sumatra share similar traits, not least of which are their low risk, diversified income portfolios. The livelihoods framework has been adopted in the thesis as a means of capturing the complexity of smallholders' lives, and how VSS like 4C interact with these livelihoods.

The livelihoods framework has been summarised as “Who does what, who gets what, what do they do with it and how do groups interact?” (Scoones 2015, p.82). The framework has evolved through contributions from the likes of Sen, Chambers & Conway, Bebbington, Ellis and more recently by Scoones. It analyses “what livelihood resources, institutional processes and livelihood strategies are important for enabling or constraining the attainment of sustainable livelihoods for different groups of people?” (Scoones 1998, p.3). Livelihoods may be considered sustainable when they are resilient to stresses and shocks, while maintaining or enhancing capabilities and assets of individuals and communities, including those of the natural environment (Chambers & Conway 1991). Capacity is the power or inability to do something, which varies with the entitlements held by individuals and households and their capitals (Bebbington et al. 2006, Sen 1983). Capabilities may be intellectual or administrative (e.g. governance capability). Assets are both things people own or can access, as well as intangible things like influence (Bebbington et al. 2006). Capitals are stores of assets that can be accessed by individuals or communities, depending on their capabilities. The livelihoods approach sees capitals generally divided into five domains, namely financial, social, human, physical and natural, each of which I have explained further in Chapter 2. The access to these capitals can determine a livelihood, if not a livelihood strategy that may be employed. In using the livelihoods analysis, Bebbington et al. (2006, p1964) use social capital to frame arguments on economic and political development in rural Indonesia, noting if capacity resides in actors’ asset bases, “then it becomes critical to ask how those asset bases grow or are depleted”.

There is a widespread acknowledgement throughout the literature that many rural livelihoods in developing countries are dependent on a diverse base of income sources, established to secure and enhance standards of living (Chambers & Conway, 1991; Scoones, 1998; de Jong, 2002). A key component of this is that rural livelihoods transcend the rural-urban divide (Ellis 2000). Rural livelihoods are often dependent on one or two crops for their food and/or income, but it is “in between” jobs, like labouring, that are frequently key to bridging the gap between planting and harvest throughout the year. This adaptability is a fundamental characteristic of rural livelihoods (Ellis 2000), and is important to understanding why producers maintain positive perceptions of VSS (Chapter 6). Because it accommodates this adaptability, coffee has maintained its appeal as a reliable source of income for southern Sumatra’s smallholders, despite a variety of economic and environmental pressures on production. As previously mentioned, it is a low input (and therefore low-risk), low output crop, which has a high price relative to other tropical highland agricultural commodities. Attempts to change the way coffee is managed by smallholders must be empathetic to this if they are to retain a chance of success.

Indeed, a number of interventions over time from government, and more recently from private companies, have attempted to change the low input nature of highland coffee production. These private companies see the intensification of agricultural production as both a pathway to greater market share, and a genuine means of poverty alleviation and livelihood improvement. Chapter 4 (Bray & Neilson 2018) explores how this intensification of production is at odds with a long-term, sustainable and low-risk livelihood.

The livelihoods framework is adept at grasping “the complexity of the local dynamics and explain[ing] successes and failures in more depth” (Oya et al. 2017, p.iii). The livelihoods approach makes us aware of what producers can reasonably achieve through their capacity, and their access to assets. This “provides a necessary corrective to the assumed benefits of value chain approaches to rural development” (Neilson 2019). A producer livelihood is subsequently viewed in the context of the radically different strategies between producers and lead firms, and the exceptionally large differential in economic power between the two value chain actors.

Examining the institutional environment of a given setting (in this case Sumatra’s coffee value chain) is an important part of the livelihood framework. Too frequently, there is a relegation of structural relations and politics at a village level to the simple description of “context”. This overlooks the influence of institutions like the state and businesses (including everything from global market forces to local patronage relations) on the value chain. This in turn influences producer’s access to livelihood resources, which determine livelihood strategies and outcomes (Scoones 2015). The introduction of 4C to southern Sumatra, its use as part of corporate strategy, and what we know of smallholder livelihoods leaves us with several questions about the impacts of VSS on smallholder livelihoods in southern Sumatra, and the complexity of interests in the intervention. Drawing on these recent debates in the literature, this thesis seeks to address the following research questions.

Research Questions

- What impacts are Voluntary Sustainability Standards having on producer livelihoods in southern Sumatra?
- What factors influence the impact of Voluntary Sustainability Standards on producer livelihoods?
- What role do Voluntary Sustainability Standards perform in relation to the governance of the contemporary global value chain for coffee?
- What are farmer perceptions of VSS and the processes associated with VSS?

1.4 Structure and Contribution of Thesis

The thesis contributes to the broader literature on assessing the impacts of sustainability programs on rural livelihoods in the Global South. The way in which my thesis contributes to existing knowledge is as follows. First, the current state of research into the impacts of VSS on livelihoods is summarised, presented as a review article (Chapter 2). This chapter also makes a key contribution by setting out a conceptual model for potential impact pathways resulting from VSS. This precedes the methodology used to collect data on which the thesis is based (Chapter 3). Then, a case study from the Semendo district of South Sumatra explains how the suggested impact pathways of VSS intersect with the way that coffee is embedded within livelihoods, landscapes and poverty alleviation within a single community or district (Chapter 4). Third, the institutional setting of southern Sumatra's value chain is discussed, including an exploration of the different relationships between actors in the value chain and how the institutional environment surrounding and created by the roll-out shape the livelihood impacts of these interventions (Chapter 5). I examine the interaction between southern Sumatra's coffee producers, corporate policy and pre-existing institutions. Then, the producer-centric nature of the thesis is emphasised through a presentation of results from a perceptions survey of VSS-enrolled producers from the study area (Chapter 6). This allows a better understanding of producer impressions of value chain interventions like VSS, including a hypothesis regarding social capital development. In Chapter 7, I then bring together the various findings of the thesis into a single argument regarding VSS, global value chains and livelihood change, while also reflecting on the evolving nature of sustainability programs in the global coffee sector, and how that will affect relevant corporate policy. Chapters 2, 4, 5 and 6 of this thesis have been written as academic journal articles, three of which had been published at the time of submission.

This thesis broadens our understanding of the nature of VSS roll-outs in the southern Sumatran coffee value chain. It presents a complex picture of smallholder livelihoods, the varied nature of corporate policy with regards to VSS, and the resulting shortcomings of the overly-simplistic VSS theories of change. In doing so, it details the way in which lead firms are adapting their use of VSS to meet these challenges, keeping paramount the impacts of VSS roll-out on producer livelihoods.

2. REVIEWING THE IMPACTS OF COFFEE CERTIFICATION PROGRAMMES ON SMALLHOLDER LIVELIHOODS

This Chapter summarises the published empirical data regarding the impact of voluntary sustainability standards on producer livelihoods. Only empirical studies of impacts of certification programmes were included in the review. The chapter presents an initial framework for both conceptualising and analysing change in livelihood assets resulting from certification. In particular, the sustainable rural livelihoods framework has been used to explain how households use assets, livelihood capitals and access to these capitals to develop a livelihood strategy, which is placed in contrast with the pathways through which VSS envisage livelihood transformations through coffee production. This provides the platform for Chapters 3 and 4 to explore in depth a village case study and an explanation of the institutional environment that might generate this change.

The framework of the Chapter is sufficiently broad to allow later works to be considered within the same framework. The chapter was submitted to the *International Journal of Biodiversity Science, Ecosystem Services & Management* for peer-review, and was subsequently published on 24th April 2017. The chapter is referenced as Bray, J.G., Neilson, J (2017) Reviewing the impacts of coffee certification programmes on smallholder livelihoods. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 13:1, 216-232, DOI: 10.1080/21513732.2017.1316520.

Special Issue: Certifying Environmental Social Responsibility

Reviewing the impacts of coffee certification programmes on smallholder livelihoods

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ABSTRACT

Certification programmes and voluntary standards for sustainability are now a common feature of many agricultural landscapes worldwide. The rapid expansion of such programmes has only recently been accompanied by concerted attempts to assess the lived experience of enrolled producers. This article reviews empirical research assessing the impact of certification programmes on coffee smallholder livelihood assets, and presents an initial framework for both conceptualising and analysing change in livelihood assets resulting from certification. Several of the reviewed studies identified enhanced livelihood assets arising from certification under specific institutional and contextual settings, but causation was difficult to establish. A greater number of studies found either neutral or mixed impacts, and a small number reported negative impacts. While a consensus has yet to be reached regarding all livelihood impacts of certification programmes, we present a series of propositions that reflect widely reported impacts. Further findings drawn from the review include: (i) stronger pre-existing institutions within the producer community are more likely to result in benefits for individual households; (ii) the value chain structures through which certification programmes are implemented are highly varied and strongly influence livelihood outcomes; and (iii) methodologically, existing studies rarely present either reliable baseline data or a realistic control group for comparison, making causation difficult to establish.

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1. Introduction

This review article examines empirical studies of the impacts of third-party certification schemes, such as Fair trade, Certified Organic, UTZ, and Rainforest Alliance, all of which have gained market prominence over the last 15 years. The focus of this review is to assess whether the livelihood assets (also referred to as capitals) of certified smallholders have been impacted as a result of these schemes, which purportedly aim to improve market fairness, encourage environmental sustainability, and to support social development of producers. However, the schemes have been criticised for the lack of credible evidence of their impact, particularly the long-term impacts on the smallholders they purport to support (Blackmore & Keeley 2012). This review, therefore, addresses the urgent need to better understand the current state of evidence of impacts from certification programmes, as presented in peer-reviewed publications, and to delineate the specific impact pathways through which change is likely. Our review is focused on the coffee sector, where certification schemes have a relatively long history.

Certification refers to the broad family of voluntary standards set by third-party organisations,

against which producers are independently audited and certified (or verified in some cases). The standards themselves vary considerably, from organic standards that demand producers abstain from the use of agricultural chemicals but which contain few social criteria, through to Fair Trade Certification, which demands adherence to particular social and economic principles, but with fewer environmental requirements. The standards established by UTZ and the Sustainable Agriculture Network (Rainforest Alliance) present themselves as being more holistically concerned about sustainability, and include a broader range of economic, social, and environmental criteria. There are likely to be differences in the livelihood impacts of these diverse programmes, and some of these distinct impacts are discussed below. However, our aims in this paper are to commence an initial assessment of reported impacts on livelihood change from voluntary standards in general, and to identify likely impact pathways.

Any producer, or producer group, that has been audited as complying with a particular standard is able to use the certification label for marketing their product, on the assumption that buyers value the label. There are, however, costs associated with

certification. These include the possible costs of modifying the production system to meet the standard, the costs of record-keeping and administration, the costs of implementing farmer training, the costs of undergoing an audit, and the costs of actually using the label. Irrespective of whether these costs are borne directly by producers or indirectly (paid for by others downstream, such as traders and roasters in the coffee sector), it is ultimately necessary for the benefits of certification to be assessed against these costs and against the likely benefits derived from alternative investments in sustainability. None of the studies we review here, however, attempts to calculate these full costs.

Certification can be considered a market-based method of assigning value to a given quality in a commodity, whether environmental, social, or economic. However, to whom value is assigned is not always clear. Giovannucci and Potts (2008) suggest that certification is a method both for consumers to reduce the social and environmental externalities of their consumption, and for branded manufacturers to mitigate the risk of long-term supply shortages. Alternatively, certification is elsewhere claimed to primarily improve the livelihood security of producers – economically, socially, and environmentally by becoming part of a social justice movement (Arnould et al. 2009). Meanwhile, Millard (2011) suggests that certification should be primarily considered a market-based mechanism to incentivise farmers to apply sustainable production methods, or what Lipschutz (2015) interprets as a ‘social contract’ between consumers and producers. This plurality of ways that certification can be conceptualised, and subsequently utilised, may partly explain the variety of impacts presented in this review, as different participants may have different expectations from the same process.

This review is timely: the market has become crowded with competing labels (Barham & Weber 2012), and has even created a market for standards themselves (Reinecke et al. 2012). Our discussion in this article is predicated on the assumption that a market value for standards exists, although we accept that continued growth in market demand for certified products is by no means assured. Previously, Millard (2011) implied from the ‘soaring’ sales of certified products that major companies would not commit to certification if not for a positive response from consumers. However, it has also been widely reported (Renard 2005; Bacon et al. 2008; Lazaro et al. 2008; Blackmore & Keeley 2012; and KPMG 2013) that less than 50% of all certified coffee is actually sold as such.

A number of previous stand-alone literature reviews concerning the impact of certification schemes on coffee producers have been published, several of which have been funded by certification

agencies¹ and only two of which are peer-reviewed. These are: Nelson and Pound (2009); the peer-reviewed Blackman and Rivera (2011); International Trade Centre (2011); Blackmore and Keeley (2012); Milder et al. (2012); KPMG (2013) on behalf of SUSTAINEO; UTZ Certified (2014). The peer-reviewed article by DeFries et al. (2017) was published as this article was being finalised for publication. Blackman and Rivera (2011) urge caution about the results available in the literature, concluding that empirical evidence on the benefits of certification is limited. They identified several studies that found positive impacts, but only 14 of the 37 studies examined were deemed to have used a credible methodology. Of these, less than half (only six) identified clear environmental or socio-economic benefits. Similarly, cautious observations were made by the Blackmore and Keeley (2012), Milder et al. (2012) KPMG (2013), and DeFries et al. (2017) reviews, while the 2014 UTZ report reported overwhelmingly positive impacts. None of these previous reviews explicitly uses the framework of livelihood assets to assess impacts.

In this review, we are specifically interested in the recorded impact of certification programmes on livelihoods, and the specific pathways through which such impacts may be taking place. We have adopted the sustainable rural livelihoods framework, as originally suggested by Chambers and Conway (1991) and further developed by Scoones (1998), Bebbington (1999), and others. This framework considers how households and individuals utilise their tangible and intangible assets to develop a livelihood strategy, which is ultimately mediated by broader institutional settings and processes. The adopted livelihood strategy then results in outcomes for household livelihoods and sustainability. A now standard approach within the livelihood framework, which we follow, is to assess the following five ‘capitals’ or ‘assets’ employed to develop a livelihood strategy:

- Human capital; skills, knowledge, education, good health, and physical capability,
- Social capital; social networks, social claims, relations, affiliations, and associations,
- Natural capital; natural resource stocks (such as land and water) and other environmental services,
- Physical capital; infrastructure, housing, tools, and equipment, and
- Financial capital; wages, cash reserves, savings, access to credit.

The direct application of the livelihood framework to measure the impact of certification was identified in three studies (Bacon 2005; Parrish et al. 2005; Utting 2009), while others (such as Rueda & Lambin 2013) adopt a similar approach without explicitly referencing the framework. Many of the studies do, however, implicitly

address impacts on livelihoods. The analysis in this paper presents a realistic assessment of how each of the five livelihood capitals could be logically influenced by certification, and seeks to establish a foundational understanding of impact pathways that will assist future assessments. The livelihood framework is particularly useful in assessing sustainability programmes at the household and individual level, as it provides a people-centric approach that recognises the myriad ways that various asset classes are combined and transformed to meet desirable life outcomes (Bebbington 1999). This is consistent with the multifaceted nature of the impact pathways envisaged by advocates of certification programmes.

The following section introduces the framework of impact pathways presented by certification schemes. This is followed by an overview of the methodology used in the review. We then commence our main discussion through five separate sections (each relating to a specific livelihood capital) that present possible impact pathways and then review findings relevant to each capital. The final section concludes the review and presents our main propositions.

2. Impact pathways

Prior to assessing the reported impacts of certification in the peer-reviewed literature, it is necessary to first understand the mechanisms and processes through which standards and certification should, in theory, contribute to enhanced livelihood outcomes for producers. This is often expressed through a ‘theory of change’, and many certification organizations have published their own theory of change to understand these processes (Fair trade International 2015; Sustainable Agriculture Network 2016; UTZ 2016; and 4C Association 2013²). A theory of change helps us to assess livelihood impacts against the criteria and expectations of certification organizations themselves.

Establishing the intended impact pathways of certification necessarily sets the benchmark against which research into the efficacy of certification should be undertaken. The published theories of change each identify how smallholders are expected to be impacted by standards. The primary impact pathways through which livelihood improvements are expected, as identified in the theories of change, are fourfold: (i) the provision of farmer training (e.g. 4C Association 2013; Sustainable Agriculture Network 2016; and UTZ 2016), which has a direct impact on human capital, and which is expected to result in more profitable farm practices, better financial management (financial capital), improved conservation of natural resources (natural capital), and enhanced attention to health and hygiene (human capital); (ii) the development of stronger producer organizations (social capital), which engender active participation, enhanced negotiating capacity, stable social relations, and

enhanced transparency (4C Association 2013; Fair trade International 2015; UTZ 2016); (iii) the direct provision of inputs, equipment, and infrastructure by downstream buyers (physical and financial capital), often as part of enhanced investment by buyers in their supply chain (4C Association 2013; UTZ 2016); and (iv) enhanced product marketing (e.g. UTZ 2016), including higher farm-gate prices (e.g. Fair trade International 2015), reduced vulnerability to price fluctuations and longer term relationships with buyers (e.g. 4C Association 2013), all of which would improve the financial capital of producers. Finally, certification schemes mandate a particular kind of behaviour and practice by producers in return for improved market access, and this is expected to be beneficial to producers, often in the medium to long term.

More broadly, the ISEAL Alliance (a non-government organization that establishes codes of practice for standard-setting organizations, of which the 4C association, Fair trade, Sustainable Agriculture Network/Rainforest Alliance (SAN/RA), and UTZ are all full members) has a long-term goal of ensuring certification systems can contribute to poverty alleviation and improved livelihoods (ISEAL 2013). ISEAL (2013) ‘conceptual framework’ details pathways for sustained improvements in the human, social, environmental, economic, and political spheres, each of which can be directly related to a livelihood capital. As a result, there is a reasonably sound relationship, as presented across the published theories of change pathways, which links certification schemes with the expected enhancement of livelihood capitals.

While general outcomes are provided by these pathways, the certification schemes rarely specify outcome targets (Tscharrntke et al. 2015). However, there are broader expected impacts generally shared between the schemes, which include improved product quality and yield and thus income, better standard of living for producers and workers, and a better environment. The specific time frame to achieve these goals are usually limited to short-, medium- and long-term goals, although the timeframes explored in the reviewed studies were rarely more than a temporal snapshot.

3. Methodology

This review reports on findings published in English-language peer-reviewed studies.³ We included publications in our review based on the following criteria:

- The study was empirical, involving a field-based methodology in coffee-producing regions;
- The study attempted to address at least one of the five livelihood capitals (but not necessarily applying the sustainable livelihoods framework);
- The study presented an actual experience of certification, rather than a theoretical or general discussion; and

- The study had to consider the impacts on, or demonstrate relevance towards, smallholders (our special area of interest).

The title, abstract and keywords of each article was initially assessed, with a total of 51 articles satisfying these criteria. Blackman and Rivera (2011) present a detailed discussion around selection of counterfactuals⁴ as part of their methodology, which we have generally followed, although we did not dismiss those studies with less apparent rigour in ascertaining cause and effect. Indeed, Blackman and Rivera (2011, p. 1181) reported that the absence of a counterfactual 'did not spur unduly positive assessments of certification benefits'. The results of our content analysis across these 51 studies, highlighting regional focus, scheme type, methods, coverage of livelihood capitals, and general impact are detailed in [Appendix A](#), [Appendix B](#), and [Appendix C](#). Twelve studies used qualitative analysis only, while eight studies used mixed qualitative and quantitative methods. The remaining 31 papers used quantitative analysis.

Where the empirical evaluations focus on more than one commodity (such as coffee and cocoa), we have maintained focus on the specific outcomes for coffee production wherever possible. Analyses of the impacts of organic (usually IFOAM) and Fair trade dominate the literature (refer to [Appendix C](#)), a likely result of the longer history of these schemes.

Geographically, Central American case studies make up 30 of the 51 studies, four studies were multiregional, six were located in South America, eleven in Africa, and only three in Asia. The studies suggest considerable contextual diversity both within and between countries, making generalised statements difficult. We did not identify any randomised controlled trials on the impacts of certification programmes, which might more rigorously minimise the influence of confounding factors.

4. Impact pathways for human capital

The human capital of farmers could conceivably be improved by certification through the following pathways: (i) skills development as a result of training and agronomic services; (ii) the allocation of group premiums towards local education and health care facilities; and (iii) improved producer income, which is then spent by individuals on health and education.

4.1. Education

There is some evidence that certification correlates with improved educational attainment following the introduction of certification (Bacon et al. 2008; Arnould et al. 2009; Valkila & Nygren 2010) and

that premiums paid to cooperatives have been invested into education programmes (Utting-Chamorro 2005). Gitter et al. (2012) found that household participation in a Fair trade-organic cooperative resulted in a 0.7% increase in schooling for girls. These articles, however, are generally cautious in attributing causation directly to certification, citing possible external influences from other associated development projects or selection bias towards the initial involvement of better-educated individuals.

Mendez et al. (2010) found certification had little impact on education in Central America. Ruben and Fort (2012) found uneven impacts from Fair trade on education levels in their Peruvian case study, although they considered it 'likely' that part of the price premium was channelled into education.

Conversely, the education of producers appears to be a key factor determining both the likelihood of becoming involved in certification in the first instance and the capacity to benefit from certification. Valkila and Nygren (2010) noted that consideration of education a priori to certification was important in understanding the impacts of certification on producers in Nicaragua. Jena et al. (2012) also found that a higher level of education (and social capital) enabled Ethiopian producers to reap more benefits from the distribution of a premium within a cooperative. The labour and time required to meet the bureaucratic nature of the certification process appear harder for less literate producers or less organised cooperatives.

4.2. Training, skills, and capacity building

Several studies use the phrase 'capacity building' to describe the institutional support available to farmers from schemes (e.g. Raynolds et al. 2004; Utting-Chamorro 2005; Utting 2009; Mendez et al. 2010; Valkila & Nygren 2010). Sometimes, training is indirect, and is dependent on NGO-supported agronomists to build skills necessary to achieve certification (Valkila 2009). Jurjonas et al. (2016) reported substantial government support for Mexican coffee farmers striving for certification. The extent and quality of training that farmers receive both prior to and after certification is frequently a function of their access to cooperative and state-based services (Bacon et al. 2008).

When executed effectively, training has been reported to result in increased trust in a cooperative and improved information sharing. Jena et al. (2012) found that while the difference is modest, certified cooperatives in Ethiopia are more likely to offer training to members than non-certified cooperatives. Provision of training, associated with certification, was further reported to result in positive improvements in skill levels and agronomic practices (Utting 2009; Vellema et al. 2015; – both in South America).

Bose et al. (2016) reported positive impacts on book-keeping skills among certified producers in India. Smith (2013) recorded improved access for women to train once enrolled in Fair trade, as a result of active encouragement by cooperatives with gender-balanced boards. Smith (2013) also notes that if women are assigned positions of authority within an organization, this results in increased skill levels among women. The actual benefits received by individual farmers, however, were found to be dependent on cooperative leadership (Utting 2009; Elder et al. 2012).

In summary, certification does appear to be associated with increased farmer-training activities, which it is presumed (and sometimes demonstrated) will result in skills development, enhanced human capital, and ultimately improved practices and livelihood outcomes. The quality, relevance, and effectiveness of training received by farmers is heavily dependent on the management capacity of producer organizations and other support structures, both from within the value chain and external to it. While training has the potential to improve skills and knowledge over the long term, local leadership and effective institutions are necessary to make the most of these opportunities.

4.3. Health

A broad range of factors influence community health, such as drinking water source, diet and nutrition, sanitation, gender equity, wealth and income, place of residence, age, and genetics. The quality of community healthcare is commonly dictated by government policy and programmes rather than by cooperative provisions or within a certified value chain. It is difficult to ascertain the specific impact of sustainability programmes on those services, including healthcare, education, and infrastructure, that are widely held to be public goods and it is probably unrealistic to expect significant impact in these areas.

Unsurprisingly, it is rare that meaningful improvements in healthcare provision or health outcomes can be attributed to certification (Jena et al. 2012). Arnould et al. (2009) asserted that producers with more than 6 years Fair trade participation had improved health indicators relative to other producers. These long-term participants had better access to healthcare, potentially reflecting the greater investment of their cooperatives in healthcare facilities, assuming there was no initial selection bias. While case studies such as Valkila and Nygren (2010) note the *potential* of cooperatives to invest in healthcare, it is not widely reported. Downstream value chain actors might also choose to invest in healthcare provision in association with certification, but this is not mandatory and was not reported.

Another pathway to improved community health is anticipated through more responsible storage and use of agrochemicals (Gobbi 2000), use of worker safety equipment, and improved waste management, all of which are mandated practices by some certification schemes (Barham & Weber 2012; Chiputwa et al. 2015; Bose et al. 2016). Despite this presumed impact pathway, specific investigation of these potential health benefits were not examined in the empirical case studies.

5. Impact pathways for social capital

Certification is expected to enhance social capital through: (i) the strengthening of producer organizations (such as cooperatives); (ii) enhanced networking opportunities for farmers, thereby facilitating access to services from public and private organizations; and (iii) the empowerment of individuals mandated by schemes who might otherwise be marginalised within the community, such as women and informal rural labour.

Initial enrolment in a certification scheme appears dependent on prior social networks and connections, a process with the potential to increase inequality. Wollni and Zeller (2007), Jena et al. (2012), and Vellema et al. (2015) all identified how social capital generated through education affected participation in both cooperatives and certification programmes. Tovar et al. (2005) and Pinto et al. (2014) find that organic certification in Mexico favours (both economically and socially) larger coffee producers able to handle the complexity of certification standards and as such may entrench inequality within the community. Thus, social capital may be considered both a potential outcome of certification and also a crucial pathway to initially engage with certification.

5.1. Producer organization

Positive impacts on the functioning of producer organisation were reported by Utting (2009), while both Reynolds et al. (2004) and Ruben and Fort (2012) found that the capacity building nature of Fair trade played an important role in producer empowerment, leading to a gradual build-up of social capital. Ruben et al. (2009) and Ruben and Fort (2012) also found growers generally had a positive perception of Fair trade's impact on the functioning of their cooperative. Rueda and Lambin (2013) reported increased access to social networks that were not present prior to certification, and a clear impact pathway towards enhanced social capital through improved functioning of producer organizations seems likely.

Effective prior producer organisation (such as good management and leadership) was also widely reported to enable the successful introduction and implementation of certification schemes (Tovar et al. 2005;

Lyon et al. 2010; Bacon 2005; Jena et al. 2012; Utting 2009).

5.2. Gender

The impact on women and gender is extensively discussed in the literature, most recently by Utting (2009), Lyon et al. (2010), Ruben and Zuniga (2011), Smith (2013), KPMG (2013), and Valkila (2014). The patriarchal nature of many agrarian societies, in combination with the cultural and social roles expected of women, may limit the impact of certification on gender equality (Bacon et al. 2008; Smith 2013). Smith (2013) finds that across 20 international studies, Fair trade has mixed results in improving livelihoods for women, noting that in some cases inequality is exacerbated (e.g. Lyon et al. 2010), while others recorded improving women's participation (Elder et al. 2012; Chiputwa & Qaim 2016), income, well-being, and position within households (Smith 2013). Kasente (2012) presented very mixed results from Uganda, including a positive gender impact on inclusive decision-making alongside increased labour requirements for women.

Two studies of the Nicaraguan coffee industry (Utting-Chamorro 2005; Utting 2009) reported positive impacts of Fair trade on women, including confidence and managerial capacity, despite a gender disparity favouring males in Fair trade enrolment. Utting-Chamorro (2005) also noted decreasing domestic abuse and an increase in male housework participation. We conclude, however, that a consensus has yet to be reached regarding the gender impacts of certification, and a clear impact pathway towards female empowerment is difficult to identify.

5.3. Labour

Most case studies on the impacts on smallholders eschew discussion of the vexed issue of informal labour on smallholder farms, which is a complicated yet necessary area for future research. Where specific research on informal labour has been conducted, it was noted that there was little difference in working conditions before and after Fair trade's introduction (Valkila 2009; Valkila & Nygren 2010). Several studies reported that organic certification resulted in an increased reliance on labour (associated with mulching, composting, and weeding without the aid of labour-saving chemicals), thereby increasing labour demand within the community (Ruben et al. 2009; Valkila 2009; Blackman & Naranjo 2012). However, these work opportunities were often particularly arduous, which may have resulted in negative livelihood outcomes more broadly. This was demonstrated by Kasente (2012) who noted that certain organic certification guidelines such as increased organic fertiliser

application, specifically result in increased labour for women, who traditionally performed this activity.

6. Impact pathways for physical capital

The impact of certification on physical capital could occur through the following pathways: (i) the investment of premiums by cooperatives and individuals into physical infrastructure, equipment, and facilities; (ii) investments made by buyers directly into physical assets as a result of tighter value chain linkages; (iii) encouraging other actors (such as governments or NGOs) to build physical infrastructure (i.e. a secondary result of enhanced social capital); and (iv) requiring producers themselves to invest in processing facilities (such as waste water treatment). However, findings on the impact of certification on physical capital within the empirical case studies were limited.

6.1. Infrastructure

Ruben and Fort (2012) reported that Fair trade cooperatives invested most of their premium into roads, while Chiputwa et al. (2015) reported investment of premiums into processing facilities in Uganda. Bacon et al. (2008) also found participation in Fair trade certified cooperatives correlated with improved infrastructure investment (on-farm investments and improved housing). In contrast, Utting (2009) notes that premiums paid at the cooperative level are generally insufficient to encourage meaningful investment in physical infrastructure within respective communities, particularly over the short term. The institutional capacity of (and education levels within) a cooperative was found to determine the willingness and ability to direct premiums into infrastructure, partly due to the ability to draft infrastructure funding proposals (Jena et al. 2012, 2017).

Higher and more stable prices resulting from certification (see discussion on financial capital below) were related to producers increased willingness to invest in physical capital, such as their own processing equipment (Bolwig et al. 2009; Chiputwa et al. 2015). However, while some physical assets are often individually owned (such as houses, drying yards, and some processing and farm equipment), much infrastructure is collectively owned (e.g. public roads, schools, health centres, or cooperative machinery). Therefore, investments are frequently made by non-household actors, such as producer organizations, governments, NGOs, and firms. The ability to link physical capital improvements specifically to certification is complicated by the fact that much public infrastructure will likely benefit both certified and non-certified farmers in a particular community (Ruben & Fort 2012).

In summary, improvement in physical capital appears limited to smaller capital goods, such as

machinery and post-harvest equipment, and is most widely reported for Fair trade, where a collective development premium is paid. Overall, however, this is not widely explored in the literature and it appears unrealistic to expect significant direct impacts on physical capital resulting from certification, especially in comparison to public investments.

7. Impact pathways for natural capital

Certification may impact the stock of natural capital in a producing region as a consequence of: (i) the introduction and mandating of good agricultural practices, including soil conservation and protection, responsible use of farm chemicals, and reduced extraction of water from natural waterbodies; and (ii) the active promotion of habitat protection or restoration by farmers (e.g. requirements for buffer zones, prescribed shade tree diversity and density, and prohibitions on land clearing). These pathways essentially rely on a compliance mechanism, whereby producers are required to adhere to a new set of environmental standards. A final indirect pathway may exist where sustainability standards focus on productivity improvements and intensification, which could reduce pressure on marginal and forested lands (although enhanced productivity could also make marginal lands more profitable, thereby encouraging expansion).

Changes in natural resource management outcomes are difficult to measure (Philpott et al. 2007) and are frequently monitored at the regional rather than farm scale. The need for long-term monitoring is perhaps the greatest in natural capital. This is because of the longer time frame needed to build natural capital (Haggard et al. 2015) and the time taken for changes in natural resource management to have measurable impacts (e.g. habitat recovery, soil conservation). As a result, it is unsurprising that the literature is limited in addressing this area (London 2012).

7.1. Habitat conservation

Habitat could be protected on coffee farms through requiring a higher density of shade trees and by forbidding clearing of new land. However, measuring the impact of certification schemes on broader forest landscapes presents a considerable methodological challenge. Thus, the extent of certification's impact on the management of forested land (including commons) is unclear from the literature. Many smallholders have a high dependency on local forests for non-timber forest products and, in many cases, have a history of effective management (Philpott et al. 2007), such that it has been reported that certification schemes may even curtail these activities (El

Ouaamari & Cochet 2014). In Tanzania, Fair trade was reported to have negligible direct impacts on natural capital (Parrish et al. 2005), but certified producers have been found to have a resulting positive attitude towards environmental protection (Utting-Chamorro 2005; Utting 2009; Ibnu et al. 2015). In the words of Blackman and Naranjo (2012, p65), 'Certification can alter management practices more easily than it can ecological practices'. Rueda et al. (2015) note several factors affecting conservation outcomes in Colombia, including strong institutional support, and this is a likely reason for strong environmental gains among certified Colombian producers in the Rueda and Lambin (2013) study.

Philpott et al. (2007) report it may be difficult for Fair trade producers to implement ecological and economically sustainable practices simultaneously. Highlighting the mixed nature of results from our review, Ruben et al. (2009) found that implementing conservation management practices may be excessively costly, but Ibnu et al. (2015) found the adoption of these required practices can be financially advantageous. Pinto et al. (2014) found that land was being set aside for conservation as a result of group certification, when combined with government regulations and enforcement.

Certified forest coffee areas in Ethiopia have recorded slightly less (1.7%) deforestation following implementation of certification (Takahashi & Todo 2013). Despite finding generally positive impacts from certification, Rueda and Lambin (2013) found that farmers within their study continued to expand their areas of production, regardless of certification status.

7.2. Soil and water resources

There is little consideration in the literature of the impact of certification on producer soil or water resources. Assessing these impacts is complicated, as it is highly dependent on pre-existing management practices and how readily farmers can adapt to certification requirements. The requirement for rigorous methodologies, including comprehensive soil and water sampling, appears to have discouraged extensive research into this topic.

Notwithstanding these limitations, a range of improved watershed protection measures were associated with organic certification in Costa Rica (Blackman & Naranjo 2012) and RA certification in Colombia (Rueda & Lambin 2013). Gobbi (2000) further reports that bird-friendly certification assisted the build-up of organic matter in the soil and improves local water quality. Rueda and Lambin (2013) also report that RA-certified farmers in Colombia are far more likely than non-certified farmers to use soil analysis to guide chemical application.

Given these findings, and notwithstanding the need for more rigorous impact studies, it seems likely that the requirements of certification schemes are resulting in enhanced natural capital as a result of improved management of water and soil resources.

A related aspect is waste management, which is rarely mentioned in the literature, despite it being common across certification scheme guidelines. Rueda and Lambin (2013) found 90% of RA-certified farmers engaged in some degree of waste management, compared with 30% of non-certified farmers, and those certified farmers had changed their behaviour since the introduction of certification.

7.3. Chemical use

Organic certification has predictably been associated with reductions in chemical inputs (Blackman & Naranjo 2012). However, the impact of certification is difficult to separate from other institutional supports or local conditions (Rueda et al. 2015). For example, Parrish et al. (2005) note that high input prices and low coffee prices were more likely to persuade farmers to stop using synthetic chemicals than certification. Rueda and Lambin (2013) noted little difference in chemical use between RA-certified and non-certified farmers.

8. Impact pathways for financial capital

Certification is expected to improve the financial capital of farmers as a result of: (i) higher incomes related to price premiums; (ii) higher incomes resulting from the adoption of more profitable agricultural practices (either higher yields or lower costs); (iii) improved access to financial credit; and (iv) a reduction in financial risk and price volatility, associated with longer term purchasing agreements and reliable supply chain relationships. The possible financial benefit of certification is a key producer consideration, and London (2012) notes the emphasis on economic evaluations in the literature.

8.1. Impacts on producer income

A consensus on the impacts of certification on coffee producer income has not been reached as it is complicated to assess. Rural livelihood strategies frequently encompass a variety of farm-based and off-farm income-generating activities, such that coffee income may be part of a much broader livelihood portfolio. As a result, increased income from certified coffee may not necessarily equate to increased income for the household (if, e.g. it requires reallocation of resources away from other more productive activities), and inversely a decrease in certified coffee income may not equate with declining welfare. Even

coffee-specific income will be dependent on many factors, including farm-gate price, yield, and costs of production, such that increased farm-gate prices may not necessarily result in increased revenue if yields decline or production costs increase to a greater extent. Finally, effective ways to evaluate the cost of own or family labour remain elusive to many analyses. These confounding factors were rarely considered in the studies.

Some case studies found household revenue increasing between 12% and 20% as a result of certification (e.g. Bolwig et al. 2009; Ruben & Fort 2012), but this again depends on access to certified markets (Rijsbergen et al. 2015). The reported pathways for improved income are varied. In some cases, revenue increases were identified to be related to improved yields rather than price premiums (Barham & Weber 2012; Jena et al. 2012) and elsewhere due to lower input costs (Valkila 2009). Lyngbaek et al. (2001) estimated that a 38% increase in organic coffee prices was needed to offset the costs of certification, inspection, and registration in Costa Rica. Bacon (2005) found a majority of Fair trade and Organic farmers in Nicaragua reported a decline in their quality of life, and this was regardless of certification status, indicating that the premiums offered by alternative markets were insufficient to offset worsening economic conditions more broadly.

Despite this, price incentives are often an important catalyst to encourage investment from risk-averse farmers (Chiputwa et al. 2015). Many studies found a positive impact on farm-gate coffee prices (e.g. Kilian et al. 2006; Wollni & Zeller 2007; Bolwig et al. 2009; Mendez et al. 2010; Rueda & Lambin 2013). Chiputwa et al. (2015) noted that Fair trade growers received better prices over a period of 2 years relative to UTZ, organic and non-certified producers, primarily as a result of a value-adding process available to Fair trade processors only. However, premiums inevitably favour those producers with larger yields, who are often already more resilient to socio-economic shocks (Bolwig et al. 2009; Valkila & Nygren 2010; Valkila 2014). Weber (2011) emphasizes that somewhat complex financial calculations are required by farmers to assess the net benefits of certification. Fair trade remains the only scheme to offer a base price and is generally perceived to offer enhanced financial security as a result. However, there is no Fair trade premium at the farm level when the global coffee price is above the base price and producers have to rely on premiums associated with improved quality, with no guarantees that they will be able to sell produce on Fair trade markets, even when the floor price kicks in (Raynolds et al. 2004; Sick 2008; Valkila & Nygren 2010).

Premiums arising from certification are often paid at the cooperative level, rather than to individual

farmers (Ruben et al. 2009; Ruben & Zuniga 2011; Weber 2011), and producers who are active group participants are more likely to benefit from Fair Trade Certification since they may better understand their entitlements (Weber 2011; Jena et al. 2012).

Increased yields may also result in higher incomes, although there is also mixed evidence on this aspect. Beuchelt and Zeller (2011) found improved incomes existed for organic farmers through yield improvements, but not Fair trade-organic farmers. Ruben and Zuniga (2011) and Ruben and Fort (2012) found that Fair trade farmers produce yields inferior to those of conventional producers and thus Fair trade had a negative effect on household income. Both Gobbi (2000) and Kilian et al. (2006) found sustainable management practices, such as eliminating chemical fertilizers or increasing the number of shade trees negatively influence total yield per hectare. Lyngbaek et al. (2001) found the yield of organic farmers was 22% lower than that of comparable conventional farms, leaving Costa Rican organic producers worse off relative to their conventional-producer counterparts. Fair Trade Certification was reported by Valkila (2009) to improve low-intensity coffee production among Nicaraguan producers, but this was not enough to lift these producers out of poverty. Valkila (2009) also reported fewer inputs for organic production, but this was offset by increased labour costs, and tougher working conditions endured by producers. In contrast, Bolwig et al. (2009) found a 9% increase in coffee revenue among organic-certified producers in Uganda, which was attributed to higher yield from each tree.

8.2. Access to credit

It is possible that certification may enhance producer access to credit, as a result of provision by a strengthened producer organisation, directly by a downstream value chain actor, or by facilitating access to a third-party finance institution. However, surprisingly few studies reported on these potential impact pathways. An exception was Utting (2009) who reported that a Fair trade cooperative had allowed a majority of producers to access credit for the first time, and that the longer farmers had participated in Fair trade, the more likely they were to obtain credit. Little other evidence of this pathway was reported.

8.3. Resilience to risk

Risk management is a key concern for many farmers, giving rise to common presentations of the risk-adverse peasant (e.g. Henrich & McElreath 2002). In their Ethiopian study, El Ouaamari and Cochet (2014, p. 21) note that, 'farmers are indeed willing to grow coffee, as long as it does not put the rest of their production systems in danger'. A greater willingness to take risks is evident among more resilient farmers. The major

certification schemes present a reduction in exposure to risk as a major benefit to producers. But the literature casts doubt on these assertions, with conflicting statements regarding the capacity of producers to tolerate risk prior to, and after, being enrolled in certification schemes.

Utting (2009) and Ruben and Fort (2012) report that Fair trade increases risk tolerance among farmers. Ruben and Fort (2012) found that while Fair trade -organic certification in Peru resulted in small increases in income only, there was an increased willingness to invest in land improvements, which they attributed to increased acceptance of risk.

Where farmers decide to increase their focus on coffee production as a result of certification, household livelihood specialization may reduce capacity to adapt to changing market conditions (Rijsbergen et al. 2015), especially if this is not offset by improved access to credit (Vellema et al. 2015). Utting-Chamorro (2005), Raynolds et al. (2004), and Barham and Weber (2012) all suggest that certification has the potential to expose producers to greater dependency on a specific trade channel, leading to a captive market relationship, thereby reducing their ability to endure value chain shocks. Such a situation is unlikely to deliver longer term livelihood improvements to farmers (Vellema et al. 2015). It was widely reported that certified supply chains were associated with unreliable or delayed payments (Utting 2009; Valkila 2009; Mendez et al. 2010; El Ouaamari & Cochet 2014; Chiputwa et al. 2015). Any delay will be particularly felt by poorer farmers, causing some to sell their coffee on conventional markets (Valkila 2009).

9. Conclusion

This review provides an update of the major reported findings concerning the impacts of certification on the livelihood assets of smallholder coffee producers around the world, and the pathways through which change is likely to occur. We have attempted to examine the various pathways through which certification is impacting farmer livelihood assets and to appraise our current understanding of these pathways. Overall, there were certainly more positive than negative impacts, although the studies were not as conclusive as might be expected, and the number of studies with neutral or mixed impacts was the greatest (refer to Appendix B for the quantitative breakdown of reported impacts upon the five livelihood capitals).

From the available body of evidence, we suggest the following propositions for understanding how certification affects each type of livelihood capital:

- Human capital, particularly agronomic knowledge, farm management, and health and safety measures, is frequently improved through the provision of training associated with

certification. Our posited pathway of a positive correlation between certification and education also has some support in the literature, but causation is difficult to establish.

- Social capital is frequently enhanced in terms of the strengthening of producer organizations as a direct result of certification, and it is assumed that this generates various benefits for individual members. However, the tendency for certification to be adopted by relatively better-resourced households within a community, who also assume leadership positions within organisations, suggests a link to rising inequality that may have both gendered and structural (in relation to labour) dimensions.
- Physical capital is being improved upon by farmer groups willing to invest certification premiums or additional income earned towards coffee-processing equipment, and by direct supports from buyers. However, the ability of certification schemes to facilitate larger investments in public infrastructure is limited, and a more realistic assessment of this impact pathway is necessary.
- The adoption of good agricultural practices following certification-related training is improving natural capital (especially soil and water resources) on a farm scale, and awareness of environmental problems is increased. Greater cooperation with local governments and NGOs is required, however, for landscape-level impacts (such as reduced deforestation) to be achieved.
- The impacts on the financial capital of producers are the most contested in the literature. However, it appears that any benefits are less likely to be a result of marginal price premiums than to other factors, such as improved yields, increased resilience, and enhanced access to credit.

Furthermore, impact assessment studies need to consider the unintended consequences of programmes, especially in relation to farm profitability, altered social institutions, and the reproduction of structural inequalities.

Positive impacts of certification are rarely attributable to certification alone, but operate in conjunction with other local factors, particularly education and skills levels, but also market structures, local infrastructure, and administrative capabilities. Thus, a consistent theme in the studies is the importance of contextual setting, particularly the role of coffee cooperatives and existing government institutions. For example, the experience of certification in Colombia appeared to be mostly positive, reflecting the particularly strong institutional supports in that country (Rueda & Lambin 2013; Rueda et al. 2015; Vellema et al. 2015). Certification schemes are not

introduced upon a blank canvas. They overlay complex sets of social, economic, cultural, and political institutions, and the varied impacts reported in the literature primarily reflect these pre-existing institutional settings. It is the interaction between these settings and certification schemes that determine impacts upon individual households that may result in benefits in some communities and negative impacts elsewhere. It will also determine which households and individuals within a community benefit and which are excluded. These interactions require more systematic assessment in the literature.

These institutional settings should also be extended to the value chain structures through which certification programmes are implemented as a pivotal determinant of outcomes at the producer level, especially when certification is implemented as part of a broader corporate sustainability programme by lead firms. Coffee is traded along a global value chain governed by major coffee roasters as lead firms (Ponte 2002), such that the strategies enacted by these firms significantly affect producers, even when acting at a distance through trading companies. Understanding the interaction between these strategies and certification schemes requires greater attention. Benefits at the producer level are as much a result of how a particular lead firm within a value chain commits to certification as they are inherent to the certification programme itself.

Reflecting upon the impact pathways reported in the literature against expectations set out in the theory of change documents, the literature reported far less on the impact from farmer training than would otherwise have been expected. Social capital, particularly the strength and relationships of producer organisations was likely to increase as a result of certification, but subsequent impacts on gender and labour were generally neglected. The relationship between certification and higher farm-gate prices or reduced risk/increased resilience is overly simplified in the theories of change. Studies have found positive price and resilience impacts arising from certification, but there are often several other contributing factors, not least of which is global markets. The analysis presented here has begun to unpack and develop a more precise understanding of the causal linkages between sustainability programmes, impact pathways, and outcomes. In doing so, our review has led us to question some of the underlying assumptions articulated in the theory of change documents, and suggests a more realistic appraisal of the scope of livelihood impacts that can be expected through the certification programmes in coffee-growing communities.

Across the studies, it can be surmised that certification is generally more likely to generate positive rather than negative impacts, although the large number of neutral/mixed findings suggests that a

considerable degree of uncertainty persists. Our propositions aside, the research to date certainly does not provide an overwhelming endorsement of certification schemes and their impact on producer livelihoods.

There is a need for future research to both consolidate and extend our knowledge base. In furthering this agenda, additional research is required in Asia (e.g. in Vietnam and Indonesia) and extending the temporal scale of studies to ascertain the longer term impacts of certification would be helpful. It is suggested that future empirical case studies could productively build upon the livelihood framework presented by Chambers and Conway (1991) and Scoones (1998), which would necessitate moving the scope of analyses beyond the current focus on direct financial benefits to a broader range of potential outcomes. As shown in Appendix C, there is a preponderance of studies on Fair trade and organic, with the latter subject to more negative findings, while there is a need to address the considerably fewer studies of Rainforest Alliance and UTZ, which actually have a far greater reach.

Notes

1. Nelson and Pound (2009) was commissioned by the Fair trade Foundation; Blackmore and Keeley (2012) was funded by the Ford Foundation; KPMG (2013) was commissioned by SUSTAINEO; and UTZ Certified (2014) was self-funded.
2. IFOAM's theory of change for organic certification was in draft format only at the time of writing.
3. We used the following search terms in academic databases: coffee, certification; impacts; benefits; producer; farmer; smallholder; 4C Association; Fair trade; UTZ; Rainforest Alliance; CAFÉ practices; Nescafe AAA; livelihoods; revenue; poverty; sustainability; gender; and sustainable agriculture.
4. Blackman and Rivera (2011, p1177) define a 'counterfactual outcome' as 'an estimate of the certified producers' outcomes had they not been certified'.

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Appendix A Summary of the 51 case studies examined in this review, listed chronologically

Author	Region/country	Intervention	Methods	Rigour in linking cause to effect ^a	Livelihood capital focus	Impact (positive/negative/mixed) ^b
Gobbi 2000	El Salvador	"Biodiversity friendly"	Quantitative: benefit – cost analysis	No	Human	Positive
Lyngbaek et al. 2001	Costa Rica	Organic	Quantitative: semi-structured interviews and data review	Yes	Natural	Positive
Raynolds et al. 2004	Mexico, Guatemala, El Salvador	Fair trade	Qualitative: review of available data	No	Financial	Positive
Bacon 2005	Nicaragua	Fair trade, organic	Quantitative: structured interviews	Yes (weak)	Human	Neutral/mixed
Parrish et al. 2005	Tanzania	Fair trade, technoserve	Qualitative: household and group interviews, secondary quantitative data, key informant interviews and observation	No	Social	Neutral/mixed
Tovar et al. 2005	Mexico	Organic	Mixed quantitative and qualitative through interviews	No	Financial	Neutral/mixed
Utting-Chamorro 2005	Nicaragua	Fair trade	Qualitative: survey and participatory research methods	No	Social	Negative
Kilian et al. 2006	Central America	Organic, fair trade	Quantitative: analysis of results from interviews and surveys	Yes	Human	Neutral/mixed
Philpott et al. 2007	Mexico	Organic, fair trade	Quantitative: interviews and <i>in situ</i> field surveys	Yes (weak)	Natural	Neutral/mixed
Wollni and Zeller 2007	Costa Rica	Unspecified	Quantitative analysis using two stage model based on data collected from interviews	Yes (weak)	Financial	Neutral/mixed
Bacon et al. 2008	Nicaragua	Fair trade	Participatory research, including <i>in situ</i> interviews	Yes (weak)	Human	Positive
Sick 2008	Costa Rica	Fair trade	Quantitative: formal/semi-formal interviews and perception survey	No	Social	Neutral/mixed
Arnould et al. 2009	Nicaragua, Peru and Guatemala	Nescafe AAA	Quantitative: analysis of random sample of certified /non-certified farmers in each country, analysed with ANOVA	Yes	Financial	Neutral/mixed
Bolwig et al. 2009	Uganda	Organic	Quantitative: two stage random sampling of certified and non-certified producers, analysed with OLS regression and FIML estimates	Yes	Human	Negative
Ruben et al. 2009	Peru and Costa Rica	Fair trade	Quantitative: analysis with PSM	Yes	Natural	Positive
Utting 2009	Nicaragua	Fair trade	Quantitative and qualitative: assessment through open, structured, semi-structured, a focus group interviews	Yes	Financial	Positive

(Continued)

Appendix A (Continued).

Author	Region/country	Intervention	Methods	Rigour in linking cause to effect ^a	Livelihood capital focus	Impact (positive/negative/mixed) ^b
Valkila 2009 Lyon et al. 2010	Nicaragua Central America	Fair trade Fair trade and Organic	Qualitative: analysis of semi structured interviews Quantitative: ethnographic survey and archival data statistically compared	Yes (weak) No	Financial Social Financial Human	Neutral/mixed Neutral/mixed Neutral/mixed Neutral/mixed
Mendez et al. 2010	Central America	Fair trade and organic	Quantitative: field survey data analysed by Kruskal-Wallis and Mann-Whitney non-parametric tests	Yes (weak)		
Valkila and Nygren 2010	Nicaragua	Fair trade	Quantitative and qualitative: survey data was collected and analysed	No	Social Financial Social	Neutral/mixed Neutral/mixed Positive
Wilson 2010 Barham and Weber 2012	Nicaragua Mexico	Fair trade Fair trade and organic	Qualitative: key interviews with coded textual analysis Qualitative and quantitative: analysis of survey data and cooperative records	No No	Human Financial Financial Financial	Positive Positive Neutral/mixed Positive
Beuchelt and Zeller 2011	Nicaragua	Organic and fair trade	Quantitative: household data combine with qualitative interview data	Yes	Financial	Negative
Ruben and Zuniga 2011	Nicaragua	Fair trade, Rainforest Alliance, C.A.F.E. practices	Quantitative: cross-sectional impact assessment based on survey data from households using PSM.	Yes	Social	Positive
Weber 2011	Mexico	Fair trade, organic	Quantitative: impact assessment at household level, based on survey data from households	No	Financial Financial	Positive Neutral/mixed
Barham and Weber 2012	Mexico and Peru	Fair trade, organic, Rainforest Alliance	Quantitative: analysis of random stratified sample of households and cooperative records/household survey data	No	Natural	Neutral/mixed
Blackman and Naranjo 2012	Costa Rica	Organic	Quantitative: PSM analysis based on national census of coffee growers and use of GIS data	Yes	Financial Natural	Neutral/mixed Neutral/mixed
Elder et al. 2012	Rwanda	Fair trade	Qualitative: analysis of open-ended and semi-structured interview data collected from randomly sampled farmers	Yes	Financial Social	Negative Neutral/mixed
Gitter et al. 2012	Mexico	Fair trade	Qualitative: analysis of survey collected from random stratified groups of certified and non-certified farmers	Yes (weak)	Human	Positive
Jena et al. 2012	Ethiopia	Fair trade, organic	Quantitative and qualitative: structured and semi-structured interviews and cooperative data, with PSM and OLS regression analysis	Yes	Social Human	Positive Neutral/mixed
Kasente 2012 Ruben and Fort 2012	Uganda Peru	Fair trade, organic Fair trade	Qualitative: focus groups and interviews Quantitative: PSM assessment	No Yes	Financial Social Human Natural	Neutral/mixed Neutral/mixed Neutral/mixed Neutral/mixed
Rueda and Lambin 2013	Colombia	Rainforest Alliance	Quantitative and qualitative: Pair-matched household survey and key information interviews	Yes (weak)	Financial Human	Neutral/mixed Positive
Smith 2013	Global	Fair trade	Qualitative: meta-analysis of 20 case studies	No	Natural Physical Financial Human Social	Positive Positive Positive Positive Neutral/mixed

(Continued)

Appendix A (Continued).

Author	Region/country	Intervention	Methods	Rigour in linking cause to effect ^a	Livelihood capital focus	Impact (positive/negative/mixed) ^b
Takahashi and Todo 2013	Ethiopia	Rainforest Alliance	Quantitative: PSM analysis and estimations across historical GIS data	Yes	Human	Positive
El Ouamari and Cochet 2014	Ethiopia	UTZ, fair trade, organic	Qualitative: evaluation through semi structured interviews	Yes	Natural Social	Positive Negative
Pinto et al. 2014	Brazil	Rainforest Alliance	Quantitative: analysis of historical SAN-RA data in Brazil	No	Financial Human Natural	Negative Neutral/mixed Neutral/mixed
Vaikila 2014	Nicaragua	Fair trade	Qualitative: analysis of semi-structured in situ interviews	No	Financial Social	Neutral/mixed Neutral/mixed
Chiputwa et al. 2015	Uganda	Organic, fair trade, UTZ	Quantitative: structured household survey data with PSM analysis and ATT analysis	Yes	Human Physical Financial	Positive Positive Positive
Haggar et al. 2015	Central America	Organic	Quantitative: analysis of biodiversity with ANOVA	Yes	Financial Natural	Positive Positive
Ibnu et al. 2015	Indonesia	Rainforest Alliance, 4C, UTZ, Inofice	Quantitative: conjoint analysis of survey data	Yes Yes (weak)	Natural	Positive Positive
Rijsbergen et al. 2015	Kenya	Fair trade, UTZ	Qualitative and quantitative: PSM analysis based on surveys	Yes	Financial Social	Positive Neutral/mixed
Rueda et al. 2015	Colombia	Rainforest Alliance	Quantitative: analysis of landsat imagery	Yes	Financial Natural	Neutral/mixed Positive
Vellema et al. 2015	Colombia	CAFE practices Nespresso AAA	Quantitative: regression analysis of formal, structural questionnaire	No	Financial	Positive Negative
Bose et al. 2016	India	Rainforest Alliance	Qualitative: semi-structured and open-ended interviews	Yes (weak)	Human Natural	Positive Negative
Chiputwa and Qaim 2016	Uganda	Organic, fair trade, UTZ	Quantitative: regression analysis of survey data	Yes	Financial Human	Positive Positive
Ibanez and Blackman 2016	Colombia	Organic	Quantitative: PSM of formal survey	Yes	Social Financial Natural	Positive Positive Positive
Jurjonas et al. 2016	Mexico	Organic	Quantitative: use of satellite imagery complemented with key interviews	Yes	Financial Natural	Neutral/mixed Neutral/mixed
Karki et al. 2016	India	Fair trade	Quantitative: regression analysis of survey data	Yes (weak)	Financial Social	Neutral/mixed Neutral/mixed
Jena et al. 2017	Nicaragua	Organic, fair trade	Quantitative: regression analysis of survey data	Yes	Financial Financial	Neutral/mixed Positive
Takahashi and Todo 2017	Ethiopia	Rainforest Alliance	Quantitative: PSM analysis across historical GIS data	Yes	Natural	Positive

^aNo', 'Yes', and 'Yes (weak)' are derived from Blackman and Rivera (2011), who use the terms 'rigorous: Quantitative, credible counterfactual', 'Moderately rigorous: quantitative, no credible counterfactual' and 'Qualitative: no credible counterfactual'.

^bImpact refers to how the authors have assessed the net impact of certification, including the wider implications for society where this has been considered. We have developed a traffic light system, as follows:

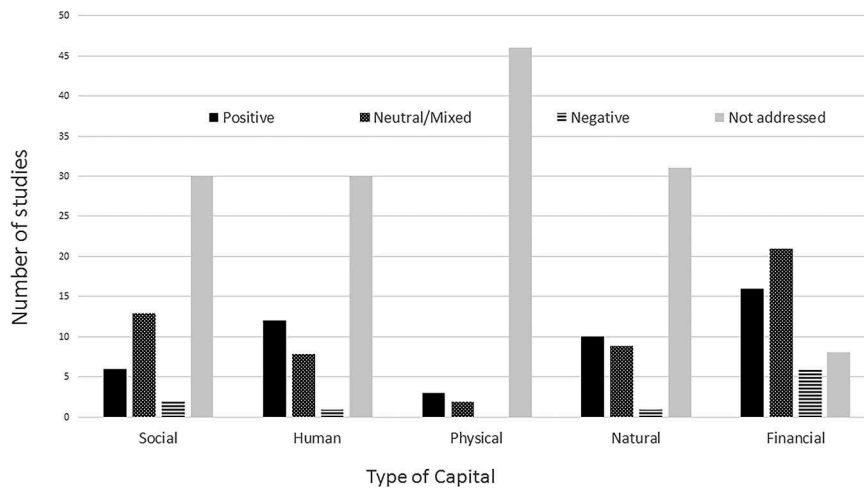
a. Positive impact implies the article presents a mostly positive impression of the net impact of certification;

b. Negative impact implies the article presents a mostly negative impression of the net impact of certification; and

Neutral/mixed impact refers to an article that considers certification to have no significant impact (positive or negative), or a generally positive impact on specific areas that may be offset by limited or negative impact in other areas.

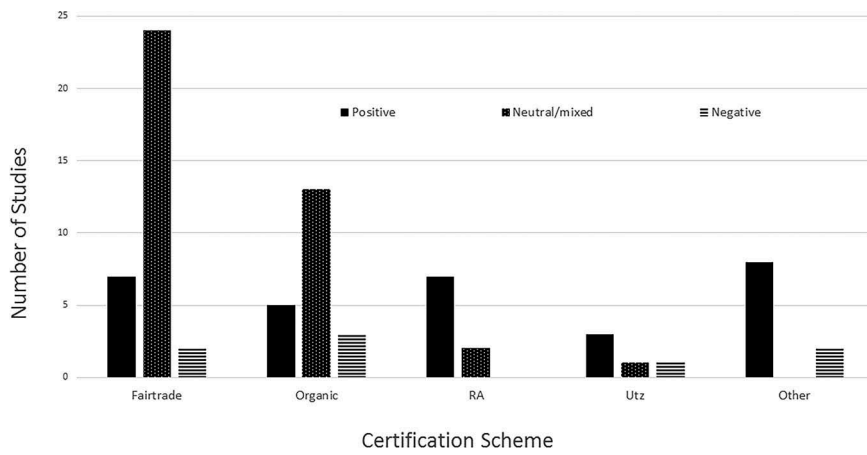
Appendix B

Reported impacts of certification on smallholders from the 51 studies (by livelihood capital).



Appendix C

Reported impacts of certification on smallholders from the 51 studies (by certification type).



3. METHODOLOGY

Arnardo: "How has thus purchased this experience?"

Moth: "By my penny of observation."

- Shakespeare, Love's Labour's Lost.

"The modern observations deprive all former writers of any authority, since if they had seen what we see, they would have judged as we judge".

- Galileo

3.1 Introduction

This chapter provides an overview of methodology and materials used to generate data to answer the research questions. For the evaluation of the impact of voluntary standards on the livelihoods of coffee producers, there are an increasing number of peer-reviewed studies that rely almost exclusively on the collection of quantitative survey data, which aims to collect an objective snapshot of a particular area. However, this study has eschewed this growing trend by spending an extended period of time in one area (southern Sumatra), and conducting two separate studies across the study area over an extended period (9 months). The first is a series of village-based case studies, consisting of participant observation, key informant interview and group interviews, and the second is a perceptions survey. The case study methodology aims to collect representative data to examine the impact of coffee certification in Sumatra on the livelihoods of coffee farmers and their communities, through the sustainable livelihoods framework. The perceptions survey takes a deliberately subjective view of the perception of certification in the eyes of enrolled producers, and is complemented by data collected in the case studies.

The collection of this data allows the interrogation and explanation of realities for producers and their communities, as well as an understanding of the extent to which, and manner in which, the 4C theory of change is playing out in reality from a local perspective.

This Chapter presents the fieldwork design, including village selection and timing, and the details of the case studies and participation survey. I then discuss my positionality and both the inherent and adjusted biases I have brought into my research, and steps I have taken to address this. I then discuss

the data processing completed following the fieldwork, including transcription and data analysis, including coding. The Chapter concludes with a note on the ethical considerations of the fieldwork component of this project.

3.2 Study Design

3.2.1 Selecting Case Study Villages and Participants

Taking into consideration the comments of Cramer et al. (2014) to avoid arbitrary or ad hoc sample site selection, selection of each study village was conducted after opening a dialogue with the major coffee exporters in Bandar Lampung, which helped establish an entry point into coffee-producing communities.

Given the study's aim to undertake highly localised, village-specific case studies, yet maintain representativeness of coffee-production in southern Sumatra, I decided to undertake three case studies across three villages in southern Sumatra. Three districts were identified as being suitable for the study, namely Muara Enim (South Sumatra province), Lampung Barat (Lampung province) and Tanggamus (Lampung province) because of their large coffee production and the use of the Common Code for the Coffee Community (4C) by the exporters in each of these districts. Within each district, one representative village (hereafter referred to as study village A, study village B and study village C) was selected. Chapter 4 deals exclusively with study village A, which is assigned the pseudonym, *Bukit Subur*. Representativeness was determined in each village based on the following features: dominance by smallholders (individual farmers owning less than 2 ha land); a mixed livelihood among producers, but a reliance on coffee for a significant portion of income; and the presence of active VSS programs administered by private industry in each village. Representatives of Exporter A and Exporter B, who showed the most interest in my research, were consulted regularly during the village selection stage to ensure representativeness, presence of 4C-enrolled producers and active presence of training associated with 4C. To this end, Exporter A is active in study village A and study village B, while Exporter B is active in the district of study village B and in study village C.

When undertaking the case studies, an attempt was made to gain an increased appreciation of local development trajectories, the main economic drivers and the specific importance of coffee and certification within the village. Village selection was confirmed by meeting with the village head of each village and seeking formal approval to undertake the study. The formal approvals are presented in Appendix A (Approvals).

3.2.2 Timing

The fieldwork for the research was completed over two periods totalling six months between June 2015 and February 2017. With the exception of brief sampling periods in November 2016 and February 2017, all fieldwork was completed during the coffee harvest season, which occurs at slightly different times in each village. In study village A, harvest season occurs between May and July, while in study village B, harvest season occurs between June and August. In study village C, harvest season also starts in June, but extends into September. In sum, I spent 46 days living in study village A in June 2015 and June 2016, 30 days in study village B in July/August 2017 and 39 days in study village C in August/September 2016.

3.3 Case study approach

My methodology considered methods used in a three-week trial period during June 2015 fieldwork in study village A. For this fieldwork, I was accompanied by one honours student from Universitas Lampung and Sydney University respectively, both of whom had dual language proficiency (Bahasa Indonesia and English). For the remaining fieldwork in study village A and for all fieldwork in study village B, I was accompanied by one honours student from Universitas Lampung. By the time of fieldwork in study village C, my own language proficiency allowed me to work alone.

The trial field study included attendance at farmer organisation meetings, which were used to develop a farmer-centric view of sustainability programs, coffee-based livelihoods and poverty alleviation pathways. Regular visits to local markets were undertaken, allowing a greater understanding of the significance of coffee to both buyers and sellers. A review of the trial field work in 2015 highlighted an over-reliance on semi-formal interviews, which were usually undertaken within the household of the respondent. This led to a greater focus on participative research, to better understand daily life within each village and to continue developing a first-hand of perspectives of the rural poor in each village.

Cramer et al. (2014) note that pursuit of a “control” group is not essential in participative research. However, an ability to tease out complexity and flux within rural populations *is*. My specific methods to collect representative data of this “complexity and flux” were participatory observation, key stakeholder interviews, group interviews and surveys, each of which are discussed in the following sub-sections. Specifically, participant observation was chosen as the primary research method, complemented by key informant interviews, group interviews and a perspective survey. The latter was completed with the assistance of enumerators from Universitas Lampung.

3.3.1 Participatory Observation

Researchers in foreign countries are faced with the challenge of being viewed as an outsider. Responses to both survey questions and less formal interview techniques may be influenced by the presence of a foreigner or outsider, particularly where power inequities between the researcher and participant lead to structural relationships of power that hamper the collection of representative data (Gaventa & Cornwall 2008). This concern was expressed by coffee company extension officers advising, “Be careful, as the farmers will give you the answers they think you want to hear...” To overcome this challenge, a methodology is required that facilitates understanding of social issues in depth and detail (Patton 2002). One suitable method is “participatory observation”, which requires researchers to build rapport and trust with respondents at a level deeper than that achieved through interviews, while also understanding how people think in response to certain situations. In the words of Charmaz (2006, p14), “Seeing research participants’ lives from the inside often gives a researcher otherwise unobtainable views.” This is particularly useful in areas where cultural conditions are changing, social conditions are changing or economic conditions are changing. In addition, it provided the opportunity to avoid what Daviron & Ponte (2005, p199) call, “*a not-so-appealing situation in which a whole army of people with clipboards will come to bother farmers!*”

Participant observation consists of recording observable human experience. This includes activities, behaviours, actions, conversations, interpersonal interactions, and organisational/community processes (Patton 2002). It is more thorough in its information collection than open ended or informal interviews in that it places the researchers directly into contact with the complexities of a society (Patton 2002). Reid & Frisby (2008) call for consideration of sources of conflict and power imbalances present during participant research, which may also be present in the day to day lives of the participants. Thus, participant research is often completed first hand by researchers who immerse themselves in the study community over extensive periods.

From Chambers (2008), participant observation is useful in answering questions such as:

- Who participates (and who doesn’t participate) in a given activity?
- Who controls participation?
- Who gains and who loses from participation?

Participant observation helps understand how social structures or practices may be perceived locally (Kemmis 2008). It enables all relevant information and explanations for courses of action to be discussed from local perspectives and in the participant’s language, enabling greater understanding of decisions and effects at a local level. Theoretically, this allows researchers to more easily translate ideas and meaning from local language to a more widely understood one (e.g. in academic

publications), thereby reducing the likelihood that decisions will be considered irrational or inhumane from outside perspectives (Kemmis 2008). In addition, researchers, who typically enter the field with professional levels of knowledge, are less able to reproduce intellectual advantage (if any), and instead empower local people to express knowledge in their own manner (Gaventa & Cornwall 2008). The research method has greater flexibility towards community attitudes that allow participants to share insights about decisions made in the face of changes to a particular part of daily life. This provides partial solutions to problems related to siloing and elitism, which may have prevented representative data collection of the poorest members of society. Simultaneously, the inherent knowledge of farmers regarding their livelihoods is acknowledged, and the research explores the extent to which structural and ingrained power imbalances are present and influencing villagers' lives across the three studies. These problems are further discussed in Section 2.4 (Positionality).

While some cases of covert participant observation have been undertaken (e.g. crime and drug research), there was little point or need in attempting any participant observation in South Sumatra and Lampung without full disclosure on the parts of researchers, given my unique (and conspicuous!) identity within each village. Therefore an overt participatory role was undertaken. Following liaison with local Coffee exporter A or Coffee exporter B staff, the first person to be contacted within each village was the Kepala Desa ("village head"). The Kepala Desa of each village facilitated administrative approval of my stay, including assistance in the provision of accommodation. Prominent voices from village elites may disguise or minimise areas of difference in a community (Gaventa & Cornwall 2008), but on no occasion did I stay with the Kepala Desa himself, which reduced inherent risks of "elite capture". That is, I was able to investigate the points of view of the poorer members of society. In study village A, I stayed with the parents of the Kepala Desa. In study village B I split my stays between a simple guesthouse and the home of a local farmer, while in study village C, I stayed with a local trader. These accommodation settings facilitated a deeper understanding of daily life in each village through informal talks "around the kitchen table".

Where possible, the information collected during the case studies was supplemented by standard village data from the office of the Kepala Desa in each village. This data included basic information about population, demographics, education levels, professions, employment and housing conditions. In study village C this was not possible, as the Kepala Desa was unwilling to part with data he described as "unverified". Of course, there remains general scepticism among researchers (and perhaps government officials themselves) as to the veracity of any information collected at a local level in rural regions of developing countries, but with no alternatives, I intend to be mindful of this scepticism when employing the data to support claims.

Other studies on the impact of coffee certification on producing communities have expressed some difficulty in overcoming self-selection bias. For example, coffee grower participants in the Arnould et al. (2009) survey self-selected, given their status as “certified” and their presence at the right time in the right place in the company of the researchers. However, participatory research can overcome this by attempting to gain a more rounded, holistic assessment of the village. Thus the research was able to include farmers who could not access certification and explores the barriers to poverty alleviation within the village.

On a practical level, participant observation was carried out in one village at a time. A working day typically started at 8am and finished at 6pm. The morning would usually start with a pre-planned activity, such as a farm visit or farmer group meeting, while lunch was usually taken at a local shop. Afternoon activities were often subject to weather and as a result the afternoon was usually spent within the township. I participated in both formal activities and unorganised, spontaneous activities. Examples of spontaneous activities included simply sitting in a shop at a busy intersection in study village A, or sitting at a prominent trading desk in study village B or frequently walking through the same parts of village C at different times of day throughout the study period. This allowed for a high frequency of informal conversations with community members about their current activity, what the result of their activity would be and what drove them to do the activity. Naturally, other topics or information uncovered in previous interactions was discussed as an opportunity for triangulation.

Frequent visits to farms comprised a major portion of the fieldwork, and included participation in farming activities, such as basic harvesting or tree management (e.g. pruning). Leisure and sporting activities also constituted a useful part of my fieldwork. Badminton and volleyball are popular sports played across Indonesia and attendance at local volleyball and badminton games was beneficial for fitting in with a community and understanding their perspective.

More formal activities included attendance at community or farmer group meetings in each village. Other events were particular to a given village due to timing of research. For example, I attended Ramadan prayer events in study village A, Independence Day marches in study village B, and a local election in study village C. I also attended formal sub-district-level government meetings, political meetings and flag-raising ceremonies.

Transport to farms and other points of interest was usually via “ojek” (motorbike’s available for hire with a driver). Ojek work is popular among farmers as it offers a valuable source of casual, off-farm employment. The consistent use of one ojek over consecutive days was a strategy I frequently employed to gain an extra insight into the labour pool in each village, and how farmers make use of their time when not engaged in on-farm work. Suggestion of places to visit or who to interview

frequently came from ojek drivers, and thus was a useful method of creating social networks across a village for the benefit of my research without relying on village heads or prominent traders to establish communication networks.

Even so, one problem of the research was deciding who to follow. While the research period was sufficient to collect in-depth information about village dynamics, there was inevitably tension between ensuring an accurate representation of the village, and ensuring a depth and quality of information on certain subjects. For example, a half-day working on a coffee farm would usually be spent with one person only, whereas spending the afternoon at a trading desk or market would involve a far higher number of interactions with a variety of people. This also means that the type of participant observation was dependent on different settings. For example, I was able to participate in basic farming practices, but I was unable to bargain and trade commodities at a market, or be actively involved in a farmers meeting.

Finally, frequent interactions with similar people over the course of the study has been utilised to form profiles of certain key informants. This information was not simply developed through key informant interviews (discussed below) but also through carefully following their daily patterns of work. These individuals included farmers, traders, government employees and local business owners. An attempt was made to make the key informant profiles gender balanced and I also attempted to establish brief life histories of the participants.

3.3.2 Key Informant Interviews

Key informants are those who can provide accurate or useful information about a community or particular issue of concern. They are generally considered useful given their detailed knowledge of a relevant subject *and* their ability to articulate their knowledge (Patton 2002). The key informant interviews were semi-formal and open ended, without a predefined set of questions or structure. This enabled me to capture an informant's point of view about a wide range of topics within the life of the respondent. Referencing the five types of livelihood capital (i.e. human, social, physical, natural and financial), the interviews aimed to establish broad perceptions of rural change, livelihoods, poverty, aspirations and the role of coffee for the relevant community.

Following permission to conduct the interview, key informant interviews commenced with general conversation about immediately identifiable or relatable village-based topics, with open-ended and intermediate questions inserted into the conversation as appropriate. Discussion topics were general in nature, but I attempted to ensure the discussion encompassed the impact of voluntary standards to both the livelihood of the interviewee and the perception of the broader impact on the community,

but also sought to triangulate information received either during participant observation or during other interviews.

While farmers who acted as key informants were by and large opportunistically sampled, key informants were purposively sampled to include village leaders, such as village and local district heads of government, health workers, school teachers, agronomists/government extension agents, representatives of local NGOs, private business owners, company representatives, traders, farm labourers and of course, the heads of farmer co-operatives. Following the recommendations of Mason (2002), these purposively identified informants had first-hand experiences and perspectives on the roll-out of coffee certification or the areas certification sought to influence (e.g. healthcare and education). Recruitment of these informants took place during either formal introductions, direct approaches following coincidental meetings, or through requests issued via relevant coffee cooperatives. The strategic selection of informants could also act as a gateway to the rest of the study population and contributed to building trust with the population. Other semi-structured interviews were used to triangulate views expressed by key informants.

From Bryman (2012) an important aspect of qualitative research is asking questions that require interviewees to think about the past and convey how things have changed. In this research, reconstruction of village dynamic leading up to the introduction of certification is important in understanding the changes engendered by certification and voluntary standards. (Bryman 2012) notes this process of reconstruction is one area that participative research cannot achieve in isolation. Thus, one objective of the key informant interviews was to firstly establish the historical and institutional reality of coffee certification roll-outs within each village. This was because of the many varied interpretations of the presence and roll-out of certification in the villages. Such an approach also promotes a holistic approach to the impact of certification on the study populations.

While each interview added value to the research process, the Kepala Desa was a particularly important informant for two reasons. The first is the Kepala Desa has an important administrative role within local government across Indonesia and was usually aware of the precise terms on which coffee companies operated within the respective village. He (the Kepala Desa in each study village was male) has the responsibility of representing his village to higher levels of government, and for that reason, *should* be acutely aware of the daily issues facing villagers. The Kepala Desa has access to local data, including those who receive food and income support and the general socio-economic conditions of the village. Therefore the Kepala Desa was usually uniquely positioned to offer an insight into the issues villagers feel compelled to demand representation on.

The second reason is the information the Kepala Desa provided pathways for subsequent interviews. The Kepala Desa usually had access to a list of villager names and locations, which was useful for seeking certain individuals both for the key informant interviews and the subsequent perceptions survey (see below). While it is true the Kepala Desa may have projected bias in terms of recommending people to speak to, with potential preference given to wealthier or better connected farmers, a number of steps were taken to address potential “elite bias” and these are discussed in Section 2.4 (Positionality). Of note, the participatory observation and key informant interviews had to be able to account for the perspectives of the Desa labour, or those who do the most manual work, as these are usually the poorest members of a community. With these people included in the data, a conceptual idea of the extent of inequality within the village was established.

As reported by Bryman (2012) one critical part of the semi-structured interviews was judging body language. It is readily apparent when participants begin to lose patience during semi-structured interviews and this was usually between 40 and 60 minutes into an interview. As a result, interviews rarely proceeded beyond 60 minutes. It was noted that where the participant was encouraged to continue talking about subjects that were directly relevant or impacting his/her life, they were likely to be more enthusiastic about ongoing participation in the interview.

Leading questions were not completely avoidable when attempting to direct the conversation to certification. In the June/July 2015 fieldwork program, it was noted that respondents may, through politeness, seek to agree with an interviewer's propositions, only to contradict themselves moments later. Thus, these responses could be used as triggers to recognise that a leading question had been asked, or that a respondent simply did not know much about the topic. Ways to avoid leading questions included keeping questions vague, asking open-ended questions and asking for more information from a respondent instead of asking another question. Nevertheless, the low penetration of knowledge regarding certification in some villages meant that occasionally, some explanation or detail would have to be given about a subject where a response and opinion from the respondent was expected!

A total of 248 key informant interviews were undertaken as part of the research. This included 97 farmers, 18 heads of farmer groups, 15 agronomists, 22 coffee traders, 40 other local business owners, 23 government employees (including teachers, police and bureaucrats), 12 heads of villages (or their staff), 7 health professionals, 6 roasters, 6 representatives of coffee companies in Bandar Lampung, 1 shaman (traditional healer) and 1 NGO representative. This included 65 women, a small number that is indicative of the gender imbalance among farmers, agronomists, public servants and traders, and

the general deference of women to their husbands (particularly in study village A) in the instance an interview was carried out with husband and wife present.

3.3.3 Group Interviews

The ability of group interviews to target a specific theme is their main benefit (Bryman 2012). The group interview examines how a group of people will present a given issue, particularly causes and effects of an intervention. It does not require very much input from a moderator, thus complementing the participatory observation research detailed previously. Furthermore, the group interviews allow other participants to directly reflect on their answers and the answers of others, and participants can subsequently modify their response, thereby developing a more nuanced and complete personal view. From Bryman (2012, p 503), *“These possibilities mean that focus groups may also be very helpful in the elicitation of a wide variety of different views in relation to a particular issue.”* Thus the dynamics of village politics and power can be uncovered in a relatively short time frame, in a reasonably passive manner.

Group interviews were not formally planned, but instead were opportunistic. Several group interviews were undertaken during farmer group meetings, but also casually with groups of men or women on the street-side. Groups would also form spontaneously, as many people were attracted to my presence as an outsider. Often I would be interviewing one person who would be promptly joined by friends or neighbours, who were eager to listen to, then join and participate in the conversation. For example, where an interview might start with a wife inside a household, her husband, siblings or parents (in-law) would join in as appropriate. In an interview with a more public setting, passers-by or neighbours may be interested in the conversation and stop to add their opinion to the matter being discussed. For example, where an interview might start with a wife waiting for a vegetable trader to pass, other women would join in the conversation as they also waited. These "public" interviews were particularly insightful for understanding the village dynamics beyond coffee production. Where on-farm interviews with farmers, or farmer groups, would be dominated by the technical aspects of coffee production, off-farm, generalised discussions alluded to other sources of incomes, village relationships and other concerns of villages. For example in Semendo, I came to understand the Tunggu Tubang cultural touchstone in these conversations. In btoh Lampung Barat and Tanggamus, these settings revealed the complexity of a household's relationship with local traders.

One relevant aspect of group interviews to this study is the control held by the moderator can be lost to a certain degree to the participants, as participants voice what is more important to them. During fieldwork, it was noticed that in farmer group interviews, one or two dominant voices, usually led by

the head of the farmer group, would dominate the conversation, and so the expected dynamics of a group interview would not eventuate. This reflects the strong respect for authority among the group interview participants. Casual group interviews with women were quite common, and were generally better for canvassing opinion among multiple respondents. As a general note, women were more willing to keep a conversation going among themselves, which assisted the group interview format.

For the informal interviews and group interview, a Survey Information Sheet (SIS) was developed and presented to key informant participants (presented in Appendix B). The SIS required field researchers to commence each discussion by introducing themselves and their purpose, including the broad goal of the project. This information also formed a natural part of the participatory research dialogue. For all discussions, participants were assured as necessary that the data collected would be treated confidentially and anonymity would be preserved. Where possible, participants were encouraged to provide some background status, including their primary source of income, number of dependents, a brief description of their physical assets (e.g. size of farms, number of livestock etc) and other relevant information. At the conclusion of the semi-formal and group interviews, I explained very briefly what would happen to the data. A total of 45 group interviews were completed during fieldwork. Approximately half of these were with women only. While several group interviews were completed with women's farmer groups, many women complete house duties while their husbands are on farm. Thus, a congregation of women was an easy way to complete a group interview. Group interviews with men included farmer groups, employees at a mechanics, and couriers ("*ojeks*").

3.3.4 Perceptions Survey

A perceptions survey was also completed as part of the project. The perceptions survey differs from the village case studies because it specifically targeted farmers enrolled in 4C. This formal survey sought to elicit specific responses from farmers about their attitudes and perceptions towards the 4C program. It was deliberately not assessing impact as such, but subjective attitudes. The idea being to quantitatively understand the farmer experience of 4C. The majority of the questions were closed questions, which required either exact answers or the selection of one answer from a multiple choice or Likert scale.

The survey was given to 558 farmers who had been were enrolled in the 4C program for at least 18 months. Prospective respondents were identified with assistance from representatives of Exporter A, Exporter B and Exporter C. Data available from the coffee companies indicated the majority of certified farmers were also located in Tanggamus and Lampung Barat. Exporter A enrolls 1,100 farmers in Lampung Barat and over 2,000 in Semendo. Coffee exporter B enrolls 1,600 producers in Lampung Barat and 1,000 in Tanggamus. Exporter C has enrolled approximately 300 farmers in Tanggamus.

Other producers enrolled by Exporter c are present in Lampung Barat, but were not made available for this survey.

The companies provided lists of all enrolled farmers, allowing a random selection of farmers for participation in the survey. Villages with lower densities of enrolled farmers were removed prior to random selection, to ensure major producing regions were selected and for logistical efficiency. The farmers were randomised using simple random selection functions in Microsoft Excel, and the final list of farmers was distributed to the enumerators, so each enumerator was responsible for collecting data from discrete farmer groups. Table 1 presents the resulting breakdown of respondents according to their enrolled company and their location. Due to the influence of both place-specific characteristics and company approaches, the survey essentially covers five different study sites.

Table 1: Location and company association of survey participants

Location	Tanggamus	Lampung Barat	Muara Enim	Total
Company				
Coffee exporter A	-	96	202	298
Coffee exporter B	112	98	-	210
Coffee exporter C	50	-	-	50
Total	162	194	202	

I was responsible for designing the survey tool (Appendix D), obtaining consent and support from industry partners, designing the sampling process, organising a workshop to train a small team of eight enumerators, and then supervising survey activities. These activities were undertaken in partnership with senior academic staff from Universitas Lampung, who also supervised some of the field surveys. I undertook 18 of the field surveys myself. The surveys were completed over three weeks in October 2016 (Tanggamus), November 2016 (Lampung Barat) and February 2017 (Muara Enim). Enumerators were recruited from the *Universitas Lampung* agribusiness *skripsi* (honours) students. Prior to the execution of the survey, I carried out a pilot survey in Muara Enim with 42 participants, which identified problems with the draft survey tool, and assisted in refining the questions. Enumerators were directed by myself or a senior academic from *Universitas Lampung*.

All responses were entered and analysed in a Microsoft Excel spread sheet, then broken down by company and district, and are presented in Chapter 5 (Perception Survey).

3.4 Positionality

3.4.1 Insider or outsider?

As mentioned, livelihoods research is not expected to be completely objective, but instead seeks to understand a local, situated view (Scoones 2015). There is now a general consensus about the importance and influence of positionality on social science research, to the extent that “it is possible that the most crucial aspect of our thinking is the emotional orientation we bring to it” (Gibson-Graham, 2006, p29). Thus, this section will briefly reflect on my position as an outsider in the research, and the associated biases this position may have created. I will also address the extent to which these biases may have impacted the research, and steps taking to minimise this impact.

The grounded, narrative-focused and people-centred nature of livelihoods analysis has meant that livelihood researchers often favour qualitative methods (Scoones 1998; Vicol 2015). Qualitative research has become a more accepted research method as scepticism of supposed infallible objectivity within the social sciences has mounted against research proclaiming a singular truth, in favour of detailing “situated knowledge”, or the socio-economic and cultural circumstances which give rise to situated knowledge (Rose 1997). Rose (1997, p313) defines the purpose of situated knowledge as forging “...critical, situated understandings by thinking through difference and similarity.” In the words of Charmaz (2006, p15), “Qualitative research of all sorts relies on those who conduct it. We are not passive receptacles into which data are poured.”

Adler & Adler (1987) - quoted by Dwyer & Corbin (2009) - present three membership roles for qualitative researchers: peripheral member researchers (who participate in some core activities of a community), active member researchers (who become involved with core activities but don't commit themselves), and complete member researchers (who are already members of the study-community). As a white, western, non-Muslim male, who was frequently involved in the core activities of the community, but did not reside in any one village for more than six weeks at a time, I viewed myself as an “active member”.

During the early weeks of my fieldwork, I realised active and direct communication with community was the most straightforward means of understanding the socio-economic settings of the study villages. While several interviewees had proficiency in English, enabling interviews to be conducted in English, the vast majority of fieldwork was conducted in Bahasa Indonesia. To facilitate this, I undertook 150 hours of one-on-one language training through an internationally recognised language school over a period of three months (see Appendix C). My fluency and feel for conversation rapidly

developed thereafter. Nightly conversations with a host family, and careful learning of new or unfamiliar words and phrases with the help of a personal dictionary helped develop a degree of fluency, which improved as my fieldwork progressed. Although there may have been cultural or local nuances missed, I consider the risk of this to have decreased the longer I stayed in a community. While the presence of a student from Universitas Lampung in study village A and study village B may have helped break down cultural barriers, the reality is that particularly in study village A, which is the most insular of the three study villages, even my university student assistant was viewed as an outsider.

As a white Australian I was obviously considered an outsider at the start of my stay in each village. But because some experiences immediately begin to be shared between participant observers and the observed, some academics protest against the insider/outsider duality (Dwyer & Corbin 2009). Nevertheless, "Participants might be more willing to share their experiences [with trusted others] because there is an assumption of understanding and an assumption of shared distinctiveness" (Dwyer & Corbin 2009, p 58). There is little doubt the establishment of rapport and trust among a study population can increase the quality of data collected (Merriam et al. 2017) and I attempted to propagate trust from the outset of my stay in each village. Rather than conducting an arms-length survey, the data collection occurred through my personal engagement with, and immersion within, the subject communities. The data collection was dependent on empathy during both data collection and evaluation on my part in understanding the motives and perspectives of the study participants. Thus, I was careful to maintain and improve rapport and trust wherever possible in order to bring to light views that would otherwise not be shared (an idea supported by Gaventa & Cornwall (2008)).

One of the primary ways this occurred was through introduction to larger groups of people during routine town or farmer group meetings. The research areas are largely unaffected by international tourism and as such, the presence of foreigners is rare. Thus, my foreigner status was likely beneficial in negotiating access to figures of authority within the villages. The level of curiosity among villagers also smoothed the path to securing their time, whether that was simply chatting to them at a market place, or accompanying them to their farm. In order to build rapport at a local level, I participated in "*Gotong Royong*" (community activity) projects on the several occasions I was invited, including road & house construction and set-up for weddings.

Despite this, my status was questioned with predictable regularity. For example, during fieldwork in June/July 2015 in study village A, key informants consistently questioned (sometimes throughout the interview) whether I was a representative of Exporter A, as the company was associated with foreign and Christian influence (the assumption being that white foreigners were likely Christian). This was telling, as resulting enquiries indicated Exporter A had struggled to establish in the village because of

a scepticism among the universally Islam village. It is worth noting that given Exporter A both facilitated and justified my presence in the village as a researcher, carrying out research on the impact of their program on the village community, it is understandable that I was seen as a representative of the coffee company, rather than an independent researcher at a foreign university. While it is difficult to say whether I was treated differently as a result of perceived association with Exporter A, it nevertheless demonstrated that the impression I gave, even at the conclusion of my stay in the village, was of an outsider. However, after another research period at study village A in June 2016, my presence as a researcher was more familiar and by the time of a brief visit to the village in February 2017, many villagers recognised me as a foreign researcher.

This acceptance took different shapes in study villages B and C, where the communities were notably more accepting of outside influence. Given the large population of Javanese-ethnic group in study village B and study village C, the local language was Javanese. I found it easier to pick up words and simple phrases of Javanese than I did to pick up words and simple phrases of Semendo (the local language of study village A). While this may have been a function of timing (fluency of Indonesian increasing towards the end of my studies, thereby enabling easier understanding of rudimentary Javanese), there is no question that being able to greet someone in Javanese broke down some barriers. Perhaps for this reason, people in study village B and C were then more interested in what I was doing and the research itself.

Another way in which an appreciation of the study village populations was substantially different from me was our respective levels of education. The undertaking of a PhD is a rare occurrence for people in rural Indonesia and the extent to which this changed people's perception of me is unclear. However, while the consent process required I inform participants of my candidature, I was able to turn the topic of discussion to local, current issues, which were plainly relatable for the participants. Indeed, this was an effective way to get a conversation flowing; I attempted to begin semi-formal interviews on topics within the comfort zone of the participants (such as the days weather, progress of the harvest, or local government programs). The participants usually had first hand experience when it came to local socio-economic issues, and I was able to extract information from them accordingly.

Like many rural areas in Indonesia, the study villages are financially poor relative to the environment in which I grew up in urban Australia. However, while media reporting of Indonesia in Australia makes much of the cultural differences between the two countries, the reality is the human condition is fairly universal. The importance of familial relations and a desire for economic security are as strong in Indonesia as they are in Australia, if not stronger. On my part, it did not take much empathy or understanding to comprehend a farmer's desire to see the best for his children, or a

mother's mixed expressions of sadness and pride that their child now works in a far-away city. While there is some distinction between village elites and the rest of the community, at no time did I feel a socio-economic divide prevented me from talking with any members of society. Perhaps the only segment of society where interaction was somewhat strained was with some female members of society, which are discussed in the following section.

3.4.2 Reflecting on Gender Issues

Modern research into development studies is exploring gender dynamics with greater regularity. While the 4C theory of change is not particularly explicit with regards to gender, wider questions of distribution, access and voice can only be answered by considering gender dynamics at a local scale (Scoones, 2015). Because I am male, one important issue to consider is whether the participatory approach recorded sufficient representative data of women's opinion and perspectives in each study village. Again, the work completed in study village A and study village B was assisted in this aspect by the presence of a female student from the University of Lampung. In study villages B and C, the greater presence of women's farmer groups, including women's coffee farmer groups in study village C, made it easier to discuss the impact of 4C certification on the women of each village. However, there is a degree of conservatism in the rural societies of Indonesia and there was always a degree of hesitation and uncertainty on my part when talking with female members of the community.

The reality is that talking about rural livelihoods, poverty alleviation and coffee production are not particularly prying or intrusive topics from a gender point of view (at least from my perspective!). Therefore it is my expectation that my gender did not restrict or hamper the recording of representative data to a significant extent, including those related to gender dynamics.

3.4.3 Summary

It is recognised that no matter how delicate the intrusion, or how welcoming the community, participatory research of this kind is disruptive to some degree. However, the impact on the community by my field research is not expected to be lasting in any way. Despite this, it is worth reflecting on a common occurrence during fieldwork; participants asking me how this research could help them. While it is possible that this research will engender some degree of positive change among the study villages population, the change is unlikely to be direct and I made a point of underselling the benefits of my research to the village. At no point was any financial or other type of reward offered in exchange for participation in the research. Nevertheless, I hope my visit to each village made a positive impact, whether through impromptu language lessons, entertaining local kids, or more seriously, prompting farmers and their families to think more deeply about their coffee production methods.

3.5 Data Processing

3.5.1 Transcription

Note taking was the most important activity of field work and my personal written shorthand was used for all note taking. No recordings were taken during fieldwork. Substantial time during each day was dedicated to drafting detailed notes at the conclusion of each day's fieldwork, which totalled 110,044 words. As mentioned previously, the notes included "metadata"; details from interviews, notes about both interviewees and other people mentioned, events, the setting of the day's activities or interviews (e.g. town, farm, street etc), including how busy the area was and any other activities noted during the day. The descriptions included physical descriptions of both the human and physical environment.

In general, coffee farmers were unperturbed by note-writing during semi-structured, informal or formal interviews, as the purpose of each interview was explained before commencing. Occasionally, different situations required different transcription methods to be used (e.g. full transcript, annotations, recordings etc), but this did not affect the outcomes of transcription.

3.5.2 Data Analysis

Grounded theory is the systematic generation of a theory from research. It is used to develop a conceptual understanding of a given problem so as to develop systematic comparisons. My research utilises what Charmaz (2006) calls a contextualised Grounded Theory. This is a theory that can sensitise ideas, "that address such concepts as power, global reach and difference and end with inductive analyses that theorise connections between local worlds and larger social structures (Charmaz 2006, p133)." The basis for the grounded theory component of this research is two-fold; a literature review of empirical data on certification has been completed, and extensive background reading on the theory of the livelihoods framework has been undertaken. The raw data of our research will then be added to these to create a conceptual idea of the role of certification at a village level.

While this is part of what my data analysis seeks to do, my analysis also borrows from Content Analysis as a method of data analysis. From Strauss & Corbin (1994, p273) "Content analysis (as a secondary method) is focused on content generated by another qualitative method (e.g. in depth interviews, focus group discussion or observations in ethnography) that plays a supportive analytical role with these methods. Coding of this content generates the data that are used in the analysis stage of the study."

Data coding has been used to analyse the qualitative data collected from notes generated by participant observation, semi-structured interviews and focus groups components of the fieldwork.

The qualitative content analysis will largely follow the suggestion of Roller & Lavrakas (2015) to proceed through sequential steps namely:

- Absorb content
- Develop unique codes
- Code content
- Identify categories
- Identify themes/patterns across categories
- Draw interpretations and implications.

Coding comprised review of transcripts and field notes in order to apply labels to recurring themes of potential significance (Bryman, 2012). The content consists of literally hundreds of interviews comprising tens of thousands of words. Naturally, some interviews have stood out as more important than others. However, “Coding aims to classify all of the data so that it can be compared systematically with other parts of the data set” (Gale et al 2013, p4). The sustainable livelihoods framework has assisted the coding process, as it is a widely accepted, holistic way of approaching rural poverty. In particular, it’s identification of five types of capital, namely social, human, natural, physical and financial has been particularly useful when seeking explanations of livelihood decisions and other development dynamics.

The livelihoods framework has also assisted in the constant comparison and conceptual revision required by grounded theory. While each type of capital is unlikely to be discussed in equal measure, as a certain area of rural life or type of capital may be either consistently commented on by locals, or be considered of higher importance, the livelihoods framework is well-suited to the flexibility required.

3.6 Ethical considerations

A submission to the Sydney University Ethics Board was approved under protocol number 2013/451. The major ethical consideration of the study is the receipt of approval from the Indonesian immigration department to proceed with the research, and the preservation of anonymity as necessary. Meta-data frequently collected during fieldwork included the name of interview participants, their age, marital status, primary occupation, sources of income and size of income. This list of meta-data is not exhaustive. However, in order to preserve anonymity, the interviewee’s names are not disclosed at any point in my research outputs. Furthermore, the project has established a precedent of not formally disclosing the name or precise location of the study villages.

3.7 Summary

Methods used for the fieldwork and data interpretation of this thesis have been presented and discussed in this Chapter. The methods have been used to generate representative data to understand the impact of 4C certification on, and the perspective of, coffee producers and their communities in southern Sumatra. The study focuses on three case study villages in three sub-districts, which are considered broadly representative of coffee producing villages in the southern Sumatran provinces of Lampung and Sumatra Selatan. In particular, 4C-certification is being actively rolled out in each village by coffee buyers. The principal method for the research was participant observation, which has been supplemented by 248 key informant interviews, 45 focus group surveys and a formal survey of 558 4C-certified participants spread across 27 villages across southern Sumatra. Data analysis has followed a Contextualised Grounded Theory approach, and has involved coding data into themes and patterns that allow for systematic comparison between villages. A sustainable livelihoods framework has steered the methodology as a whole. In the next Chapter, I present a literature review of peer-reviewed publications on the impact of coffee certification on producers around the world.

4. EXAMINING THE INTERFACE OF SUSTAINABILITY PROGRAMMES AND LIVELIHOODS IN THE SEMENDO HIGHLANDS OF INDONESIA


“Everything that interfered with the efficient production of the key commodity was implacably eliminated. Everything that seemed unrelated to efficient production was ignored.”

- James Scott, *Seeing like a State*

This chapter presents a case study from the Semendo highlands of South Sumatra. The major contribution of the chapter to the thesis is to provide an in-depth examination of a typical highland village with a number of producer groups enrolled in a VSS. The case study builds a picture of standard livelihoods of Semendo smallholders, and compares the low-risk strategies favoured by smallholders over a long period of time, with the requirements of a modern VSS introduced by a coffee exporter. This provides a reference point for discussion in later chapters. The chapter details the roll-out of the VSS at the village level, the importance of coffee to producer livelihoods (including labour requirements), and the social organisation of producers, including their commercial relationships with one another. The chapter introduces practical consequences of low-risk, diversified livelihood strategies, and contrasts this with intentions of exporters during roll-out. The Chapter notes some of the positive outcomes of VSS roll-out, but notes the shortcoming associated with a lack of consideration, on the part of VSS theories of change, for the complexities of smallholder livelihoods.

The chapter was submitted to Asia Pacific Viewpoint for peer review and was subsequently accepted for publication on 30th June 2018. The chapter is referenced as Bray, J., and Neilson, J. 2018 Examining the interface of sustainability programs and livelihoods in the Semendo highlands of Indonesia. *Asia Pacific Viewpoint*, 59 (3) 368-383. It should be noted that the research village in Bray & Neilson (2018), *Bukit Subur*, is referred to as “study village A” throughout the remainder of the thesis.

Examining the interface of sustainability programmes and livelihoods in the Semendo highlands of Indonesia

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Abstract: *Voluntary sustainability standards are used as both a means of securing coffee supply by large coffee firms and a development intervention to address rural poverty and environmental management in the Global South. Using a case-study approach, we have examined the interface between a value-chain sustainability programme and the livelihood trajectories of smallholder producers in upland Sumatra. Our research found the programme has had minimal impacts for coffee producers to date. The level of commitment required of producers appears incompatible with the particular way that coffee is currently embedded within local landscapes, livelihoods and poverty alleviation pathways. Various sustainability standards articulate a narrative of rural development underpinned by an assumption that agricultural modernisation is the preferred pathway out of poverty for rural households. As a result, there is some risk that sustainability programmes may be inadvertently attempting to encourage household investment in a particular kind of agriculture, which is intended to assist sustainability of supply, but is poorly aligned with prevailing processes of poverty alleviation. These observations are based on a detailed study of agrarian change among the Semendo people of South Sumatra province, where processes of rural development are far more complex than assumptions presented by mainstream sustainability standards.*

Keywords: *certification, coffee, livelihoods, standards, Sumatra, value-chains*

Introduction

It is increasingly common for rural development initiatives to be enacted through value-chain interventions. Voluntary sustainability standards (VSS), for example, enable consumers to directly preference coffee products certified or verified by a third party as meeting particular social, economic or environmental standards. These VSS schemes include 4C verification (previously the Common Code for the Coffee Community), which accounts for the greatest proportion of verified sustainable coffee on world markets (Panhuysen and Pierrot, 2014), along with other VSS such as organic, Fairtrade and Rainforest Alliance. Either explicitly or implicitly, these schemes suggest that improved farm practices and farmer organisation are an assumed means for improving rural livelihoods. Using a combination of the livelihoods framework presented by Chambers and Conway (1991), Scoones (1998) and Bebbington (1999), and global value-chain analysis (GVC; refer to Neilson, 2014 for a discussion in relation to

development practice, and Neilson *et al.*, 2014 for review of conceptual frameworks), this study explores to what extent such value-chain interventions are affecting smallholder livelihoods in the Semendo coffee-growing region in South Sumatra, Indonesia (Fig. 1), and how VSS programmes interact with aspirations of agrarian transition and rural poverty alleviation. The key VSS programme in our Sumatra case-study is the 4C programme.

Typical of most VSS, 4C (2013: 2) presents a theory of change, which aims to ensure, 'a baseline level of social, environmental and economic sustainability' with the hope that '[T]he ultimate impact contributed to will be improved quality of life through higher incomes amongst producers and an ecosystem that sustains coffee's livelihood'. Understanding the realised on-farm outcomes of VSS is important, as are the village-level dynamics within which VSS schemes are rolled out, particularly with regards to any effect on conventional poverty alleviation pathways, or conventional trade networks, that have become embedded over time. In



Figure 1. Study area, showing location of Semendo in southern Sumatra

particular, the upgrading of production processes required by value-chain interventions like VSS may not be compatible with the diverse livelihood portfolios common among coffee smallholders (who rarely rely on coffee income alone). From cases in Nicaragua and Mexico, it has been reported that VSS is unable to protect against other significant factors contributing to a lower quality of life (Bacon, 2005; Barham *et al.*, 2011). In southern Sumatra, off-farm income generation frequently contributes to poverty alleviation, which is achieved by moving away from primary production and allocating labour to where it can generate more consistent returns. However, training provided as part of value-chain interventions like 4C relies on an upgrading strategy specific to coffee, focusing on improving on-farm efficiency and reducing negative externalities.

Our paper unpacks these tensions by firstly giving context to the VSS roll-out across the Semendo region. Secondly, the study reports on several aspects of Semendo coffee production in which the programme has sought to induce change. Finally, the study discusses the interaction between the VSS programme and broader processes of agrarian change, particularly with regards to conventional pathways of poverty alleviation, risk management and livelihood diversification. We argue that there is a tendency for value-chain interventions for development, including VSS schemes, to underestimate the importance of broader processes of rural change, which are inevitably locally specific. Moreover, this tendency appears to have emerged as lead firms embrace narratives of sustainability to enable stronger upstream coordination of their supply chains. As such, sustainability programmes are mobilised by lead firms to ensure long-term supply reliability, producing a tension between associated narratives of agricultural modernisation and the lived realities of agrarian change.

Sustainability programmes, value chains and rural livelihoods

Development agencies and practitioners eagerly embrace the concept of 'value chains for development' (Neilson, 2014). This approach suggests that strengthening the

linkages between otherwise marginalised producers and downstream lead firms (often large food processors) provides opportunities for producer upgrading and poverty alleviation. This can occur through such mechanisms as improved technology and skills transfer, quality improvements, higher prices and access to credit and more reliable markets. In a global trading environment of tightened resource competition, climate change and increasing consumer demand, large agribusiness firms are further seeking to engage more directly with producers to ensure long-term supply certainty. For many commodity sectors, including coffee, the value-chain linkages between agribusiness (coffee roasters and international commodity traders) and farmers in the Global South are both encouraged by, and mediated through, various VSS schemes.

We use the term VSS to encompass a wide range of programmes, including third-party certification schemes (e.g. Rainforest Alliance), industry-wide verification programmes (the Common Code for the Coffee Community, or 4C) and company-specific programmes (including Starbucks CAFÉ Practices and the Nescafé AAA programme). In practice, such programmes are often implemented alongside, or as part of, broader corporate sustainable sourcing initiatives, such that it is not always possible to distinguish the impacts due to a VSS programme from a particular lead firm sourcing strategy. Indeed, one international food and beverage company representative explained to us that 'We essentially consider certification to be a tool that allows us to mobilise resources towards meeting our objective, which is to ensure long-term supply, but alone certification is not enough'. At the same time, there is a growing literature attempting to assess the impacts of VSS programmes on producers in the Global South, many of which are specifically related to the coffee sector (as recently reviewed by Bray and Neilson, 2017).

The ability of VSS programmes to improve rural livelihoods is highly context-dependent, and the potential impact pathways are shaped by the specific ways in which production of the target commodity (coffee in our case) is embedded within local landscapes, supply chains and social systems. For coffee exporters in southern Sumatra, a value-chain intervention like VSS

offers both unique marketing channels and the potential for product differentiation through improved quality. Some exporters are using VSS not only as a ready-made method of introducing good agricultural practices to their suppliers, but also as a means of removing the lowest quality coffee from their supply chains. Both scheme proponents and firms also suggest that VSS challenges local trade networks that allegedly extract excessive profits along the coffee supply chain from farm-gate to port. This is indicative of the 'web of interests and incentives' at the interface of value-chain interventions and producer livelihoods (Ortiz-Miranda and Moragues-Faus, 2014), much of which overlooks the interests of producers. Even with the active involvement of producers in such schemes, Riisgaard *et al.* (2010) argued that this may not be sufficient to pose a viable challenge to the control and power exerted on the value chain by lead firms.

The field of GVC analysis assesses a lead firm's influence over the whole value chain. Ponte (2002) and Daviron and Ponte (2005) applied the approach to highlight the influential role performed by roasters in the coffee value chain, who act as lead firms and exert an indirect influence far upstream in coffee producing regions. For example, the 4C programme introduced to the Semendo region was funded by a multinational coffee roaster, and a local farmer training centre was effectively branded by the roaster, even though the programme was implemented locally by an international commodity trader. This notion of control is termed 'governance' by GVC scholars (*inter alia* Gereffi, 1994; Gereffi *et al.*, 2005). Gereffi (1994) initially introduced the term 'buyer-driven global commodity chain' to denote how global buyers (lead firms) used explicit coordination to develop a competent global supply base without the need for direct ownership. More recently, Yeung (2015) applied the insights of lead firm control (of Global Production Networks, akin to GVCs) to better understand processes of regional development. Yeung argues that in an era of economic globalisation, regional development occurs when the strategies of global lead firms 'strategically couple' with place-based institutions and regional assets. This research has been informed by processes of industrialisation in East Asia (South

Korea, Taiwan and Singapore) dominated by high-tech industries and advanced manufacturing. Our assessment of VSS programmes in this paper can be conceptualised within this overall schema of GVCs, where our assessment of rural development in Sumatra is informed by understanding of processes of 'strategic coupling' in a rural context.

Our case study explores processes of rural change where a VSS programme is introduced along a value chain and interfaces with livelihood strategies, producing particular outcomes for rural households. Analytically, we are interested in the interface between GVCs and livelihoods. Scoones (2009) identified how prominent global influences (such as those identified by various GVC studies) had been largely excluded from earlier application of the sustainable livelihoods framework. Challies and Murray (2011) attempted to address this lacuna by integrating value-chain structures with livelihood outcomes through supporting institutions and training of smallholders to meet market demands. We are interested in the possible causal relationships between enrolment in a VSS, the introduction of preferred production methods through training, and impacts on livelihoods. Impacts from value-chain interventions, however, may be positive or negative for poverty reduction depending on the nature of engagement from lead firms, and changes in vulnerability and risk are good indicators of these impacts (Bolwig *et al.*, 2010).

In a recent review article, Bray and Neilson (2017) used the livelihoods framework for an analysis of empirical case studies regarding the impact of certification on coffee smallholders. For the majority of producers in the Global South, the prospect of improved prices is the primary incentive for enrolling in certification (Gómez Tovar *et al.*, 2005; Rueda and Lambin, 2013; Ibnu *et al.*, 2015), although price improvements do not guarantee poverty alleviation (Jena *et al.*, 2017), nor are they always sufficient to offset certified production costs (Beuchelt and Zeller, 2011) and economic downturns (Jena *et al.*, 2012). Indeed, improvements in yield may be as important for livelihoods as price premiums (Barham and Weber, 2012). The literature suggests that while certification may be able to contribute to poverty alleviation, this is dependent on its ability to

integrate with local and geographic contexts (Barham and Weber, 2012; Bose *et al.*, 2016), and this often involves supporting livelihood options beyond coffee production (Gitter *et al.*, 2012).

VSS has the potential to provide greater access to information and technology, via training, to help farmers improve the sustainability of production (Bray and Neilson, 2017). While some evidence indicates capacity building can improve livelihoods more effectively than price mechanisms (Ortiz-Miranda and Moragues-Faus, 2014), VSS tend to encourage farmers to specialise in coffee production (Vellema *et al.*, 2015), which is problematic if it occurs at the expense of food production, diversified (and resilient) livelihoods or agro-diversity (Barham and Weber, 2012; Stoian *et al.*, 2015). Another recent systematic review of the effectiveness of certification schemes for improving socio-economic outcomes (Oya *et al.*, 2017) found that, although there was evidence for improvements in intermediate outcomes (producer prices and agricultural income), there was less evidence of impacts on endpoint outcomes (wages, household income and assets). This clearly hints at the complex way the target commodity is contextually embedded within livelihood strategies, and Oya *et al.* (2017: iii) further suggest the potential of ethnographic research to better 'grasp the complexity of the local dynamics and explain successes and failures in more depth'. Our study addresses this challenge and contributes to the broader literature on assessing the impacts of sustainability programmes on rural livelihoods in the Global South.

Methods

Field work for this paper was conducted in the three Semendo sub-districts of South Sumatra province (Semendo Darat Laut, Semendo Darat Ulu and Semendo Darat Tengah). The location of the Semendo sub-districts, collectively referred to as 'Semendo', is presented in Figure 1. Qualitative methods were used to collect data in 2015, 2016 and 2017 over a combined total of 45 field days in a particular study village (which we will refer to as 'Bukit Subur'), interspersed with day visits to other Semendo

villages. An international coffee exporter ('The Coffee Exporter') introduced 4C to farmers in Bukit Subur in 2012. Participant observation was used throughout this period, in addition to 115 interviews with coffee-producing households, eight interviews with local government representatives, four interviews with coffee exporter employees (in addition to a series of informal conversations) and six interviews with representatives of various coffee exporting companies in Bandar Lampung. Ten focus group interviews with coffee farmers were also undertaken. While Blackman and Rivera (2011) question the validity of impact studies that do not include a counterfactual, our methodology intentionally sets aside an ostensibly objective appraisal of livelihood change in Bukit Subur in favour of a local view that encapsulates local attitudes towards 4C verification. The research relied upon triangulation as a verification method, and elicited insights from representatives of government and industry to ensure we had captured the fundamental processes associated with 4C's introduction into Bukit Subur. An understanding of the content, method and format of training activities events was established through key interviews with implementers, as well as participant-observation at numerous training sessions.

This paper draws upon, and complements, quantitative analysis of a large household survey conducted across the Semendo area in 2015 as part of an integrated, mixed-methods research project. Results of that quantitative analysis are reported elsewhere as Donoghue *et al.*, unpublished data, and involved a survey of 979 4C-verified households and 609 households not directly involved in the sustainability programme (spanning three Semendo sub-districts and 24 villages). Donoghue *et al.*, unpublished data, use propensity score matching to establish 'treatment-control' comparisons to evaluate the impacts of 4C on various impact indicators.

Coffee and rural change in Semendo

Coffee was introduced to Semendo in the late nineteenth century. Semendo smallholders, however, did not significantly embrace coffee cultivation until the early twentieth century,

with Huitema (1935) describing the introduction and expansion of Robusta coffee planting in Semendo in 1911. Favourable market conditions in 1925–1935 then triggered the widespread incorporation of coffee planting within the agricultural systems of Semendo, where it was initially integrated with swidden rice farming as a fallow crop, and remained less intensively grown in Semendo than elsewhere in Java and Sumatra. Robusta coffee has remained the primary cash crop produced in the Semendo highlands ever since.

The Semendo agricultural system has long been focused primarily on rain-fed rice (*sawah*) cultivation and fish ponds, and secondarily on dryland rice (*ladang*) using swidden techniques and planted alongside fruit trees. Coffee has, over time, become integrated into, and partially replaced, this swidden system. Coffee production is now estimated to cover approximately 181 000 ha across the entire South Sumatra Province, the majority of which is low-quality Robusta, making it the most significant coffee-producing province in Indonesia (the adjacent province of Lampung produces a comparable volume). Individual plots, however, are small and average less than two hectares in Semendo with productivity of around 700 kg per hectare, which is well below average yields of between 2300 and 2700 kg reported in Vietnam (D'Haese *et al.*, 2006; Agergaard *et al.*, 2009). Bukit Subur is broadly representative of production in the three Semendo sub-districts of South Sumatra, although it is also a small commercial trading centre. There are approximately 967 households in Bukit Subur, over 80% of whom rely on mixed income sources involving coffee.

Four earlier studies of the South Sumatran highland districts (Takaya, 1980; Tsubouchi, 1980; Godoy and Bennett, 1988; Potter, 2008) are useful in examining the extent of agricultural change in the South Sumatra uplands over the last 40 years. Both Takaya (1980) and Tsubouchi (1980) note the widespread presence of the swidden system throughout their southern Sumatra research areas, which focused on tributaries of the Musi¹ and Komering Rivers. Takaya (1980) describes how coffee was not consistently considered a major source of income in these upland regions until it replaced rubber as the region's main cash crop in the second half

of the twentieth century. Drawing on colonial-era forestry debates, Potter (2008) identifies the Semendo agricultural system as somewhat unique in the region, with a combination of intensive *sawah*, long-cycle swidden fallows and forests protected by customary law known as *rimboe larangan*. In the Pasemah lands immediately north, where coffee production was affected more directly by 'modern' European techniques, coffee monocropping appears to have been more widespread. Even in Pasemah, however, Godoy and Bennett (1988) describe an agricultural system where coffee functions as a low-input, reserve income source.

Life goal aspirations in Semendo were widely reported to encompass growing rice, getting married and taking the pilgrimage to Mecca, and maintaining strong cultural traditions and an adherence to customary law (*adat*). An important aspect of Semendo *adat* is *Tunggu Tubang*, referring to a matrilineal system of indivisible inheritance whereby the eldest daughter inherits family land, including rice fields, fish ponds, housing, and sometimes coffee farms (Salmudin, 2012). Our informants estimated that approximately 40% of land in the districts is held under *tunggu tubang* tenure, constituting the basis of traditional cultural values in Semendo. Traditional territorial claims over forest and fallow land in Semendo are often contested by the state, whereby the 1967 Forestry Act effectively declared *adat* forests to be the property of the state (although a 2012 ruling by the Indonesian Constitutional Court appears to have reversed this). The zoning of much land in Semendo remains contested, with Ministry of Forestry and Ministry of Planning maps in disagreement on forest boundaries, and with various forms of community forestry agreements emerging over the last decade. Around 90% of Semendo coffee farms are directly managed by land owners (the remainder were rented, lent without fee or sharecropped), although formal registration of land with the Lands Agency is rare (around 7% of respondents claimed to hold formal title), and is severely complicated by the *Tunggu Tubang* system. *Tunggu Tubang* land is not considered primarily as a productive asset, but is rather imbued with patrimonial and cultural value, with Potter (2008: 185) describing how, 'the large amount of temporarily unused

rice land and simply vacant land in Semendo villages [in 2002] was striking’.

Semendo farmers performed a pivotal role in stretching the coffee frontier further south into Lampung province during the 1950s and 1960s (and even earlier according to Suyanto *et al.*, 2005), where they continued extensive swidden-style practices, and have been associated with forest clearing (Verbist *et al.*, 2005). Several informants claimed that this out-migration from Semendo was triggered by the *tunggu tubang* inheritance customs, which effectively left many men landless. While the establishment of new coffee-related swiddens is still evident in the more remote villages of Semendo today, land shortages appear to be encouraging more sedentary coffee cultivation in some parts of Bukit Subur. Coffee is still a popular source of income, due to its relatively stable price and low maintenance requirements relative to other cash crops like vegetables. Coffee farming has become an important part of the Semendo identity, with all villagers, from landless labourers through to the mayor of the district declaring, ‘I’m a coffee farmer too!’ It is, however, important to emphasise the contingent role of coffee in livelihoods. During a period of low coffee prices in 2002, Potter (2008) reported how coffee farms were effectively abandoned and household resources were re-oriented towards *sawah*, the collection of non-timber forest products such as rattan, and (we assume) out-migration.

Tsubouchi (1980) noted the increasing out-migration among the children of local elites some 40 years ago, and many informants stated their aspirations to escape relative rural poverty through migration. Strong cultural and familial ties, however, partially restrain the extent of out-migration, with one participant complaining that ‘even if I didn’t like living here, I would still live here as I have to’. Without *tunggu tubang*, this respondent claimed he would ‘follow economic prospects out of the village without thinking twice’. Even so, migration outside Semendo offers no guarantees and is a higher-risk strategy, and the villagers see continued access to land as constituting an important lower-risk social safety net. Land access and ownership was of great value to those households who just 15 years ago were using their rice fields and forest product

collection to endure the 2001–2002 coffee crisis (Potter, 2008).

There have been broader structural shifts in the Indonesian economy over the last decade, where the contribution of agriculture to the economy and the absolute number of farming households are both in decline (Neilson, 2016). Major off-farm sources of employment in Semendo include work as motorcycle taxis / couriers (*ojek*), working as construction labourers, and receiving government salaries as bureaucrats, police officers, teachers and politicians. The presence of a new vocational senior high school in the village adjacent to Bukit Subur has prompted opportunities for student rental accommodation. This demonstrates the influence of broader state-driven development interventions, and how education has long been considered a ‘transformative intervention... to unlock potential by shifting structural constraints’ (Scoones, 2015: 31). Such supports have been contrasted (by Barham *et al.*, 2011) with the much more targeted nature of value-chain interventions. Other villagers engage in petty trade, and ownership of a *warung* (small store) is a sign of relative wealth in Bukit Subur. Many *warung* owners noted that good coffee harvests translated into good sales, and in 2016, several villagers had opened shops in their homes following a successful 2015 harvest. In Bukit Subur, initial accumulation of capital was widely viewed as an opportunity for petty trade, as a foothold on a poverty alleviation pathway, rather than an opportunity for agricultural investment.

Introducing ‘sustainability’ to Semendo

Coffee is typically dry processed and traded through several sets of hands before reaching export warehouses in Bandar Lampung, many of which are owned by international trading companies. This port is responsible for approximately 65% of Indonesia’s total coffee exports (Neilson *et al.*, 2015). The introduction of the 4C programme to Bukit Subur by The Coffee Exporter occurred in partnership with, and was financed by, a large international coffee roaster as part of their corporate sustainability commitments. The Coffee Exporter established a trading warehouse on the outskirts of Bukit Subur in

2012, followed by a training centre in 2014 as part of the sustainability programme (the buying station subsequently ceased operations in 2016). This was the first farm-level investment by a large coffee buyer in Semendo, and by 2016, the initiative was directly employing a regional manager, a team of six agronomists and several security guards, most of whom were locally recruited. The programme was the first dedicated source of coffee-specific training (except for sporadic government extension activities) in recent decades. The company financially supported the roll-out and audit process of 4C verification for existing government-facilitated farmer groups, and then actively promoted the formation of additional farmer groups. In 2012, 2437 households were listed as being part of the 4C production unit. The Coffee Exporter offers registered farmers up to six training events per year (each three to four hours), although training is not dependent upon sales to The Coffee Exporter. External 4C verification audits are undertaken every year, which extends to every three years if verification is obtained. A subset of these farmer groups was encouraged by The Coffee Exporter to obtain Rainforest Alliance certification in addition to 4C from 2015 onwards.

The 4C code of conduct

The 4C code of conduct is a self-styled 'entry-level' verification, which aims to 'gradually raise the social, economic and environmental conditions of coffee production and processing worldwide' (The 4C Council, 2014: 3). This implies a large gap between current (or 'traditional') agricultural practices and improved practices, sometimes referred to as Good Agricultural Practices. The code comprises 27 principles, including 8 economic principles, 9 social principles and 10 environmental principles, which 'are based on good agricultural and management practices as well as international conventions and recognized guidelines accepted in the coffee sector' (4C, 2013: 3). Each principle is audited by a third party against a traffic-light system of compliance: green indicates the group completely meets the principle; yellow indicates improvements are required, and red indicates the principle has not been met (any red scores must be matched by the same number of green scores).

There are also 10 Unacceptable Practices, such as 'Bonded and Forced Labour' and 'use of pesticides banned under the Stockholm convention', which invalidate verification if present. In addition, producer groups must meet organisational and managerial standards (The 4C Council, 2014).

Direct training of farmers by value-chain actors is considered 'standard implementation', as identified in the 4C (2013) Theory of Change, and facilitates the provision of specific requirements and prohibitions of 4C to farmers. Semendo farmers attended training on topics such as agronomy, soil management, pest control, and safe use of chemicals. The Coffee Exporter is also responsible for modifying and translating the relatively technical language of the Code to be easily understood by the producers. For example, producers require explanation of the concepts of 'Coffee Farming as a Business' and 'Good Agricultural Practices'. Farmers are generally positive about training provision, given the minimal levels of past training and support, although the extent to which training has actually resulted in practice change appears to be limited (Donoghue *et al.*, unpublished data). We identify five main areas where the VSS scheme has sought to induce change in Semendo coffee production: systems of quality control; coffee income; labour requirements; social organisation; and trade networks. These will now be discussed.

Systems of quality control

The Robusta coffee grown across southern Sumatra is dry processed and generally of poor quality. The harvest and post-production training implemented by The Coffee Exporter has, however, emphasised improved quality control. This was described by a number of participants as 'ripe-harvested cherries dried to a moisture content of below 18%'. These standards are considered onerous for many producers, as selective harvesting significantly increases labour requirements and transport costs as coffee cherries on any tree tend to ripen gradually over a one- to two-month period. An older producer complained, 'If I don't pick cherries before they are red, they might fall to the ground and rot'. This helps explain why Donoghue *et al.*, unpublished data, found little

difference in harvesting practice (i.e. claims to harvest selectively) between enrolled and non-enrolled farmers (~95% and ~91% respectively).

For another aspect of quality management, however, approximately 70% of 4C-enrolled farmers reported using tarpaulins for drying, compared to 46% of non-4C farmers (most of whom continued to dry cherries directly on the ground). The coffee exporter gives subsidised tarpaulins to many of its enrolled producers as a means of lowering coffee moisture content and removing foreign debris (stones and unwanted organic matter). The VSS programme has involved, or has at least been closely associated with, an attempt by the Exporter to impose quality governance on producers, thereby removing lower quality coffee from its supply chain. While conceivably this could also provide price benefits for producers, coffee quality improvements generally remain a low priority for coffee producers in Bukit Subur due to the perceived higher costs. During the research period, there was strong resistance among producers to implementing improved quality practices such as extended drying periods to reduce moisture levels. Shorter drying times (as little as five days) persist as producers attempt to increase cash turnover at the earliest opportunity (i.e. to local traders). One woman noted, 'If we need to eat, we'll sell coffee, but if times are good, we can focus more on quality and wait for an increase in price'. While the Exporter can claim to have been partially successful in introducing quality improvement measures alongside the VSS programme in Semendo, producers remain unconvinced of any benefit.

Coffee income

4C-verified coffee is purchased at a premium (up to 300 Indonesian Rupiah (IDR)/kg above local market prices) in Semendo in an attempt to encourage farmer uptake, but the buying station also imposes quality standards, which acts as a disincentive for many producers. Only 33% of enrolled farmers identified 'receipt of a price premium' as a benefit of verification (against 42% who considered training beneficial, and 63% who considered price information beneficial). Most farmers do not consider the price premiums sufficient to overcome what

they perceive to be the negative terms of payment (an electronic transaction that could be delayed). 'If I need money quickly', commented one producer, 'I sell to local traders'. Furthermore, this requires access to a bank account, which is still uncommon in Semendo. Over 90% of non-enrolled farmers in Semendo reported being satisfied with the conventional cash-in-hand sales process, despite receiving an average of 500 IDR/kg less than their enrolled counterparts (based on the survey work). The price premium, therefore, does not seem sufficient to offset the perceived appeal and convenience of traditional trade channels.

Coffee-related income is a function of prices and production volume, offset by costs. 4C (2013) expects training in improved 'good agricultural practices' to result in increased yields, and that this will subsequently translate into higher farm incomes. However, Donoghue *et al.*, unpublished data, found that 4C-enrolled farmers (average yield of 3.04 kg of cherries/tree) did not report either higher yields or coffee profits than non-enrolled farmers (average yield of 3.53 kg/tree). The benefits of training, practice change, yields and income may require more time to be felt; however, it was clear (at this stage) that farmers in Bukit Subur were not perceiving a noticeable impact on income from the programme from either price or increased productivity. There was also a perception among many farmers that the implementation of good agricultural practices was expensive, thereby restricting the usefulness of 4C to wealthier individuals.

Labour requirements

Donoghue *et al.*, (unpublished data) shows greater investment of labour and capital into coffee production among 4C-enrolled farmers. Average labour expenses (i.e. paying workers) are greater among 4C-enrolled farmers (~5 million rupiah per year) than non-enrolled farmers (~3.5 million rupiah per year). Active soil management and the establishment of buffer zones are required for 4C, and these require additional labour (although, admittedly, there was also little reported difference between 4C-enrolled and non-enrolled producers in their uptake of these practices). Producers across Semendo are generally unable (or unwilling) to allocate extra

labour, either by employing others or their own time to these practices. One wealthier land owner noted, 'The VSS standards are too hard to implement and I don't always have time, as I have to attend to other things, including my rice crop'.

Although labour costs vary depending on seasonality, wages (during the peak harvest season in 2016) were reported to range from as little as 25 000 IDR/day (~US\$1.90) to 50 000 IDR/day (~US\$3.75), occasionally supplemented with food and cigarettes. This is below the 60 000 IDR/day (~US\$4.50) minimum wage of South Sumatra (WageIndicator.org, 2017), and there is little evidence of upward pressure on wages for agricultural labour (especially outside the harvest season). While the apparent availability of labour during the non-harvest period could presumably be allocated to farm maintenance (a company calendar distributed to all enrolled producers recommends tasks such as weed removal and fertiliser application), many producers are reluctant to invest in these tasks. The appeal of coffee production for many households in Semendo lies in its perceived low labour intensity once farms have been established, and initial plantings often follow a life cycle pattern, coinciding with family establishment and then with declining investment towards old age. One farmer group head claimed to spend less than a month per year managing his coffee plants in favour of working on construction sites, while a landless labourer noted that owning a coffee farm was less time intensive than labouring, although he also reported that 'the capital costs and human labour required to start growing coffee are too high'. An older couple emphasised the cultural importance of owning a coffee farm, but conceded, 'Now we are older, having a shop is very helpful'.

The unwillingness to invest labour in coffee farming is also reflected in the considerable visual evidence of soil erosion across Semendo, and the apparent absence of meaningful soil management practices. This appears to be a legacy of swidden-style farm management, which is generally favoured in environments of low labour availability. Other producers had converted their rice fields to coffee to capitalise on coffee prices while avoiding the up-keep of terraces, highlighting the appeal of farm systems

with relatively lower labour demands. However, it is possible that Boserupian pressures (where increased population densities catalyse technological change and agricultural intensification) may already be encouraging a shift towards more intensive production systems. Indeed, greater population densities in Bukit Subur, which is also at a lower altitude and with less forest frontier than other Semendo villages, appear to be encouraging a shift to a more sedentary form of agriculture, where the environmental practices of 4C may be better suited.

Social organisation

Many of Indonesia's farmer groups (*kelompok tani*) were established as a tool of the state during Suharto's authoritarian New Order regime (1966–1998), when they were used to extend government authority and influence. Today, VSS frequently use the same groups in an attempt to introduce improved agricultural practices. Where the farmer groups were formerly used to extend political patronage, such as through the distribution of subsidised fertiliser and other inputs, they are now also used to spread technical knowledge delivered by private industry. This reflects the shifting influence in rural Indonesia away from government towards private industry, while the use of farmer groups to disseminate training has also prompted new modes of social organisation in the village.

The heads of 4C-enrolled household attend farmer group meetings more regularly than non-enrolled farmers household heads, and spend, on average, more time per week talking about coffee production (Donoghue *et al.*, unpublished data), such that programme participation may have triggered improved social capital among Semendo producers. Several villagers claimed that farmer groups previously met infrequently, when their discussions would be limited to fertiliser distribution or, less frequently, training related to rice production. Regular training sessions related to coffee production have now become an expectation for many VSS-enrolled farmers. As a result, many 4C-enrolled farmers expressed their greater confidence in both their ability to produce coffee and their general outlook on life since the presence of a VSS in the village. Meanwhile, non-

enrolled farmers felt excluded from information-sharing networks and new ideas regarding crop management, with one claiming, 'I never speak to other farmers about growing methods as I am not yet a member of a farmer group', and another, 'farmers don't know how to join farmer groups. Farmers are passive and have to be encouraged into membership'. Notwithstanding the still undeveloped capacity of farmer groups in Semendo, both new group formation and increased activity of existing groups have been triggered by the VSS programme, with the potential for new social relationships as a result.

Social capital is a crucial determinant of people's ability to be agents of change (Bebbington, 1999), and can act to rectify power imbalances in the value chain (van Wijk and Kwakkenbos, 2012). Several farmers in Bukit Subur, who were not yet members of farmer groups, identified group enrolment as a strategy to access certain benefits and potentially improve their livelihoods. Despite generally low satisfaction with group governance among those already involved in groups, membership of farmer groups was seen by the extremely marginalised as a pathway towards improved social access. Even if impacts of training are insubstantial, as appears to be the case to date, group members have access to this information and therefore have further options for implementing new livelihood strategies. Being unable to join a group, which requires an invitation from a head of farming group and approval from the head of the village, remains a barrier to progress for many farmers. This reflects the low social capital among the most vulnerable individuals in the community, regardless of the presence of VSS, and VSS does not appear to be reaching these individuals in this case.

Altered trade networks

Many villagers in Bukit Subur aspire to become a shop owner or trader, as an important initial step towards poverty alleviation, and traders are seen as power centres with enhanced financial resources. In the words of one farmer, 'It's expensive to become a trader, as your food source needs to be secure and you need to have a good store of capital'. Coffee traders are powerful members (patrons) of the Bukit Subur community, as they not only buy and transport the

highest volumes of coffee at a local level, but also act as sources of credit, and provide other agricultural services, such as sale of fertiliser, tools, rice and rent of capital goods (e.g. hulling machines). Their control of market information has also been closely guarded as a means of leverage and, as argued by Ribot & Peluso (2003: 169), can be used 'to prevent dependent producers from becoming independent of their patrons'.

Traditionally, local elites, like traders, accrued economic power through systems of patronage and social connections with larger extra-local entities, including their own downstream buyers. But the positions of authority held by both elites and government in the village are being challenged by the relative reliability of information and transparency of the Coffee Exporter. In particular, The Coffee Exporter established an efficient and popular system of daily price updates via SMS, which improved price transparency and is encouraging a shift away from conventional bargaining measures. One trader, however, shrugged this challenge off, saying, 'I compete with the coffee exporter by being far less selective with the coffee I buy'.

While VSS may attempt to cut out middlemen (Arce, 2009), local traders in Bukit Subur are still maintaining control, by either heading up farmer groups, or establishing an informal 'preferred supplier' pathway between producers and the coffee exporters. This attempt to control the sale of coffee to The Coffee Exporter is still occurring despite the latter's best efforts to buy directly from farmers. 'There are always middlemen', sighed one warehouse manager, with the coffee exporter acting as the first buyer for less than 5% of enrolled farmers (Donoghue *et al.*, unpublished data), while many farmers expected that their buyer would on-sell their coffee to The Coffee Exporter. In the initial years following the establishment of The Coffee Exporter's buying station, several local traders protested this presence as a threat to their trade, and attempted to enlist local government authorities to protect their interests. The VSS programme was, however, subsequently associated with altered local trade networks, with established local traders being primary beneficiaries by being less selective in buying coffee, and on-selling coffee to the exporter following

additional drying. New opportunities have also emerged for 'preferred suppliers' (often farmer group leaders) who are entrusted by The Coffee Exporter to collect 4C coffee on behalf of other farmers in a village, creating an effective rent for those individuals. Overall, the VSS programme does appear to have had negative (albeit minimal) impacts on some local traders, and in some instances may have limited local off-farm poverty alleviation pathways. However, these relatively well-financed individuals appear well-placed to reassign their capital towards other profitable business activities.

The VSS programme and livelihood strategies

In assessing the interaction of VSS and livelihoods, we have attempted to juxtapose the process of modernisation (or 'improvement') promoted by VSS in Semendo and the resistance this meets from producers reliant on traditional practices derived from swidden agriculture and diversified livelihoods. Producer capacity, as defined by 4C (2013), is focused on improved and efficient farming practices, which differs from a broader livelihood perspective. According to Bebbington *et al.* (2006: 1962),

Capacity is the 'power to' do something, but the likelihood that that power will in the end be realised is dependent on the power of others to influence both one's ability to act, and the likelihood that that action will have the effects that the actor hopes for.

The 'power' of Semendo producers 'to do something' through coffee production is tempered primarily by low-risk livelihood strategies (diversification and low labour inputs), which shapes the interaction of VSS and livelihoods in the area. Even the International Coffee Organisation (ostensibly established to promote coffee production) recommends diversification to other crops during times of price deflation (Watson and Achinelli, 2008). Furthermore, conventional paths of poverty alleviation in Semendo are not typically associated with on-farm, labour intensive activities with uncertain financial outcomes, such as soil terracing, intensive pruning, and selective cherry picking. All of these activities, however, are advocated by the sustainability programme as part of their emphasis on improved and efficient coffee production.

Such a shift in production focus is seen as an experimental strategy in Semendo. A young farmer expressed his conservatism by explaining that 'Trying new things is too risky', and that 'I already know enough because my father is a farmer', while another said, 'Farmers are not educated and don't really want to change their minds'. Coffee producers in Semendo are finely attuned to risk minimisation, which appears to be embodied within risk-averse traditional attitudes towards farming, and the reliance on natural capital (exemplified by swidden-type farming systems). A local government leader felt that 'The standards of [the Coffee Exporter] are too complex and confusing; it's just easier to sell to the local trader.' The increased agricultural workload associated with the VSS programme in Semendo was identified as the primary reason why some producers (four groups in Bukit Subur to date) have quit the programme after two years involvement. Initial interest in the programme was followed by internal debates and questioning within the groups about the tangible benefits of 4C, which then led to a split in opinion and subsequent withdrawal.

Traditional practices derived from swidden systems encourage diverse, low-maintenance, low-risk production. According to one producer, 'People's ability to deal with shocks to the coffee system is better if you have capital, as you can buy fertilizer and pesticide. But people here are not wealthy, so they use traditional practices'. This is in contrast to the more modern, high-maintenance, agricultural 'upgrading' practices encouraged by the VSS, which appear better suited for more resilient communities willing to absorb risks (Rosset, 1999). 4C (2013: 2) explicitly identifies its expectation that 'stakeholders commit resources to ensure more coffee meets the requirements of 4C' and that 'committed members then concentrate on the production [of coffee]'. Therefore 4C encourages a greater focus on coffee and an expectation of improved, modern agricultural practices.

Coffee contributes around 50% of total household income to both 4C-enrolled and non-enrolled households, all of whom appear unwilling to abandon diversity in the search for higher coffee-derived income, even though better capitalised farmers could intensify coffee practice without losing diversity of production.

Food production (rice) continues to be prioritised in Semendo, while on-farm income is frequently supplemented by off-farm work. Most farmers in Bukit Subur rely predominately (but not solely) on their own labour for farm work, although there are a few who pay labour or hand their farm over to share-croppers. Those individuals with additional financial capital, however, frequently invest this in non-farm activities (such as trading or shop-keeping, or in one case, the construction of a small hotel). Thus, producers with greater capital and potentially greater risk tolerance, who are well-positioned to adopt good agricultural practices and invest in coffee production, are also better resourced to move away from agriculture, where more consistent, higher returns are likely. Land-owning villagers with substantial off-farm income, such as traders, skilled labourers and public servants, subsequently have little interest in attaining greater agronomic knowledge or devoting *any* additional time to farm work.

Semi-skilled, non-farm occupations can be attractive alternatives to coffee-farming in Semendo when locals can compete with outsiders. A local carpenter earned the equivalent of a 2000 kg coffee yield (more than double the average in Bukit Subur) over a period of less than 6 months. Individuals who have worked as labourers and tradesmen are often unwilling to return to farm work, preferring to operate *warung* stores, or work as *ojek* drivers. The success of VSS in Semendo essentially depends on convincing producers that greater effort on-farm can be made simultaneously with, or instead of, these off-farm pursuits.

Our discussions with Exporter representatives indicate they are aware of the challenges of introducing new technologies into communities that favour low-input, low-output coffee farming, and that they have a general awareness of the challenges presented by broader processes of rural change occurring at a local level. Indeed these challenges have, more recently, contributed to shifts in corporate policy. The Exporter's operations in Semendo have recently been scaled back in favour of its operations in Vietnam, where productivity is significantly higher and transport costs much lower, resulting in much lower per-unit costs of implementing 4C and other VSS programmes.

Conclusion: Sustainability programmes and poverty alleviation?

The livelihood strategies of rural households living in Semendo have been in flux for at least the last 100 years, and this paper has attempted to contextualise the changing position and function of coffee within these livelihoods and the broader physical landscape of Semendo. This is helpful for properly explaining the potential impact of a VSS programme on processes of poverty alleviation as cultural and livelihood norms become entangled with an attempt to modernise and improve coffee production. Traditional and conventional systems of agriculture, derived from swidden systems, are favoured by most producers as part of a diversified livelihood portfolio. At the same time, quality standards and training in good agricultural practices, representative of modernisation, have been introduced by The Coffee Exporter using VSS. There is an apparent contradiction between the way coffee is embedded in Semendo livelihoods as a low risk, low maintenance cash crop, and the high input, focused production methods advocated by VSS.

The VSS programme is attempting to encourage the diversion of (what is perceived to be) surplus labour towards coffee production, without due consideration of producer livelihood decisions, which are generally low-risk. The ambivalence with which many producers have adopted modern agricultural practices has been justified in their eyes by the perceived limited impact from VSS on income. In particular, producers are unwilling to devote additional labour or capital to coffee, particularly if they have already reoriented their livelihood strategy away from agricultural production through an off-farm poverty alleviation pathway. Those participants who *do* have the capacity to adopt good agricultural practices are those with available resources and capital, and these same individuals are also those best placed to exit agriculture as a means of poverty alleviation. The theories of change for several VSS, such as 4C, are therefore poorly aligned to the distinction between rural and agricultural livelihoods, and appear to systematically ignore the importance of off-farm income in rural communities, and the central role this often performs in poverty alleviation.

This is not to claim that the VSS programme in Semendo has not induced positive change. It has positively impacted price transparency, provided a mechanism for knowledge transfer through training, increased adoption of modern financial practices, encouraged the active participation in farmer groups, and has provided new income-earning opportunities within the community for select individuals. However, the particular way coffee production is embedded within livelihood strategies and landscapes across Semendo suggests that VSS is unlikely to significantly contribute to poverty alleviation. The impact of VSS on poverty is also marginal when assessed against the broader processes of development and the direct poverty alleviation programmes instigated by the state (including conditional cash payments, infrastructure projects, universal health care provisions and educational scholarships). Rather than expecting VSS programmes to result in poverty alleviation (as optimistically presented in their Theory of Change documents), these interventions should be more realistically considered as a means through which the livelihood capitals of producers can be supported, providing greater options and assets for households that will ultimately choose from a suite of different livelihood strategies available to them. In Semendo, however, it is unlikely to entail a wide-ranging shift towards intensified, improved coffee farming.

Note

- 1 Semendo lies within the Musi catchment.

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5. INSTITUTIONAL ENVIRONMENTS AND THE LIVELIHOOD IMPACTS OF VOLUNTARY SUSTAINABILITY STANDARDS

“Value chain analysis does not stop at the level of the firm. It also draws attention to the network of institutions which support economic actors”

- Kaplinsky & Morris.

“Give a particular *context*, what combination of *livelihood resources* result in the ability to follow what combination of *livelihood strategies* with what *outcomes*? Of particular interest in [the livelihoods] framework are the *institutional processes* (embedded in a matrix of formal and informal institutions and organisations) which mediate the ability to carry out such strategies and achieve (or not) such outcomes

- Ian Scoones, 1998

This chapter discusses the institutional environment of the coffee value chain in southern Sumatra. Because VSS contribute to the institutional environment of the coffee chain, and are not structural drivers of change, attributing a causative influence on livelihood outcomes to VSS is problematic. Instead there is a “mesh” of influence from the value chains institutional environment on producer livelihoods. The chapter contributes to the thesis by examining the local “struggles” for influence over the value chain at local sites of VSS roll-out. The Chapter describes how producers, their communities and coffee exporters interact with government and non-government institutions, including local political organisations, education departments, health clinics, and NGOs. This builds a more complete picture of both the conceptual environment of VSS roll-out, and lived realities of a VSS roll-out in southern Sumatra.

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Institutional environments and the livelihood impacts of voluntary sustainability standards: A Village-based analysis from southern Sumatra's coffee sector

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Lead roasting firms are operating through Indonesia's coffee exporters to introduce voluntary sustainability standards (VSS) in an attempt to secure supply, and to simultaneously meet corporate social responsibility requirements, even as empirical studies continue to show uncertain benefits for producer livelihoods. Value chain interventions like VSS, however, are not rolled out over a blank canvas, and many contributing factors determine their overall impact on livelihoods, particularly the local institutional environment. This study assesses the extent to which variability of empirical outcomes is determined by the institutional environment, by identifying specific processes through which VSS interact with pre-existing social, political and economic institutions to influence livelihood outcomes. These include: firm-specific corporate strategies (including producer training); livelihood strategies of households (including access to assets); government programs; and local political economy, as manifest particularly through patronage between traders and suppliers. VSS have thereby become an additional institutional layer shaping livelihood strategies and regional development outcomes, best viewed as providing access to a new social network that may be exploited by producers. The interaction between VSS programs, livelihood strategies and pre-existing institutional environments in a particular place often dictates the variable outcomes for producers, making attribution of impact causation to VSS enrolment problematic.

Keywords: Institutional environment, voluntary sustainability standards, livelihoods, Sumatra, certification, 4C

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Introduction

Voluntary sustainability standards (VSS) are supply chain interventions, often taking the form of certification schemes, which aim to encourage change in the method of production towards enhanced sustainability. VSS for coffee production have been touted as an innovative means of poverty alleviation within otherwise disadvantaged communities, being particularly advantageous to poor communities with low technical knowledge, and frequently cited as catalysts for greater value-chain transparency. However, a raft of empirical studies has been unable to establish a consistent outcome on producer livelihoods from the introduction of major certification labels and VSS (Bray & Neilson, 2017; DeFries *et al.*, 2017).

The Common Code for the Coffee Community (4C) is one such kind of VSS, which consists of a set of globally-consistent standards, and which is introduced to

coffee communities around the world inhabiting a diversity of social, natural and political environments. It is not rolled out over a blank canvas. Rather than presuming VSS results in causatively determined household impacts, its outcome is dependent on its interaction with the pre-existing institutional environment and the livelihood strategies of enrolled producers, and these institutional environments themselves frequently reflect the combined vested interests of the stakeholders involved in certification (a similar argument is presented by Mutersbaugh *et al.*, 2005). Broadly speaking, I understand ‘institutions’ to be ‘[T]he rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction’ (North, 1990: 3). These, North argues, may be formal (through constitutions, laws etc.), or informal (customs, traditions etc). As with other aspects related to rural livelihoods, institutions are influenced by political economy, history, the influence of private capital and other structural forces, as well as the individualised livelihood strategies of households (Scoones, 2009). Individual actors may even see VSS labels as an opportunity to reshape the institutional environment within production landscapes (Mutersbaugh *et al.*, 2005). These institutions usually require governance, or relationships that set ‘fundamental political, social and legal ground rules that establish the basis for production, exchange and distribution’ (Davis & North, 1971: 6). Livelihood strategies are the methods individuals or households employ to gain a living, while livelihood assets can be thought of as those physical and social resources drawn upon to develop a strategy (Chambers & Conway, 1991; Scoones, 2015). This paper discusses the influence of the institutional environment on the outcome of 4C certification in southern Sumatra, focusing on three case study villages. This discussion can be extrapolated to help explain the varied impacts of VSS reported in empirical studies around the world, which contrasts with many other empirical studies, which limit discussions of institutional environments to specific case studies only.

Coffee roasters, the majority of whom are based in the global north, generally use Robusta coffee from southern Sumatra primarily to meet consumer demand for instant coffee and blends, making the area one of the world’s largest sources of coffee. Robusta is generally considered to be low-quality coffee, for which consumers are commonly unwilling to pay a premium, meaning that there is little impetus for enacting quality improvements (often referred to as ‘upgrading’). Nevertheless, producers are generally appreciative of the Robusta coffee plants lower maintenance, and higher output qualities, while roasters are still able to generate large profits through using low-quality Robusta. The coffee value chain in Sumatra, as is the case elsewhere, is ‘buyer-driven’, with roasters acting as ‘lead firms’, or organizations that hold both market and technical information and generally operate at a global scale (Ponte, 2002). These lead firms enact governance over other actors along the supply chain, and mutually interact with and reshape the institutional framework of the chain (Neilson & Pritchard, 2009). Securing supply, as part of building resilience to increased climate variability, has become a significant issue for lead firms that rely on southern Sumatra, and other parts of the Global South, as a supply base. Many have turned to VSS like 4C as a means of securing supply and improving consistency of product, which they frequently enforce through their strategic suppliers—international trading companies and local exporters. Such drivers have contributed to the global growth in 4C verified product by 48 per cent between 2012 to 2014, when it reached 596 000 tonnes (Potts *et al.*, 2014; Global Coffee Platform, 2015).

Other VSS, like Rainforest Alliance and Utz, were introduced in southern Sumatra in the past, but many of these programs have been since discontinued, apparently due to the lack of market demand for these labels in the less quality-oriented Robusta trade. While the presence of Rainforest Alliance lasted longer than Utz (before the two labels combined), exporters were not optimistic regarding its future viability. Rainforest Alliance does maintain a small office in Lampung, but their activities here are somewhat unusual (comparative to a standard certification function found elsewhere) in that the office primarily offers training services to the government and exporters.

4C-enrolled producers must meet certain standards, including elimination of 10 'Unacceptable Practices', or risk dismissal from the program, which are relatively easy for producers to comply with, compared to the requirements of Rainforest Alliance and Utz. Thereafter, 4C producers are encouraged to meet a further 28 social, environmental and economic principles through a traffic light system of compliance¹. Typically, international trading companies and coffee exporters act as implementing partners by paying for verification and providing varying degrees of training to farmers to ensure compliance. Through such training, 4C has the capacity to encourage the adoption of good agricultural practices and sustainable management amongst producers (Muradian & Pelupessy, 2005), and this potentially improves resilience among enrolled-producer livelihoods. But this potential depends on pre-existing livelihood strategies that play out in the face of VSS interventions, as much as it depends upon the institutional environment in producer regions and indeed the specific corporate policies of implementing partners.

In discussing corporate policy, access to government programs, livelihood strategies, and local systems of patronage, this paper demonstrates how the interaction between VSS programs and pre-existing institutional environments in localized regions generate differing livelihood outcomes for producers. The paper commences with a brief review of the literature on global value chains and the livelihood impacts of sustainability programs. I then explain my methodology and give the context of the study, namely three rural villages in southern Sumatra. Four sections follow, examining the interaction of VSS with: i) corporate strategies in southern Sumatra; ii) livelihood strategies of producers; iii) government policies; and iv) local social networks. The article concludes by claiming that attempts to attribute livelihood outcomes solely to the introduction of VSS may be flawed, since it is the mesh of overlapping institutional influences, which VSS contribute to, that may be more likely to dictate outcomes.

Global value chains and the role of institutions in rural development

Broadly speaking, lead firms (international coffee roasters, usually working through trading companies in our cases) have been able to use their market and technical knowledge to influence upgrading or downgrading outcomes along the supply chain (Daviron & Ponte, 2005). By implementing upgrading techniques at and prior to the 'farm gate', lead firms have capacity to dictate the terms on which producers participate in global markets (Challies & Murray, 2011; Kaplinsky & Morris, 2000; Neilson, 2008). However, these firms have different terms and strategies, meaning producers and labour within firms do not necessarily reap uniform rewards, if any, of value chain upgrading (Barrientos *et al.*, 2011), particularly if strategies are focused on short-term, profit-driven motives. Where product upgrading *does* occur in the coffee sector, this

may be associated with lead firms using certification as a tool to remove the worst quality coffee from their supply chains (Bray & Neilson, 2018), which could result in differentiated impacts at origin. This demonstrates that lead firms *are* highly influential in shaping the activities and effectiveness of farmer organizations and the market relationships between producers and downstream buyers. While lead firms are the dominant actors governing the value chain, local roasters are also capable of reshaping institutions in such a way to 'enable, constrain and refract economic development in spatially differentiated ways' (Martin, 2000: 79).

This institutional influence of roasters varies at a localized level (primarily expressed through corporate strategy), causing variable outcomes (Martin, 2000), which is demonstrable in the variance across empirical studies of the impact of coffee-related VSS (Bray & Neilson, 2017). For example, Nicaragua has been the subject of 11 empirical, published studies, almost all of which have focused on Fairtrade. Arnould *et al.* (2009) found the economic effects of Fairtrade in Nicaragua 'unassailable', while Utting (2009) and Bacon (2005) were more circumspect, noting the limits to which Fairtrade can significantly raise the standard of living of smallholders. The focus of empirical studies on the *outcome* of certification (particularly those examining the impact of certification on natural capital, such as Philpott *et al.*, 2008; Haggard *et al.*, 2015; Takahashi & Todo, 2017), has meant that both the importance of value chain governance by lead firms, and the differences in institutional environment, has tended to be downplayed. It is my contention in this paper that this variability can be primarily explained by examining the interactions of VSS with lead firm strategies, institutional environments and livelihood strategies.

It is incorrect to assert a clearly delineated distinction between corporate strategy (and value chain governance) and the institutional environment, and a more accurate conceptual viewpoint may be to conceive corporate strategy interacting with local communities and civil society to create institutional environments. As explained by Neilson & Pritchard (2009: 28), '[s]paces of action are created out of the ways that actors *relate* to one another' (original emphasis), and '[t]he institutional environments of upstream producers shape both their capacity to participate in chains, and the economic benefits they obtain from participation' (Neilson & Pritchard, 2009: 211). The interaction between coffee exporters, VSS, producer groups and NGOs is one such space, and the support provided by these actors to producers is important in determining livelihood outcomes for producers.

A broadly supportive institutional environment is crucial in assisting smallholders to meet VSS standards (Challies & Murray, 2011). Scoones (2015: 35) places institutions and organizations at the centre of his sustainable livelihood framework, suggesting that, 'they put in place the processes and structures for mediating the assets deployed, the strategies pursued and the outcomes achieved for different people.' However, there is a high degree of variation in the institutional support for farmers globally, from the extensive support available in Colombia, (Rueda and Lambin, 2013; Vellema *et al.*, 2015; Ibanez and Blackman, 2016) and Uganda (Chiputwa *et al.*, 2015), to highly inconsistent support levels in Central America and Mexico, which may reflect broader political systems (Méndez *et al.*, 2010). Institutional support commonly manifests in practice as government agencies, while cooperatives or NGOs may fill gaps in particularly under-resourced areas. Several case studies (particularly from Central and South America) demonstrate the positive impact of NGOs and cooperatives on the outcome of certification (Ruben & Zuniga, 2011; Utting, 2009), particularly where they work in partnership with buyers (Rueda & Lambin, 2013). In contrast, the absence of this

institutional support can lead to VSS re-enforcing social inequalities (Gómez Tovar *et al.*, 2005). There are several examples of VSS programs targeting risk-tolerant farmer groups with pre-existing production practices likely to meet applicable standards without any process 'upgrading' (Ibanez & Blackman, 2016; Valkila, 2014). This suggests VSS enrollment has less to do with active training, than it does with pre-existing 'strong institutional arrangements that deliver technical and commercial services' to smallholders (Rueda & Lambin, 2013: 11), including organizational capacity (Jena *et al.*, 2012).

For example, the organizational capacity of Mexican NGOs played a key role in developing community-driven cooperatives with linkages to international consumers demanding organic coffee (González & Nigh, 2005). With little government and financial support, indigenous Mexicans began linking their identity and wider social agenda to organic farming, thus giving a political and cultural dimension to the initially commercially-driven shift to organic agriculture (González & Nigh, 2005). The success of these cooperatives resulted in organic certification being viewed as a (useful) 'intrusion'. In a later Mexican study, Jurjonas *et al.* (2016) detail the complex growth of corporate, government and cooperative interests in organic coffee production. It is unsurprising that smallholders and rural communities have trouble distinguishing the benefits of VSS from this tangle of influence (Utting-Chamorro, 2005: 596).

The historical influence of institutions on the outcome of certification is also apparent in Indonesia. Despite historical suspicion of cooperatives, producers in the *Gayo* highlands of northern Sumatra recognized the formation of cooperatives as a more effective means of attaining certification than traditional trade structures, which in turn has justified international investments in VSS and coffee producers in the region (Neilson, 2008). In southern Sumatra, producers have seen the benefits of producer groups through small premiums derived from 4C certification, but the program is weakly institutionalized, meaning efforts to build capacity have, to date, generated few benefits (Ibnu *et al.*, 2015). This highlights how a supporting framework that extends beyond coffee production can have varied effects on producer livelihoods.

Each actor in the supply chain will search for benefits from sustainability standards for themselves (Daviron & Vagneron, 2011), which in lieu of good public governance, leaves smallholders reliant on NGOs or cooperative representation if they are to have a voice in these debates. Without this voice, social capital (or lack thereof) and patronage may dictate enrolment in training programs. Well-positioned or powerful producers may use certification to facilitate coordination with other agents along the supply chain, potentially enabling them to become a 'preferred supplier' (Muradian & Pelupessy, 2005: 2039). Similarly, producers may be unwilling to change methods of coffee production for fear of losing social status, or general risk aversion (Beuchelt & Zeller, 2011).

Smallholder livelihood strategies can also influence outcomes of certification. van Rijsbergen *et al.* (2016) identify six levels of impact from certification, namely plot-level, farm, household, cooperative, community and market level effects. At each stage, livelihood strategies shape the outcomes of certification, and these strategies usually involve the pursuit of on- and off-farm activities. Where a community is already oriented towards a particular outcome, such as building greater social capital among women (Lyon, 2009), or orienting themselves towards organic production methods (Utting, 2009), outcomes of certification are more easily attained. However, it is unlikely certification will address structural issues of production, or societal issues like poverty, where the institutional environment and governance (public, value chain or

otherwise) remain unchanged (Jena *et al.*, 2017; van Rijsbergen *et al.*, 2016). In Mexico, for example, migration to the U.S. (influenced by social relations and family structure) is enhancing female education levels, which dramatically overshadows any contribution Fairtrade can make (Gitter *et al.*, 2012).

While the empirical literature regarding the impact of certification is rarely explicit in its examination of the influence of supporting institutions on the outcome of certification, this section has demonstrated the likelihood that the outcome of interventions like VSS are indeed highly dependent on the interaction with institutions and GVC governance. Livelihood strategies and local power structures are also significant determinants of the outcomes of VSS programs, and these issues are readily apparent in the southern Sumatran context, which is detailed below.

Methods

Field research for this paper was conducted across three villages in southern Sumatra (study village A, B, and C, respectively), each resident to between 1000 and 3000 individuals. Study villages were selected to be broadly representative of local districts, and selected in collaboration with coffee industry representatives based on a short reconnaissance of the area immediately prior to research commencing. Study village A is located in South Sumatra province, while study village B and study village C are located in Lampung province². A brief description of each study village is given in the following sections, with nuanced differences in institutional environment apparent between villages. Two coffee exporters, each directly associated with global lead firms, were active across the three study villages, although there are six major coffee exporters (and perhaps 20 exporters in total) located in Bandar Lampung, and interviews were conducted with representatives from the six majors in order to gain a more representative picture of corporate governance of the Sumatran coffee value chain.

Eight months of field work was completed across the three study villages during 2015, 2016 and 2017. The primary method of data collection was participant observation to understand the social settings across the village communities where VSS standards had been introduced. This included opportunistically visiting farms with producers, and attending farmer group meetings. The timing of the fieldwork coincided with the harvest season each year, and this was assisted by the slightly varied harvest seasons in each study village, which are primarily dependent on elevation. The harvest varies each year depending on weather conditions, but generally peaks between June and October. During the 2016 harvest, for example, study village A completed its harvest season in July, while study village B producers harvested through August, and the main harvest in study village C concluded in September.

Semi-structured interviews were completed with key informants in each village, including village and district heads, company agronomists ('extension officers'), local traders, heads of farming groups, farmers (men and women) and rural labourers. A total of 248 interviews were completed. Where possible, interviews were conversational and aimed to triangulate key facts about coffee production and the VSS program in the village. Interviews also aimed to establish a local perspective on VSS, and wherever possible, interviews were carried out at the place of work of the key informant, or within their homes. In addition, a further 45 group interviews were completed in the study villages. The majority of these group interviews were impromptu and informal, with many taking place at the conclusion of routine farmer group meetings.

The institutional environment in Sumatra

Southern Sumatra context

In southern Sumatra³, control over VSS is maintained locally by coffee exporters, who introduce 4C into producer communities, provide training and buy verified produce from them. As explained by Vellema *et al.* (2015: 15), ‘Although participation into certification schemes is voluntary in principle, in practice it is often the buyers who select farmers’, and this selection in Sumatra may be dependent on company policy concerning land titles, accessibility to the road network, the extent of prior training support for farmers, and the apparent strength of producer organizations. Coffee exporters frequently utilize pre-existing farmer groups to roll-out VSS like 4C and, occasionally, Rainforest Alliance (RA). During the New Order regime of President Suharto (1966 – 1998), a number of these farmer groups were established to facilitate government interventions into rural areas, which also established patronage relationships between producers and village elites that persist today. There is a sense that the roll-out of agricultural modernization in the form of VSS by coffee exporters has mirrored these past interventions through a ‘discourse of developmentalism’, a term which Bettinger (2015: 130) uses to describe a situation where ‘the technocratic State would bestow the fruits of modernization upon the rural populace, facilitating social and economic transformations’.

At a broad scale, the three study villages examined in this study are largely similar, with nuanced differences owing largely to major migration events across southern Sumatra in the 19th and 20th centuries. All are set within a common bureaucratic administrative framework, standardized during the Suharto era. The history of all three villages was strongly influenced by the southward push of the Semendo people to Lake Ranau in the 19th century, and onwards to present day Sumber Jaya by the mid-1980s. Study villages A and B were then sites of immigration for Javanese and Sundanese households, stimulated spontaneously by higher coffee prices (Verbist *et al.*, 2005) in addition to the government’s mass-transmigration programs of the 1970s and 1980s. Prior to these transmigration programs, land was plentiful and labour was the main constraint on converting forest to farmland (Potter, 2008). Today, there is an apparent surplus of labour outside harvest season, and there are constraints on land availability in larger villages. The presence of *Hutan Kemasyarakatan* (HKm, or community forestry) is also significant. HKm are special zones where coffee production is permitted within protected forest as part of a multi-strata agroforestry system, but where tree removal is prohibited (Kerr *et al.*, 2006). The policy of coffee exporters varies with regard to HKm, and will be discussed later. Despite broad similarities between villages, there are several key differences that have been identified as having a potential impact on the roll-out of VSS, as presented in Table 1.

Each exporter has limited resources to direct to training, and have sought a ‘path of least resistance’ for roll-out of their respective VSS programs. Training programs may be stretched by considerable distances or poor road quality (as is the case for Village A and Village B), which discourage training events in remote locations. The pre-existing presence of government PPL extension officers and HKm areas in Villages B and C may ease the pathway for training, for example, as producers in these areas are also likely to be initially more familiar with principles of sustainability than producers in Village A.

Population density is equally important—while producer groups are typically limited to a maximum of 40 participants, more groups in Village C allow Exporter B to roll-out VSS programs with greater efficiency. The presence of women’s farmer groups

Table 1. Major features of the three case-study villages.

Feature	Village A	Village B	Village C
Location	Muara Enim, South Sumatra	Lampung Barat, Lampung	Tanggamus, Lampung
Supporting exporter	Coffee exporter A	Coffee exporter A	Coffee exporter B (a vertically-integrated lead roasting firm)
Households	~1,100	~1,200	~3,000
Time from port [†]	10 – 12 hours	5 – 6 hours	4 – 5 hours
Location of 4C buyer from centre of town	5 minutes	30 minutes	1 minute
Major thoroughfare	Sealed (fair)	sealed (poor)	Mixed (sealed & unsealed)
PPL [‡] assistance for coffee production	No	Yes	No
Ethnicity [§]	Semendo	Javanese (~90%)/ Semendo(~10%)	Javanese (~80%)/ Semendo(~20%)
4C certification	Yes	Yes	Yes
R.A. certification [¶]	Yes	Yes	No
Collective marketing capacity ^{††}	No	No	Yes—KUB
Women's farmer groups	No	Yes	Yes
HKm ^{‡‡} areas	No	Yes	Yes
Relation with local traders	Adversarial	Adversarial	Largely complimentary

[†] Bandar Lampung, assuming car-based transport. I was told that the time for a fully laden truck is approximately double.

[‡] *Penyuluh Petani Lapangan* (PPL, or Agricultural Field Extension Officers).

[§] Taken from *desa* statistic books.

[¶] Farmers were previously RA-certified, but Exporter A has since discontinued its RA programs in these villages. Exporter B has chosen not to obtain Rainforest Alliance certification at this stage.

^{††} Coffee exporter B secures market access on behalf of enrolled producers in study village C.

^{‡‡} HKm = *Hutan Kemasyarakatan*, or community forestry zone.

also increases the chances of sustainability principles becoming more deeply embedded, as a married couple working on a farm have more similar levels of education in this regard, and women can re-enforce information received during training events.

Exporter B has also declined to upgrade some producers to RA Certification, thereby focusing their resources on 4C. This also means Exporter B spends less time marketing RA-certified coffee on behalf of its producers. Exporter B has also created a complementary relationship with prominent local traders through the KUB system, which is in contrast with the more adversarial relationship pursued by Exporter A.

Study village A

Study village A is located in the Semendo Darat Laut sub-district of South Sumatra province, whose residents were all reportedly ethnic Semendo (Semendo thus refers to both a place and an ethnic group). A key aspect of local *adat* (traditional law) is known as *Tunggu Tubang*, and features a matrilineal system of inheritance, whereby the familial home and farm is passed to the eldest daughter in the family. *Tunggu Tubang* prioritizes the undivided maintenance of inherited assets—especially rice fields, the consolidation of extended family clan structures, and the cultural importance of

matrimony. These priorities coalesce with the influence of Islam (which is reportedly adhered to by all village residents) and the importance of the Hajj pilgrimage, to form the basis of cultural life in Semendo.

Coffee is second only to wetland rice as the major agricultural crop in study village A and, until recently, was used as a fallow crop following on from dryland rice swidens. It is now the area's major cash crop, although various other fruit trees (especially durian) and vegetables are also grown commercially in the village. Agronomic training provision from the government extension service is rare, and farmers reported that it was limited to rice production only. The 4C program was rolled out in the village by coffee exporter A, who established a training centre in the village in 2012, and maintains a team of six local agronomists, the majority of whom are ethnic Semendo. Rain-forest Alliance was introduced to some producers, but lack of market demand led to the abandonment of this program, with few impacts apparent on producers. Coffee exporter A sends the Bandar Lampung base price to all enrolled farmers each day via text message. There are no HKm areas in Semendo, but protected community and state forest is present. The impact of 4C on the village to date has been modest, although farmers reported increased price transparency, improved marketing opportunities and enhanced activity within farmer groups as outcomes from the program.

Study village B

Study village B is located in the sub-district of Air Hitam, in the west of Lampung province. Ethnic diversity in the village (Table 1) is greater relative to the other two study villages. Coffee is the major crop in the village, but other cash crops, including pepper and bananas, are fairly widely cultivated, resulting in more diverse sources of agricultural income. Producer groups (including women's producer groups) receive regular assistance from Ministry of Agriculture extension officers in the form of agronomic advice, both theoretical (off-farm) and practical (on-farm).

Producers in study village B had a history of selling to coffee exporters A and B at different times depending on the prevailing strength of the trade network, but would generally sell to only one during a particular season. This alludes to an apparent unspoken agreement across southern Sumatra that rarely sees exporters competing directly with one another at a village level where VSS programs have been introduced. At the time of research, coffee exporter A had closed their buying warehouses in West Lampung reportedly due to weak global demand for low quality Robusta, and their training programs were scaled down accordingly, while coffee exporter B had directed its focus towards farmers in a neighbouring sub-district. While the farmers I spoke to were confident of their ability to find other avenues of sale (local traders), they were unsettled by the sudden and, apparently, unexpected cessation of coffee exporter A's purchasing activity. Many farmers in study village B have a mix of private and HKm land, although very few HKm land-owners reported selling to coffee exporter A. Local government extension officers and a longer history of exporter presence in the area have likely contributed to farmers reporting fewer impacts from 4C on smallholder livelihoods in study village B since the baseline level of support and influence was higher than in Village A.

Study village C

Study village C is located in the Ulubelu sub-district of Tanggamus. Relatively skilled farmers cultivate pepper, papaya and chilli, and there is limited rice cultivation in the village, but no crop matches the economic importance of coffee. 4C was introduced

into the village three years ago by coffee exporter B, which has had a presence in the village since the early 1990s; an extended period of engagement that distinguishes study village C from the other villages. Farmer groups, including women's farmer groups, make up one of two *Kelompok Usaha Bersama* ('collective effort groups' or KUB) in the village, which were established by coffee exporter B as an agribusiness management unit. The KUBs incorporated existing coffee collectors, who often also act as heads of farmer groups. The largest traders are typically the head of the KUB, meaning coffee exporter B avoids direct competition with local traders. Most farmer group members who receive training tend to sell to coffee exporter B. Each KUB has an agronomist, and they are prominent community leaders. Membership of farmer groups in the village is above 70 per cent, which means familiarity with the 4C training provided by coffee exporter B is high. Coffee exporter B has also established a strong relationship with the Indonesian Coffee and Cocoa Research Institute (ICCRI), which includes the establishment of several nurseries in the area, and the annual distribution of pest and disease-resistant seedlings to enrolled farmers. HKm zoned areas are extensive in the village, and the conservation value of local forests is highlighted by the prominence of an international conservation organisation (WWF) in the area, who runs farmer and school education seminars. The impact of 4C in study village C has included a small price premium, and a wide-spread uptake of organic composting.

Corporate strategies and VSS programs

VSS tend to be rigid in structure in order to maintain global consistency, being generally inflexible towards local nuance and geographic variation (Neilson *et al.*, 2010). However, there is some variation in the way roll-out partners of VSS adopt the intervention as a tool to achieve different goals, particularly with regards to the method and extent of training offered to enrolled producers. Coffee exporter B is attempting to enrol all local producers in the 4C program. When asked why, a representative of coffee exporter B responded, 'to secure our supply and to add weight to our commitment of sustainable production' (pers. Comm., Bandar Lampung, 2016). In fact, coffee exporters A and B have adopted the entire 4C platform as a training tool for all producers enrolled in their supply chains across Lampung. The institutional support of the KUBs provided by coffee exporter B has undoubtedly made the roll-out of VSS easier, as the KUBs have had an extended history of implementing various programs introduced by exporter B.

Direct market benefits (for exporters, KUBs and producers alike) arising from certification are dictated by the corporate policy of lead firms. For producers, access to price premiums is dependent on market access to exporters supporting VSS. In southern Sumatra, this has become more difficult after Mondelēz, the biggest buyer of southern Sumatra Robusta, indicated in 2017 it would no longer be buying certified coffee. Coffee exporter A subsequently failed to secure a contract to export RA certified coffee for both 2016 and 2017, forcing a scale-back of support for certified farmers in West Lampung. In addition, strong competition from Vietnam, where VSS rollout has many advantages, is crowding out producers in more remote parts of southern Sumatra. This is due to higher transportation costs in Sumatra, where journeys to port of up to 24 hours work are not uncommon, and where yields per household are much lower than in Vietnam, such that the costs to exporters of sourcing VSS coffee is much higher in Sumatra. Two other international traders, who source from West Lampung and Lahat regencies, adopted similar international strategies, reducing overall demand for

VSS coffee in Sumatra. This has had two main consequences: i) exporters have withdrawn support from producers who were previously enrolled in their programs; and ii) producers sell coffee that is verified VSS-compliant into conventional trade channels where they are not rewarded with a market premium.

Training is required for most producers prior to achieving VSS compliance, particularly where banned practices (such as the use of certain chemicals) need elimination. However, while training is promoted as a key support mechanism for producers (e.g. 4C, 2013 and Fairtrade International, 2015), its efficacy is variable, depending on the extent of exporter support and commitment. While efforts to standardize training have been made by organizations like the Sustainable Coffee Platform of Indonesia (SCOPI), these efforts are undermined by those traders with little real interest in sustainability initiatives (many of whom are oriented towards the domestic market and other emerging markets), and who are willing to buy low quality coffee at acceptable prices for producers without imposing any restrictions on production practices.

To overcome this, exporters use training to develop trust among producers, which they hope encourages preferential access to supply sources. For coffee exporter B, this extends to providing institutional support for local schools and hospitals. More commonly, agronomists are hired locally to bridge cultural divides between (frequently) foreign-owned coffee exporters and smallholder communities. The head of a farmer group in study village A noted, 'When [coffee exporter A] arrived, the farmers were afraid that they were lying. But once evidence arrived of the benefits, they developed more trust' (pers. comm., Semendo, 2016). The regular presence of company agronomists as the face of the coffee exporters also assists in maintaining commitment to VSS programs and therefore certain supply chains.

Some exporters, however, are abandoning third-party VSS altogether in favour of internal management systems due to perceived high costs and diminishing returns on yield and quality. One exporter had discontinued paying for 4C certification for suppliers in its supply chain after the worst practices had been eliminated, and further yield improvement deemed unlikely. Producers within this coffee exporter's catchment consistently produced Robusta with quality Grade 2, substantially above the average of Grade 5 for southern Sumatra. However, with no export market demand for Grade 2 Robusta, the coffee was subsequently mixed with lower grades, or sold to local cafés in Bandar Lampung. As a result, the annual expense of auditing farmers (reported to be USD 7500) was saved and certification discontinued. This emphasizes the importance exporters place on, and the extent to which market access for certified produce is subject to, export market demand.

Corporate policy may also dictate market access depending on producer land access rights. Despite the reported success of conservation efforts in HKM areas (Kerr *et al.*, 2006), Exporter A and Exporter B avoid certifying coffee from HKM areas, for fear of negative publicity relating to sourcing coffee from 'protected' forests. Some farmers with both HKM and private land, however, subvert these restrictions by mixing their coffee together, which is extremely difficult to monitor. This stands in contrast with a third exporter, which sources all its 4C coffee in Tanggamus regency from HKM farms without having any concerns over land title. Interestingly, the local branch of WWF, an NGO in favour of environmental protections, endorses certification of farmers with HKM titles, given the success of HKM in preventing encroachment of the nearby Bukit Barisan Selatan National Park. The success of the HKM program reflects how consultation with communities, rather than forceful policy, may be more effective to generate environmentally positive outcomes (Suyanto *et al.*, 2005; Verbist *et al.*, 2005), although

exporters concerned about association with 'illegal coffee' (WWF, 2007) have decided to be more risk adverse.

The varying approach of coffee exporters to HKm demonstrates how the complex interaction of local setting, international markets and corporate policy can influence VSS outcomes, all with minimal input from producers. Indeed, corporate social responsibility commitments, exporter strategies and lead firm activities are often undertaken with consumers in mind rather than producers. However, there are also fundamental ways that producer livelihood strategies can influence VSS, and these are discussed in the following section.

Household livelihood strategies and VSS programs

While corporate strategy may determine access to VSS, producers must determine whether participation in training and implementation of recommended practices is compatible with their livelihood strategies. The way livelihood assets shape the interaction between producers and VSS is particularly important, and this requires an understanding of the highly diversified, low risk strategies of coffee smallholders that tend to prevail across southern Sumatra. Through years of experience, smallholders apply low risk strategies to maintain or improve their well-being, to enhance their resilience, and to ameliorate the symptoms of poverty, each of which are key livelihood outcomes (Scoones, 1998). As explained by one exporter, 'we have tried a purely business mindset in developing coffee in the area and it hasn't worked. There must be co-operation with producers and understanding of their livelihoods if our VSS programs are to be successful' (pers. comm., Tanggamus, 2017).

Typically, diverse portfolios comprise a mix of on-farm and off-farm work, and on-farm production is rarely limited to less than three cash crops, even where households will typically have access to around 1 ha of land. Thus if the opportunities from a particular crop are detrimentally affected, perhaps due to local weather conditions, a pest or disease outbreak, retreat of a trusted buyer, or global price volatility, then another income source can act as a temporary buffer, or sometimes lead to a major shift in livelihood strategy. Such a diversified livelihood strategy appears inconsistent with buyer demands for greater investment of time and capital into coffee production, even for simple measures like sorting out the worst quality coffee. 'It's too difficult,' a smallholder said, 'it's just easier to keep it all together and sell to a local trader instead' (pers. comm., Lampung Barat, 2016). The way training interacts with the risk profiles of producers is also likely to determine the extent to which producers implement training. A sceptical producer claimed, 'certification will require more effort. Perhaps it will be worthwhile, but the yield is usually most dependent on good weather anyway' (pers. comm., Tanggamus, 2016).

Implementing labour intensive soil management techniques, like terraces and buffer zones (as is recommended by many VSS programs), is even more problematic. Where terraces and buffer zones are present, these are often evidence of historical government assistance. A farmer from Pagar Alam (on the foothills of Mt Dempo in South Sumatra) insisted that soil management practices there were far more advanced than in Lampung, because the Dutch had invested money into creating terraces during the colonial period, which were easily maintained decades later (pers. comm., 2017). This indicates how VSS requirements for labour-intensive changes to land management may inherently favour those with a history of institutional assistance and high-risk tolerance.

Off-farm work is particularly appealing for many producers, as it is usually less time-intensive, perceived to be more enjoyable, and believed to deliver more certain returns. A range of both formal and informal off-farm work is available in southern Sumatra. Major infrastructure projects in study villages A and C have provided poorer producers with rostered labouring work, enabling essential household and farm activities to be undertaken on rostered days off. Wealthier farmers are able to pay for labour activities on farm, and are relatively better positioned to weigh any potential investment in coffee production against investment (of time and finances) in other activities, such as construction, small convenience stores or upgrading cash crops, like coconuts or peanuts. Most wealthy farmers view investment in VSS participation as a possible option where they forecast economic benefits, such as premium prices or improved yields, to be above their costs and time commitments (in terms of increased labour allocation for sustainable practices as well as attendance at meetings and trainings).

Certification is generally incompatible with migration as another common livelihood strategy. While households do have strong cultural and familial ties in each of the study villages, particularly in study village A, households are flexible should other work opportunities arise elsewhere. The assumption that smallholders have surplus labour and desire to work more on farms, let alone stay in rural areas, is questionable, particularly with respect to the youth. In study village A, cultural tradition compels young men to leave the family home upon completion of their formal education (known as *merantau*, or 'branching out'), and if they find work in urban areas, remittances can be a good source of income for those still resident in the village. Thus, older, more established farmers may be more comfortable taking on VSS than their younger counterparts. An elder in study village A explained, 'it's a good thing people leave. If they succeed, they probably won't come back, but if it doesn't work out, they can always live in the village again' (pers. comm., Muara Enim, 2015). This highlights a misalignment between producer livelihood strategies and demands on producer livelihoods from VSS. In particular, the dynamism required by smallholder livelihoods leads them to continually search for lower risk strategies, engendering a diverse livelihood portfolio.

Government programs and formal institutional environment

Government is prominent in the life of rural communities across southern Sumatra. Politicians project control through large billboards in market places, banners across school entrances, and even placement of their images on farmer group certificates. The intervention of government into farmer groups echoes their formation as arms of political influence during the Suharto era. While they continued to facilitate farmer receipt of government largesse (like subsidized fertilizers and other handouts), groups had become largely dormant in the case study villages before the entry of VSS. However, VSS programs require collaboration between government, industry, producers and the wider community, in order for sustainable production to become embedded at a larger scale. While (North, 1991) notes the importance of constitutions, laws and property rights in forming formal rules, the primary mechanism for this collaboration is the roll-out of programs through pre-existing producer groups, which are government endorsed.

In establishing farmer groups, the Ministry of Agriculture's *Penyuluh Petani Lapangan* (PPL, or Agricultural Field Extension⁴) has provided a useful framework for most coffee companies to roll-out training, as coffee companies simply obtain farmer group lists

from the PPL, and begin training sessions following local government approval. However, government resources are limited and they can only establish a limited number of farmer groups, and provide them with fertilizer subsidies and training. Moreover, government resources for agricultural support are frequently oriented towards staple food crop production, the national self-sufficiency in which is far more important politically than for export commodities like coffee (Neilson & Wright, 2017). Similarly, there is a resource-constrained limit to how many farmer groups can be established by coffee companies.

Moreover, the presence of 4C in rural Indonesia sometimes acts as a catalyst for government to direct existing resources away from coffee production to food crops and other horticultural crops. For example, in study village A, PPL support for coffee production is seldom available beyond the (very occasional) distribution of subsidized fertilizers. In study village C, the long-term (>20 years) presence of coffee exporter B has enabled the PPL to limit support for coffee in favour of rice, banana, and pepper production. 'We *must* focus on rice production,' the head of the PPL in Lampung told me, 'and the secondary focus should be on edible horticultural crops like fruit and vegetables (pers. comm., Bandar Lampung, 2017).' But this has left farmers dependent on the shifting whims of corporate priorities for inclusion in coffee training programs. Over the last 10 years, the wavering commitment of coffee exporters in study village B appears to have motivated the PPL to continue providing coffee training, which evidently leaves small groups of farmers with the skills to re-commit to VSS if the opportunity arises. However, this opportunity exists because of strong advocacy by local farmer group heads and the strong social networks with PPL officers.

The endemic problem of *Kolusi*, *korupsi* and *nepotisme* (collusion, corruption and nepotism) among local bureaucratic elites sees them shaping institutions to suit their interests. This can be relatively benign, such as the PPL 'employing volunteers' to head farmer groups because they can be trusted to carry government messages to farmers. However, problems arise when local bureaucrats shape programs for their own interest, particularly with the intention of misdirecting training budgets, and this was reportedly a reason for higher levels of government to turn to VSS in attempt to better monitor and ultimately avoid these practices. The mayor of one highland district commented, 'the 4C program is better than anything that I could roll out through my agricultural department, which would present too many barriers to implementation' (pers. comm., Lahat, 2016). This comment alluded to the entrenched systems of patronage across Indonesia, which frequently enables corrupt practices. Upon learning of SCOPI's training programs, the mayor promptly organized funds for local farmers to participate in SCOPI training events. This suggests the support offered by private sector extension officers can provide opportunities for producers to distance themselves from bureaucratic inertia and ineffective support.

It seems likely the same social networks are probably serving a multitude of purposes, with one particularly sceptical (and excluded) producer noting, 'It's always the same farmers that get assistance' (pers. comm., Muara Enim, 2016). For example, farmers have started receiving coffee seedlings from the Indonesian Coffee and Cocoa Research Institute (ICCRI), a state-owned enterprise, which has developed partnerships with both coffee exporters and local governments. One producer complained about ICCRI, saying they, 'only help farmers who have the right connections,' (pers. comm., Tanggamus, 2016) with another adding, 'trained farmers are the ones who end up being selected for participation in other development projects' (pers. comm., Lampung Barat, 2016). This reflects how corporate partnerships can exclude those less

well-connected farmers. At the same time, the trainers complain of having to repeat training sessions on how to replace old trees with seedlings, reflecting the risk-aversion even among those with 'the right connections'.

It is harder, however, for village elites to extract favouritism from universal government programs like healthcare and education. As a result, the interactions between government healthcare and education institutions (such as health clinics and local schools) are generally positive, particularly in Village C. Here, exporter B has been able to support local healthcare facilities and school education programs, such as basic sanitation demonstrations, which are an inherent part of many VSS. These programs enable exporter B to glean trust from the local community and re-enforce existing efforts to improve local healthcare and education levels, rather than introducing separate interventions. Notwithstanding these positive synergies, the close relationship between business and governments at all levels of political life in Indonesia, mean that social relations may have an impact on precisely who reaps *commercial* benefits of interventions, and this will be further developed in the following section.

Social networks and patronage

In many rural areas, institutions, 'are not neutral arbiters of access but rather, highly politically charged ones' (Scoones, 2015: 47), and it is those who have the ability to extract a surplus from institutional interventions who will benefit. In rural Sumatra, this ability can be loosely understood as having access to social capital, which can be defined as, 'social organisations, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions' (Putnam *et al.*, 1993: 167). Social capital typically takes three forms; bonding capital, common between family members and acquaintances within existing social circles; bridging capital, a horizontal link between similar groups (e.g. several farmer groups working together); and linking capital, which can be thought of as a vertical link along a value-chain. The ability to access, and extract value from, social networks often has an informal basis. Where formal institutions can vary on electoral cycles, informal social networks can impose 'a pervasive influence upon the long-run character of economies' (North, 1991). This section details the interactions between these social norms and VSS upon the roll-out of the latter across the study villages.

The introduction of VSS to southern Sumatra has highlighted pre-existing structural inequalities within target communities, particularly with regards to who does or doesn't have access to VSS. For example, farmers in pre-existing farmer groups may receive assistance from the Ministry of Agriculture, which has proven important in giving producers access to exporters and, subsequently, certified markets. The extent of assistance from the Ministry can vary enormously and may influence which producers gain access to farmer groups. A producer observed, 'The closer you are to the village head, the better, especially if you need support' (pers. comm., Muara Enim, 2016). While the exporters *have* assisted the formation of farming groups in some instances, particularly in villages A and C, this quote is indicative of path dependence, where an individual's gains tomorrow are established by yesterday's institutional framework (North, 1991). In addition, negotiating enrolment in VSS programs was almost exclusively between coffee exporters and farmer group heads, and rarely required government input. The relative absence of political organization and autonomy among producers makes the incidence of path dependency more common.

Where individuals assume pivotal positions within a social network and dictate activities, it is apparent that benefits regularly skew towards that individual. For example, the first to be notified of training events or the dispersal of seedlings are farmer group heads, who are inevitably at the front of the queue to receive assistance. This demonstrates how social capital shapes household attitudes to interventions like VSS, and how the success of VSS should be considered not just in terms of who is included, but who is excluded, and what pre-conditions they fail to meet (Bolwig *et al.*, 2010).

Across the study villages, patronage is readily evident between coffee traders and their suppliers, usually in the forms of informal credit, which traders use to guarantee supply. More recently, coffee exporters' attempts in study villages A and B to insert themselves into direct competition with these local coffee traders generated both competition and outright tension, which was eventually tempered by the ability of local traders to use their social networks and lower quality requirements to insert themselves into the supply chain as 'preferred suppliers' for coffee exporters (Bray & Neilson, 2018). This is enabled by the top-down structure of VSS, which allows local participation to be determined by those with significant power, namely farmer group heads, traders and bureaucratic elite. It also enables elites to maintain control over access to VSS, particularly in the absence of bridging capital, which is a major feature of study village A in Semendo.

Following the Indonesian government's nation-wide repression of autonomous efforts to build social capital, most notably through the PNPM program (Bebbington *et al.*, 2006), the creation of farmer groups with government sanctioned heads developed a system of patronage, which gave specific economic and social advantages. In some cases, this has produced a level of disillusionment; a producer told me, 'We don't have the right to complain about anything' (pers. comm., Muara Enim, 2016). Low levels of bridging social capital have led to both passive acceptance of top-down interventions and the absence of a collective voice that might otherwise generate better outcomes for farmers from certification. A shopkeeper in study village B complained that 'there needs to be far more consultation from the government; farmers need to be more involved in policy development' (pers. comm., Lampung Barat, 2016). In rural settings, however, unequal social and financial capital can be used to, 'pursue... individual interests at the cost of social norms, trust, and collective solidarity' (Portes, 2000, in Levien, 2015: 77). It was noticeable that farmer group heads (*ketua kelompok*) across the study villages were almost always full of praise for the VSS training programs, and scathing of less effusive producers. 'If they don't like the advice, they can leave' a group head exclaimed tartly, and that 'the reality of the benefits are too big to ignore' (pers. comm., Lampung Barat, 2016).

Coffee exporter B has not attempted to compete directly with local traders in study village C. Instead, the firm targeted elite traders with substantial turnover volume, and provided them with further financial and institutional support to become KUBs. This support is now entering its third decade, offering coffee exporter B unique opportunities to create its own 'institutional thickness' (Martin, 2000), both through its ongoing economic weight, and its capacity for collective mobilization, and the area is now a priority catchment for coffee exporter B. Heads of the KUBs therefore continue to have considerable influence over a large number of farmer groups to the extent that, with encouragement from coffee exporter B, *all* farmer groups were enrolled in 4C training.

While membership of farmer groups in study village C does not oblige producers to sell to KUBs, the degree to which farmer groups are entwined in the KUB is complex. Exporter B has slowly given more autonomy to the KUBs, who now run the VSS

training programs, including the payments to producer groups for meeting group targets. While the farmer groups appear very receptive to these developments, a question remains over producer autonomy. If a farmer group decides to sell to the KUB, group members are likely to follow, particularly if the farmer group head is also a KUB-linked trader—a common occurrence in study village C. Strong social ties between the KUB and traders, including familial ties, mean the process of disengaging from the KUB system (if considered) is likely to be more difficult.

The KUBs have also offered training to women's groups, who generally undertake specific tasks in relation to coffee production, including post-harvest and book-keeping practices. Several women told me, 'training helps us help our husbands on the farm, and we can remind them of things they should be doing' (pers. comm., Tanggamus, 2016). Training women also acts to re-enforce the important role of coffee within a household, and men appear more likely to attend training as a result.

In contrast, several farmer groups in study village A left the 4C training program following an internal vote driven by disaffected producers. This simple action reflects the lack of institutional entanglement in VSS experienced by study village A producers relative to their counterparts in study village C. It also demonstrates the social complexity at the roll-out sites of coffee value chain interventions, and the degree to which the influence of village elites (like traders and farmer group heads) within pre-existing institutions can determine access to, and shape the rollout of, value-chain interventions like VSS.

Conclusion

This study has attempted to explain the institutional environment that influences livelihood impacts from coffee VSS on southern Sumatra's coffee-growing smallholders. Rules, procedures and conventions, both formal and informal, form the institutional environment of the coffee value chain, which is strongly shaped by lead firms and their strategic suppliers. These firms continue to use VSS to meet corporate social responsibility requirements, even in the absence of consumer demand, and in doing so, employ different strategies to secure producers within their supply chain. Foremost among these are training strategies, which have quite different outcomes between companies, consequently producing different opportunities for producer livelihoods. In particular, larger vertically-integrated firms (like exporter B) appear more likely to undertake investments in conducting training with a longer-term outlook, relative to large traders and exporters (exemplified by exporters A and C) who are subject to more immediate commercial pressures to perform. The way corporate strategy interacts with local communities and civil society creates an institutional environment, with VSS becoming an additional institutional layer to be considered within a much thicker matrix.

Just as important as training, however, is an institutional environment that delivers services, including pre-existing government programs, and facilitates social networks, particularly patronage relationships, which are highly influential in determining the reach of VSS. These relationships are relatively stable and difficult to break, and lead firms adapt to this by either embracing the relationship (as in the case of KUBs) or by forming relations with village elites. From the available evidence in southern Sumatra, it is apparent that this adaptation may be more successful for the roll-out of VSS, rather than the pursuit of a strategy that seeks to disrupt these patronage systems. In the same vein, the 4C program in Village C demonstrates that VSS roll-outs can work cooperatively with, and build on, existing government social support systems (such as

educational and healthcare programs), rather than seeking to introduce new or unfamiliar programs. Other factors that influence VSS roll-out include the location of enrolled-groups, the quality of local infrastructure available to these groups, the presence of women's training events, and the relationship between the associated company and existing local traders.

In addition to the widely recognized importance of a price premium, or at least, a no economic-net-loss scenario for participating smallholders, there are some general conditions under which we might expect improved VSS performance:

1. Effective coordination between organizations that support VSS, especially lead firms, and existing state-sponsored extension services;
2. The presence of stable social support structures, which generate 'institutional thickness' within a producing region;
3. An agent that catalyses group formation, or invigorates a group by organizing an increased frequency of group meetings;
4. Limited disruption of pre-existing coffee markets and, where possible, the wholesale integration of these markets into the VSS supply chain, rather than the creation of new antagonistic, and possibly inefficient, market structures; and
5. Efforts to work collaboratively with, and empower, smallholders through appeals to their particular livelihood strategies are likely to generate greater impacts (in the case of Southern Sumatra, this refers to lower levels of labour and capital input).

It is this mesh of overlapping institutional and smallholder influences that are likely to dictate outcomes for the roll-out of VSS. These factors can help explain why the outcome of VSS described in the literature (empirical or otherwise) is dependent on institutional context. Indeed, by establishing the institutional environment in which VSS is introduced, the outcomes of VSS are shown to be more path dependent than suggested by VSS theories of change. This is not to say outcomes are predictable. While this study has highlighted certain path-dependent trajectories, 'regional development remains a highly contingent process that cannot be predicted *a priori*' (Coe *et al.*, 2004: 469). Nevertheless, the study has implications for our expectations for VSS following roll-outs. Empirical studies are still needed to assess the validity of theories of change presented by lead firms and VSS organizations. They can be strengthened where the institutional environment facilitating the introduction of VSS, and the livelihood strategies governing the decision to enrol in a VSS, are clearly detailed.

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Endnotes

- 1 From 4C (2013: 3), green 'reflects a desirable practice', yellow 'reflects a practice that needs to be further improved within a transitional period' and red indicates 'the current practice must be discontinued'.
- 2 Rural Indonesia has six levels of government, namely *Nasional* (national), *Propinsi* (Province), *Kabupaten* (Regency or District), *Kecamatan* (Sub-District), *Desa* (Village) and *Dusun* (Neighbourhood or hamlet).

- 3 I make a distinction between South Sumatra—a province—and southern Sumatra—a geographic area encompassing South Sumatra, Bengkulu and Lampung provinces.
- 4 The Ministry of Agriculture's department responsible for farmer training.

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6. PERCEPTION OF SUSTAINABILITY STANDARDS AMONG COFFEE FARMERS IN SOUTHERN SUMATRA, INDONESIA: IMPLICATIONS FOR UNDERSTANDING SOCIAL NETWORKS

“Everything we hear is an opinion, not a fact. Everything we see is a perspective, not the truth.”

- Marcus Aurelius

"We are all captives of the picture in our head - our belief that the world we have experienced is the world that really exists."

- Walter Lippmann

This Chapter brings subjective attention to producer perceptions of coffee VSS in southern Sumatra. It presents producer responses to the survey detailed in Section 3, before interrogating the reasons for their responses. This is particularly useful for adding to our findings on the institutional influences of the coffee value-chain, as producer perceptions of VSS, which are largely positive, do not seem to correlate with the modest impacts apparent from VSS on their livelihoods. Chapter 6 relates findings to the broader literature, by detailing what producers perceive as viable pathways to livelihood improvements. In doing so, it explores what may be substantive gains for producers arising from enrolment. The Chapter also provides a pathway through which lead firms may re-evaluate their engagement with producers, shifting their focus from market- and income-centric approaches to consideration of the themes of risk minimisation and resilience in household livelihood strategies.

As noted in the Attribution at the outset of the thesis, this Chapter is expected to be submitted to *Development Policy Review* in December 2018.

Perception of sustainability standards among coffee farmers in southern Sumatra, Indonesia: implications for understanding social networks

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Possible journals: Ecology and Society, Development Policy Review, Development and Change, Society and Natural Resources

Abstract

This paper discusses the perceptions of 550 coffee producers towards voluntary sustainability standards (VSS) across three districts in southern Sumatra, one of the world's largest areas of *Robusta* coffee production. Enrolled producers are very positive about the impacts of VSS on their lives, particularly the modest price premium available, training received through the program and improved farmer group functioning. Perceptions of some activities appear to be dependent on the capacity and policy of the particular firm involved in rolling-out the program, as these result in different levels of training intensity and quality. The apparent mismatch between empirical studies that find minimal livelihood improvements from VSS over the last 15 years and the positive response from producers in southern Sumatra is somewhat perplexing. We explain this outcome as a function of subjective producer perceptions of training, which provides improved social networks and social capital. What might otherwise be interpreted as insignificant improvements to livelihoods by researchers using ostensibly objective indicators are subjectively appraised by producers as a significant departure from the very low levels of support previously provided to them. Producers perceive VSS enrolment as facilitating access to material goods, while also increasing levels of knowledge exchange and trust in their social networks. These developments are anchored onto pre-existing producer groups, improving livelihood resilience and social capital without disrupting their low-risk livelihood strategies.

Introduction

It is unclear whether voluntary sustainability standards (VSS) in the coffee sector, which were essentially developed to meet consumer demand in the global north, afford equal attention to the livelihoods of those responsible for implementing the standards in the global south - the producers. This is a problematic challenge for VSS in areas like southern Sumatra, where farmers lack a collective voice and are generally passive recipients of VSS interventions like 4C (the Common Code for the Coffee Community). While the number of empirical studies examining the impact from VSS on coffee producer livelihoods has increased over the last decade, most of these studies have attempted to adhere to an objective appraisal of impact, rather than adopting a producer-centric view of VSS. This study seeks to redress this by presenting results of a perception survey among Sumatran producers enrolled in various 4C production units, a VSS with a "low-barrier" to entry. In doing so, we link the positive perception of VSS among enrolled producers to their apparently improved levels of social capital, and detail the lived outcomes of these improvements.

VSS were initially established in the coffee supply chain to induce changes to specific practices. In brief, organic certification demanded the removal of synthetic chemicals from production, Fairtrade demanded the fair treatment of labour (among other initiatives), and eco-certification schemes, such as Rainforest Alliance and Bird Friendly, placed importance on the natural environment in which coffee was grown. London (2012) argues that these original intentions were adopted as a means to secure supply chains and to enhance consumer recognition and trust. This resulted in an audit-oriented mechanism that prioritised satisfying the demand of downstream buyers in the value chain (i.e. manufacturers, retailers and consumers) rather than meeting the needs of upstream value chain

participants (i.e. producers). This, in turn, may have resulted in the preferential purchase of coffee from producers more likely to meet (or having already met) a given set of standards, and this may not result in significant practice change or livelihood improvement.

The desire to use these improved practices to secure supply has become prominent among lead firms. The threat of climate change is adding to pressure on the supply chain from modest gains in production levels, even as demand for sustainable coffee plateaus (International Coffee Organisation 2018). A large part of the appeal of 4C is its self-styled low-entry and low-visibility, which aims to introduce a base-level of sustainability into the wider supply chain without necessarily branding end products. Consequently, the 4C standard had been embraced by the mainstream coffee industry and the volume of 4C-verified coffee produced globally increased from around 600 thousand tonnes in 2010 to over 2.5 million tonnes in 2015, or around 29% of global production (Grabs, 2018).

Despite large volumes of 4C-verified coffee produced, Panhuysen & Pierrot (2018) estimate that only 23% of this was actually sold as such in 2017. This is unlikely to increase after recent developments, which saw the 4C Association partner with IDH, The Sustainable Trade Initiative, to create the Global Coffee Platform in 2016. The 4C VSS scheme was subsequently acquired by MEO Carbon Solutions in January 2018, while the Global Coffee Platform became focused on farm-level service delivery programs independent of audit-based mechanisms. While the 4C VSS continues to exist, these developments suggest a departure away from earlier multi-stakeholder initiatives in the coffee sector that sought transformational change through VSS (Grabs 2018; Panhuysen & Pierrot 2018).

Prior to these recent developments, one geographic area of considerable 4C uptake, with the formation of numerous 4C-verified production units, had been southern Sumatra, one of the world's largest sites of *Robusta* coffee production. The key production districts of Tanggamus (Lampung Province), Lampung Barat (Lampung) and Muara Enim (South Sumatra) were the focus of our survey, which was completed over a period of five months throughout 2016 and 2017. In each district, coffee is an important contributor to the local economy, and is the most important source of income for communities in these regions. Producers in the area are smallholders cultivating an average of one to two hectares of land, who pursue a low risk, diversified income strategy (Bray and Neilson, 2018). All 4C production units in Sumatra have been established and are managed directly by global lead firms, or by international traders selling to these lead firms, where these units have been incorporated within the firm's supply chain and often integrated with other firm-specific sustainability initiatives.

Empirical studies suggest that the objective impacts on yields, household income and health outcomes from VSS are difficult to claim with any certainty, while impacts on price and education are modest (Bray & Neilson 2017; Oya et al. 2017). Panhuysen & Pierrot (2018, p.18), however, suggest that "the implementation, monitoring and impact of the industry's inclusive 4C baseline verification system [as opposed to other VSS like Fairtrade, organic and Rainforest Alliance] has hardly been investigated". Furthermore, relatively few studies have attempted to specifically report upon the subjective, localised reality of producer perceptions of VSS. This study forms part of an important body of work that assess VSS claims and objectives by analysing the livelihoods of smallholder coffee producers and their organisations (Utting-Chamorro 2005). This paper aims to understand the subjective attitudes of producers towards sustainability standards in southern Sumatra, by reporting on what producers believe they gain from 4C participation, their attitudes and understanding of the program as implemented by different firms, perceived social benefits and changes in social group dynamics.

[Producer attitudes towards VSS programs](#)

Sustainability programs and certification schemes have been widely used in coffee, forestry and other agricultural sectors now for at least two decades. The consensus from existing studies is that benefits

from these interventions are often associated with the pre-existing priorities (and tolerance for costs) of the target communities (Burivalova et al. 2017). There has been a shift away from understanding 'value' in terms of profits or immediate financial gain towards a more politically contested concept that "refers to the purpose and justice of human productive activity" (Gradin 2016, p.362). Participation in a program includes knowledge-sharing and training and should be considered not just as a means of improving production and profits, but as a means of achieving a tangible improvement in the broader income and livelihoods of producer households (Gotor et al. 2017). Empirical studies of VSS in the coffee value chain demonstrate awareness of this idea, generally as a product of household livelihoods being diverse and often fragmented (Bray and Neilson, 2018). The impact pathways of VSS on livelihoods can be varied, context dependent and often unexpected. However, where studies employ objective methodologies, particularly those focused on environmental indicators (e.g. Hagggar et al. 2015), they push a "raw empiricism" (van Dijk 2011) that may act to downplay the influential mediating role performed by local institutional environments and the agency of participants (Bray 2019). In these contexts, subjective studies of producer perceptions may be useful to examine why producers persist with VSS despite empirical data finding no significant producer household benefits.

Price incentives are often cited as *the* crucial measure needed to attract producers (e.g. Snider et al. 2017). While price benefits *may* be present (Oya et al. 2017), and *may* lead to improved livelihoods as a result of increasing purchasing power (Jena & Grote 2016), this is often reflective of local market conditions, which may also depress VSS premiums due to oversupply (Sick 2008; Bose et al. 2016; Elder et al. 2012a). Furthermore, price fluctuations due to global supply and demand dynamics will be far more significant than any available price premiums. While there is some evidence that the roll-out of VSS programs target producers of higher quality coffee who are unlikely to consider price premiums significant, there are often benefits beyond price premiums that encourage producers to remain engaged with VSS programs (Rueda & Lambin 2013). In the absence of direct market benefits, enrolled farmers may still look favourably on aspects of VSS likely to lead to indirect or non-economic gains. Social capital, for example, has been associated with more active participation in markets, improved cooperative bargaining power, and a greater sense of identify among producers (Abe 2009; Ruben & Fort 2012), which can lead indirectly to health benefits and even poverty alleviation (Seferiadis et al. 2015). In coffee-related case studies, social capital can facilitate the availability of technical assistance, farming equipment and market management services (Karki et al. 2016) leading to more efficient practices or improved environmental outcomes. However, examining producer perceptions of social capital is a complex area of study, as its appraisal is subjective, with lived realities varying between producer populations.

Generally, the literature suggests that producers perceive participation in VSS cooperatives to improve their social capital (Ruben & Fort 2012), although this often reflects pre-existing institutional support structures, like cooperatives and government extension officers (Bray 2018). For example, the pre-existing strong social networks of farmer cooperatives in Rwanda appears to have contributed to perceptions of positive impacts from Fairtrade, even though cooperatives were responsible for the perception (Elder et al. 2012b). Specifically, the relationship of producers with enrolled neighbours may be the greatest influence on the perception of VSS impact, rather than an actual outcome of VSS. Sick (2008) similarly noted the generally low regard for services arising from VSS among Costa Rican producers, owing to a strong pre-existing community structure, which provided a strong social and economic environment. Producer groups in Latin America, particularly Mexico, possess relatively higher organisational capacity than those in Indonesia, and it is difficult to attribute higher social function to VSS without considering pre-existing producer organisations (González & Nigh 2005). Unlike the strong producer groups of Latin America, farmer groups in southern Sumatra are rarely

conduits for social advocacy or agitation or even collective marketing, and instead are primarily used as vehicles for government support programs, such as the distribution of fertilisers and other subsidies. The VSS programs we observed in Sumatra were often built upon these organisational foundations, such that our study offers an opportunity to determine producer perceptions of impacts from VSS on social capital where pre-existing groups have relative weak organisational capacity.

Our study attempts to present the lived reality of VSS, as experienced by southern Sumatran coffee growers, and as it interacts with prior social institutional settings. We do this by presenting the social world of these producers with a focus on reported changes in social organisations and attitudes. An emergent theme from our research is the capacity of VSS to reshape and strengthen social capital within producer communities, where we understand social capital to be the networks of relationships and interactions between people and entities in a community. We argue that while social capital is present within the producer community, training activities present an opportunity to significantly enhance levels of social capital and networking in a way that improves social resilience and may open pathways for participation in policy discussions. This is important if producers are to more effectively articulate their specific needs and production requirements along the value chain towards those lead firms who retain control of value chain decision-making functions.

VSS programs in Southern Sumatra

In terms of volume, South Sumatra and Lampung are Indonesia's most important coffee-producing provinces despite having a reputation for low quality and low productivity coffee. These two factors have contributed to these provinces becoming target areas for firms and global lead firms searching for sites where easy improvements in efficiency and quality could be made. Of the VSS introduced to southern Sumatra's coffee producers, which include Rainforest Alliance (RA) and UTZ (prior to the 2018 merger between UTZ and RA), and an Indonesian-specific organic certification ("INOFICE"), 4C has the highest uptake according to our industry stakeholder interviews, owing to the relatively low requirements for ongoing enrolment of producers. While 4C Units can cover any type of production facility located in a coffee-producing country (including farmer cooperatives and other producer associations), in Southern Sumatra the managing entities are all large Firms or global lead firms and typically consist of between 500 and 3000 farm households, and are managed through smaller farmer groups each consisting of around 20 to 40 members.

The 4C (2013) theory of change expects positive change to be induced through commitment to a code of conduct, which comprises 27 principles: 8 economic, 9 social, and 10 environmental. These "are based on good agricultural and management practices as well as international conventions and recognized guidelines accepted in the coffee sector" (4C 2015, p3). Each principle is graded by a traffic light system of compliance, where green indicates the group meets the principle, yellow indicates improvements are required, and red indicates the principle has not been met. Producers are verified through groups, which must eradicate 10 Unacceptable Practices, and obtain an average yellow performance across the 27 principles, which in effect mean that any red scores must be matched by the same number of green scores. While the elimination of 10 Unacceptable Practices is required, the inability to meet other requirements of 4C does not automatically disqualify producers. This also appeals to the 4C Unit managers, who should have more chance of maintaining a verified supply base. There were at least five major firms in Bandar Lampung that were managing actively verified 4C coffee units in 2016 with a valid, third party audited verification statement. The firms commonly use 4C to facilitate corporate policy objectives, such as removing the worst practices from their supply chain (Bray, 2018), and may also require verified producer groups to meet other specific criteria, such as holding certain land titles or meeting minimum production volumes.

To expedite the 4C roll-out process, firms usually target pre-existing farmer groups, often by approaching farmer group heads, but occasionally establish new groups with government approval. Training is conducted through these farmer groups. Producers are likely to perceive VSS through a lens of previous experience with government programs, particularly those rolled out through previously existing farmer groups. However, instead of one-off grants or provision of subsidies, the 4C roll-out partner provides training between three and six times per year for all producer groups, usually in the lead up to and during the harvest season. This training activity constitutes the key aspect of the intervention in southern Sumatra.

Training occurs either at a house or coffee plot, typically owned by the farmer group head who is responsible for coordinating training timing with extension officers from the managing entity (and sometimes invited government extension officers). As demonstrated in our survey results, this leads to some confusion amongst producers as to whether the training is related to 4C verification or to more general company programs, or even if it is a government initiative. The outset of training generally involves a ceremonial aspect (*upacara*). Each member greets all other members with a handshake as they enter the room or garden, and a brief prayer and formal extended welcome opens the meeting, reflecting local cultural and religious sensibilities. Such processes mimic practices common in government activities and programs, and can be interpreted by outsiders as prioritising form over function as the perceived core aspects of the training can be delayed or marginalised. In the Indonesian context, an excessive emphasis on ceremony can be derided as *basa-basi* (small-talk) even when the social importance of such interactions is recognised. Similar practices in other studies are noted to foster social capital (Cilliers & Wepener 2007). Training is generally conducted in Indonesian, although social groups within villages across the study area regularly converse in Javanese or the local Semendo language, the latter being a Malay dialect spoken in the Semendo highlands of Southern Sumatra (Bray & Neilson, 2018).

Some coffee firms (firms or manufacturers who act as 4C “managing entities”) have also established local buying stations, although 4C-enrolled producers do not have an obligation to sell coffee to these firms. For example, one firm that we refer to as “Firm B” has chosen not to compete with local traders, instead incorporating major traders into *kelompok usaha bersama* (KUBs, or “joint venture groups”) in Tanggamus (12 KUB) and Lampung Barat (1 KUB) districts. These KUBs were established over 15 years ago by Firm B and establish preferential lines of trade in a highly organised structure, featuring chain-of-command from the Firm. This is in contrast to the experience of other firms (including two we refer to as “Firm A” and “Firm C”) who initially attempted to compete directly with traders on the ground. These local traders used their local networks to maintain their own coffee supply and established themselves as “preferred suppliers” to the firms (Bray & Neilson, 2018), preventing the latter from buying direct from producers. For Firms A and C, the desire to obtain 4C verification was their primary driver for engaging with farmer groups, while for Firm B (in Tanggamus at least), 4C verification was built upon their earlier agricultural extension program.

Since the completion of the survey, Firm A has discontinued buying coffee from southern Sumatra, in favour of its program in Vietnam, although producers will still receive training (although for how long remains unclear). Neither Firm B nor Firm C plans to expand their commitment to 4C or other certification programs reportedly due to weak global demand and a desire to consolidate their current supply base and programs. While state support extends to coffee producer groups in the form of fertiliser subsidies, the Ministry of Agriculture in both Lampung and South Sumatra rarely dedicates agronomic resources or services to coffee producers, and it doesn’t provide training in VSS programs. This is influenced by government priorities to support food crop production, like rice, corn, soy, fruit and vegetables, which are often associated with strategic self-sufficiency targets. This creates a

disconnect between the absence of support for coffee and its role as the single biggest income source in highland villages and, as a result, technical support for VSS and coffee farmers has come to be dominated by private sector actors, including by those establishing 4C units.

Methodology

In order to collect a representative sample of farmer perceptions towards 4C, a total of 558 participants were invited to participate in a simple survey, consisting of 40 questions. A pilot survey was conducted on 45 enrolled farmers in Muara Enim regency in South Sumatra, after which the survey was finalised. Eight enumerators from the University of Lampung were recruited and trained one week before commencing the surveys. All surveys were conducted in Bahasa Indonesia.

Seven 4C-registered coffee companies based in Bandar Lampung were approached to provide access to their lists of active 4C enrolled farmers. Of these companies, two had discontinued managing any VSS program, citing a lack of ongoing benefit and market demand, two were unwilling to participate in the study at the time, and three willingly participated, which are referred to as “Firm A”, “Firm B” and “Firm C” in this paper. The areas targeted for the survey have a high coffee production volume and include the *Kabupaten* (regencies) of Tanggamus and Lampung Barat (both in Lampung province) as well as Muara Enim (the Semendo highlands in South Sumatra province). The firms provided lists of over 6,000 4C-enrolled producers in total (Table 1). All respondents in Tanggamus under Firm C were located in an area of community-based forestry tenure (“HkM”), where there are explicit rules on minimum shade tree densities and the use of agricultural chemicals. Only producers who had been involved in a 4C production unit for at least two years were approached to participate. Farmer group lists were organised by village, and those with less than 10 4C-enrolled producers were removed from the sample population to avoid more idiosyncratic and variable results. Enrolled producers in remaining villages were then randomly selected for participation in the survey, with respondent numbers presented in Table 1.

The survey established background information about the respondent, before asking questions about their knowledge of the program, producer group function and attitudes towards training, attitudes towards practice implementation, and general outlook on coffee production following program participation. The survey team did not specify the gender of respondents, and women made up only 5% of all respondents, as men had been primarily involved in the 4C training programs and so were volunteered by the households to be more familiar with VSS. The survey did not approach producers excluded from the program, although non-enrolled producers and community members were interviewed outside of the structured survey.

This paper also draws on qualitative fieldwork completed over 6 months between 2015 and 2017 in southern Sumatra, which assists in interpreting survey findings. During this fieldwork, we visited the majority of villages from which participants in the perceptions survey were randomly sampled, for the purposes of conducting semi-structured key interviews with heads of villages, heads of farmer groups, traders, enrolled and non-enrolled producers, extension officers and other community members. A total of 250 interviews were completed, the results of which have also been reported in Bray (2019) and in Bray & Neilson (2018).

Table 1: Distribution of participant respondents

Company	Tanggamus	Lampung Barat	Muara Enim	Total
Firm A	-	96 (1,100) ¹	202 (2,000)	298

Firm B	112 (1,000)	98 (1,600)	-	210
Firm C	50 (300)	-	-	50
Total	162	194	202	558

1. Numbers in brackets indicate the total pool of producers from which the final number of respondents were randomly selected.

Perceptions of 4C-training in southern Sumatra

Most producers had attended training at least three times during the previous year (Table 2). An immediate sense of the varying commitments of different firms to training is the frequency of training and total hours attended by subsets of respondents. It appears that Firm B offers twice the rate of training as Firms A and C, with respondents enrolled by Firm B attending training in Tanggamus (“T”) and Lampung Barat (“LB”) for twice as long as their counterparts enrolled by Firms A and C (including those in Muara Enim (“M”).

Table 2: Attendance at Training (average hrs)

Criteria	Coffee Company	All	A		B		C
	District		M	LB	T	LB	T
Frequency of training events per year		3.41	2.05	2.35	5.94	5.33	2.26
Total hours attending training per year		14.91	10.29	9.64	26.31	20.71	8.94

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Table 3 and Table 4 present data regarding the nature of enrolled producers’ introduction to 4C training. Table 3 shows 50% of respondents were either unsure or unaware they had been 4C-verified, reflecting either poor communication of the purpose of training or the incidental nature of 4C verification to program purpose. From the respondents’ perspective, they were involved in a company-delivered training program that was incidentally related to a VSS at best. All subsequent questions then related to their experience of the “program”. 97% of respondents confirmed they received training from the coffee companies (participating coffee companies were previously asked to confirm that all potential respondents were indeed 4C-verified producers, and that training had included 4C-related training). Those who didn’t receive training were mostly from Muara Enim, indicating that some enrolled producers are either excluded from training (either knowingly or accidentally) or chose not to attend. The survey was discontinued for this group of respondents. For the remaining participants, the capacity for producers to distinguish between roll-out export partners and 4C was poor, particularly for producers in Muara Enim (7%).

Table 3: Awareness regarding the 4C Program (% of respondents unless otherwise indicated)

Indicator	Coffee Company	ALL	A		B		C
	District		M	LB	T	LB	T
Aware of involvement with 4C? (implying they were aware that they were being trained as part of a VSS program)		50	49	36	55	47	72
Perceived a distinction between coffee company and 4C		16	7	23	27	20	18
Received training as a result of the program		97	95	100	100	100	98
Period of program involvement at time of survey (average in years)		2.75	2.78	3.03	2.58	2.65	3.22

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Table 4 shows a large number of producers (47%) were notified of opportunities for 4C enrolment by the head of their farmer group or another member of their group (12%), reflecting a high degree of organisational continuity with previous government-funded interventions (which initially formed the groups). This was particularly evident for producers in Lampung Barat, many of whom had previously received government training (Table 4). 37% of producers (including 64% of Tanggamus producers enrolled by Firm B) were notified by a company extension officer (“ICS”, a term developed from the “Internal Control System” officer required by many VSS). For producers introduced to 4C via an ICS officer, this could be interpreted as an expansion of their social network, and an immediate strengthening of their ‘bridging social capital’ (i.e. connections that link people between social groups, rather than the ‘bonding social capital’ that links people in dense networks within social groups or “linking social capital” that links across formal or institutionalised boundaries).

Firm representatives noted the relative ease at which training could be rolled out across existing producer groups, compared to forming new groups, and it was common for firms to utilise existing groups to present training and verify producers, with the exception of Tanggamus producers enrolled by Firm B. These producers were likely to report being part of newly formed groups (82%), with limited prior training from government, although Firm B had been providing training to farmers in Tanggamus for an extended period.

Table 4: Program involvement (percentage of respondents for each company-district combination unless otherwise indicated)

Indicator	Coffee Company	ALL	A		B		C
	District		M	LB	T	LB	T
Who introduced you to the program?	Head of farmer group	47	59	47	15	35	96
	Company ICS	37	28	39	64	40	2
	Farmer group member	12	12	13	8	18	8
	Other	4	1	1	13	7	2
The program was introduced immediately after forming farmer group		14	32	15	82	9	2
Received training from government, prior to entry of 4C		32	30	70	4	49	2

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Despite the efforts of some firms to buy coffee at a local level, local traders dominate local points of sale (Table 5). However, this includes Firm B-enrolled producers who sell to KUBs (“collective businesses” that have been nurtured by Firm B over many years and have become formally incorporated into Firm B’s supply chain), thus blurring the line between the firm and local trader. Firm A’s stand-alone buying stations have had less success, although the absence of competition from other large firms allowed a quarter share of the market in Muara Enim. The interaction between new firm-operated buying stations and existing traders is further described in Name Withheld (2019), which emphasises how local traders, some of whom are also farmer group heads, often perform important patronage roles for their communities. In addition to trading agricultural goods, they act as alternative sources of finance, and supply food and other consumer products. Firm B has chosen not to challenge this status quo of trading arrangements, instead choosing to re-enforce it by strengthened the “cultural marker” (Bebbington 2007) of local traders as conduits of information.

Table 5: Points of Sale (%)

Coffee Company		A			B		C
District		ALL	M	LB	T	LB	T
Main coffee buyer	Direct to a firm	36	26	9	62	72	0
	Local trader	63	74	90	38	28	100
	Co-operative	1	0	1	0	0	0

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

85% of respondents considered that the (VSS) program had a beneficial impact on their family (Table 6). While around two-thirds of respondents reported improved yields after receiving training, this potential benefit was less confidently reported compared to other benefits. 80% of producers reported receiving a price premium as a result of involvement in the training program. Despite these *perceptions*, both yield gains and premiums are influenced by a variety of factors in addition to training and results should be taken in the context of seasonal conditions in southern Sumatra, which are the principal influence on coffee yields. Prices in southern Sumatra generally follow international prices, against which they are discounted, although strong domestic demand may also be influencing prices, and these factors clearly affect local price perceptions.

Table 6: Perceptions of program benefits (%)

Indicator	Coffee Company		A			B		C
	District		ALL	M	LB	T	LB	T
Perceived a positive impact on family as a result of the program			85	74	90	99	90	76
Perceived a yield increase following training			68	59	62	89	76	56
Perceived a price premium for involvement in the program			80	55	89	97	94	89
Reported receipt of material assistance, either to farmer group or individual, from the program			67	42	66	99	67	100
Perceived improvement in transparency/openness of function in roll-out partner			92	83	100	100	100	100

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Approximately two-thirds of respondents reported the receipt of material assistance to either their farmer group or themselves. Material assistance was most common among producers enrolled by Firm C and Firm B (in Tanggamus). 92% of respondents considered the transparency and openness of the relevant roll-out partner had improved since training, with only a small number of producers in Muara Enim disagreeing (it was a unanimous perception elsewhere). The reasons given for perceived improved transparency are provided in Table 7. Respondents perceived more readily available financial benefits (particularly among Firm B-enrolled producers in Tanggamus) and better *bantuan* (help or assistance) available through the groups' monthly meetings that was not pre-existing. "Financial benefits" references the premium available for most enrolled producers, while *bantuan* reflects the receipt of technical advice through training. Firm B-enrolled producers in Tanggamus were also more likely to report a price premium (97%) and yield improvements (89%) (see Table 6).

Table 7: Reasons for improved roll-out partner transparency (number⁵)

Reasoning	Coffee Company	All	A		B		C
	District		M	LB	T	LB	T
Financial benefits		285	97	39	74	75	0
More help		75	13	16	35	11	0
Regular meeting		63	31	11	8	12	1

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

While raising awareness of technical solutions to technical problems won't help farmers constrained by "lack of resources, risk, uncertainty and external forces" (McKenzie 2013, p.92), we view the references to *bantuan* and more regular meetings as important improvements in social capital, were networks solidify and expand through their consistent use (Putnam 1993). This may pave the way to other more accessible gains for producers' low-risk livelihood strategies. For example, in Muara Enim, other studies have found the increased meeting attendance of 4C-enrolled producers, relative to non-enrolled producers, correlates with more time per week talking about coffee production, indicating the program participation may have improved social capital amongst Muara Enim producers (Donoghoe et al, unpublished).

Table 8 presents respondents claims about farm practices and the reported influence of training on those practices. Overall, we believe that respondents probably make claims about their farm practices based partly on a perception that the survey was something akin to an audit process that might influence program continuation, such that responses probably overstate actual practice change. The relative responses to different questions, however, are as informative as absolute answers. About half of all respondents reported that their expenditure on coffee farming was unchanged, with 31% reporting reduced expenditure (Table 8). Muara Enim producers were least likely to report decreased expenditure (10%), while Firm B-enrolled producers reported strong decreases in the use of pesticides and chemical fertilisers. Where expenditure increased, it is likely this was directed to increased time managing coffee (44% of respondents). Overall, respondents did not convincingly report significant changes in second tier indicators of agricultural practice change (in expenditure and labour).

Table 8: Reported practice change as a result of training (%)

Practice Change	Coffee Company	ALL Respondents	A		B		C
	District		M	LB	T	LB	T
Decreased expenditure on coffee inputs		31	10	35	45	58	20
Change in work methods because of training		85	86	85	98	96	32
Decrease in use of pesticide		59	50	62	75	83	14
Decreased use of chemical fertilizer		45	32	40	70	67	10
Often or always wear protective clothing		69	67	89	77	88	4
- % who claim to have changed practices following training		61	48	69	78	64	28
Increased time managing coffee crop		44	39	29	71	41	36
Compost on farm		66	30	80	89	88	94
- Of implementers, % who claimed to have commenced following training		56	78	54	50	35	85

⁵ We found similar answers to open-ended questions within farmer groups, but not between them, making presentation of these results as percentages misleading.

Use <i>rorak</i> (sediment capture) pits on farm	73	50	82	84	94	78
- Of implementers, % who claimed to have commenced following training	54	69	55	53	30	82
Use terracing on farm	57	43	76	65	84	6
- Of implementers, % who claimed to have commenced following training	47	56	51	45	36	33
Use shade trees on farm	98	95	100	98	100	100
- Of implementers, % who claimed to have commenced following training	25	29	30	31	17	4
Use synthetic fertilizer	95	95	99	90	97	98
- Of implementers, % who claimed to have commenced following training	18	16	28	24	13	4

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Eight-five percent of respondents did, however, claim that their work methods had changed since they received training. Most commonly, respondents reported their use of protective clothing had changed (Table 8). The uptake of certain practices, such as wearing protective clothing, may reflect the receipt of material assistance from the firms to producers, including tarpaulins and masks, pruning shears and seedlings (Table 9). The most labour-intensive activities had the least uptake, such as installation of buffer zones, and it was uncommon for these activities to commence among respondents *after* training. A high proportion of respondents planted shade trees on farm prior to training (Table 8).

Even though chemical use was perceived to decrease, protective clothing use had increased among respondents. Almost 70% of producers always or often wear protective clothing, with more than 60% of respondents wearing protective clothing on farm *after* commencing 4C training. Both the proportion of Firm C-enrolled producers who reported a decrease in pesticides and chemicals fertiliser, and who wear protective clothing was low, reflecting their low rates of chemicals usage.

Material assistance reportedly received through training is presented in Table 9. These results had strong local variation, depending on roll-out partner. For example, the number of producers enrolled by Firm B who received coffee tree seedlings clearly exceeds other producers. This reflects the large nursery program that Firm B has entered into with the Indonesian Coffee and Cocoa Research Institute (ICCRI).

Table 9: Material assistance received through training (number, unless otherwise noted)

Response	Coffee Company	All	A		B		C
	District		M	LB	T	LB	T
Reported receipt of material assistance, either to farmer group or individual, from the program (%)		67	42	66	99	67	100
Masks		130	45	16	20	10	39
Pruning Shears		116	7	27	70	12	0
Seedlings		116	0	6	72	38	0
Tarpaulin (for coffee drying)		104	27	5	0	22	50
Fertiliser		19	2	0	10	7	0

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

The receipt of material assistance (*sarana-prasarana*) represents a tangible benefit gained from simply attending training. Material assistance is often an important aspect of government-funded development programs in Indonesia that are channelled through farmer groups, frequently

manifesting in items such as planting material or fertiliser distribution. This tangible material assistance solidifies the patronage relationships between state actors, farmer group leaders and individual farm households. The delivery of such ‘gifts’ are often undertaken in a highly ceremonial and public fashion, such that there appears to be a strong element of reciprocal expectation, as presented in Mauss’s classic description of ‘the gift’ (Mauss, 2002). Reciprocity may, however, be enacted non-materially through social loyalty and thus embedded within social patronage. Li (2016, p82) describes the ubiquity of such *proyek* in contemporary rural Indonesia, as a time-bounded technical and apolitical intervention, which serves as a means for “channelling funds to favoured members of the rural elite, and to discipline villagers who are told to wait patiently for state largesse to come their way”.

From the perspective of producers, the training programs delivered as part of the VSS in Sumatra are enmeshed within such social systems. Producers see the 4C intervention as an opportunity to gain material benefits certainly, but to also reinforce social relationships that might provide other (tangible and intangible) benefits in the future. Expectations for meaningful change as a result of the *proyek*, however, remain low and the patronage thus created may even act to mute the possibility for real policy shifts or political change (Li 2016). The VSS theories of change tend to assume such a technocratic ability to induce change through livelihood improvements. This perhaps, explains the frustration of an ICS from Firm A, who complained to us that “we have to explain the training to [producers] several times every year”. It is through the passive receipt of 4C enrolment and associated *sarana-prasarana* that producers perceive similarities with government *proyek* and, from a producer viewpoint, the ability to extract *sarana-prasarana* justifies participation in the farmer group.

We asked whether respondents had learnt new things from the training (Table 10), and they were generally positive (with the exception of those enrolled by Firm C), and 55% of respondents wanted more training (Table 11). No producers enrolled by Firm C considered they spent too long at training. It is unsurprising that these producers attended training for the least hours (Table 2), most likely because of their particularly remote location (approximately 0.5 hrs on motorbike to the nearest paved road, and substantially further by car). Firm C respondents may also have been restricted in what they could adopt from training by HKm titles, which cover all Firm C-enrolled respondents in this survey. Despite twice the total hours of training accrued by Firm B-enrolled producers, very few declared they spend too much time at training. Regardless of 4C roll-out partner, producers clearly see benefit in attending training and we did not register any concerns that training attendance was a waste of time.

Table 10: Perception of learning new information (%)

Response	Coffee Company	All	A		B		C
	District		M	LB	T	LB	T
None		1	1	4	0	1	0
A little only		20	11	20	18	8	88
A large amount		71	81	72	68	82	12
An extremely large amount		8	7	4	14	9	0

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Table 11: Desire for more training (%)

Response	Coffee Company	All	A		B		C
	District		M	LB	T	LB	T
I want more training		55	42	84	50	67	44
The current training regime suits me		39	45	16	46	33	56
I spend too much time at training		6	13	0	4	0	0

Note: A = Firm A; B = Firm B; C = Firm C; M = Muara Enim; LB = Lampung Barat; T = Tanggamus

Producers are willing participants in training targeted at coffee production, given its importance to their “hanging in” livelihood strategies (Dorward et al. 2009). Coffee underpins their livelihood, particularly in the absence of off-farm employment opportunities. Enrolled producers are not obliged to meet all requirements of 4C verification given the traffic light system of auditing, and are therefore able to pick and choose which elements they adopt on farm. From a producer perspective, this presents a variety of possible practice improvements without being overly prescriptive. As long as unacceptable practices are avoided, producers continue to receive support, and sometimes market access. The inability to strictly meet 4C’s standards usually relates to a producer’s existing access to capital, and their livelihood strategy, which often entails a diverse income stream (Bray & Neilson 2018). “We get some help,” one producer told me, “but we don’t have enough money to change traditional ways. We really want to update our farming practices, but we are not wealthy.” Nevertheless, access to training engenders enhanced resilience that may not be present among non-enrolled producers. While there is *encouragement* to increase their labour inputs, producers are under no *obligation* to do so (and many don’t), enabling them to maintain a low-input/low-output strategy for coffee production.

The overwhelmingly positive perception of 4C in southern Sumatra across all respondents, and the reporting of practice change as a result of training, is at odds with more equivocal findings from empirical studies in both southern Sumatra (Ibnu et al. 2015; Donoghoe et unpublished data) and beyond (Bray & Neilson 2017). It is reasonable to infer from the data presented above that the 80% of producers who perceive a positive impact on them and their families from training, may perceive positive impacts that transcend economic benefits. We propose that these responses indicate an appreciation for existing social capital, and that producers recognise both the strengthening of their own social capital, and existing forms of social organisation. This appreciation is specifically articulated by farmer group heads, who are most likely to benefit from VSS through existing systems of patronage.

Sustainability programs and social networks

“Social capital tends to be undervalued and undersupplied by private agents... [and this] means that social capital, unlike other forms of capital, must often be produced as a by-product of other social activities” Putnam (1993, p.170). In southern Sumatra, VSS training constitutes one such “other social activity”. VSS-related training has been a significant part of an evolving private sector extension system, and is an important facilitator of skill upgrading along the coffee value chain. Training programs and shared learning platforms have been linked to the promotion of knowledge networks, transforming attitudes, enhancing reciprocity, trust and common-good values (Gupta et al. 2003; Seferiadis et al. 2015). The promotion of learning networks and knowledge exchange has been important in extending social networks for southern Sumatra’s 4C-enrolled communities. While there is little doubt these factors are qualitatively valued by producers, there is difficulty in quantifying their appreciation of social capital indicators like trust and knowledge exchange. Instead we view social capital “as an asset through which people are able to widen their access to resources and other actors”

(Bebbington 1999, p.2021). To demonstrate this, we expand on the development of social bonding through farmer group membership, the development of bridging capital through knowledge exchange, and the strengthening of farmer groups through the reinforcement of existing patronage-based social networks, with potential benefits beyond VSS.

Strengthening bonding social capital in farmer groups

“In order for a resource to be of use, someone must be *aware* of its existence; *perceive* it as useful; and be able and willing to *access* it” (Van Dijk, 2011, p.107, emphasis in original). While this is easily applied to the receipt of goods through participation in enrolled farmer groups (Table 9), there is potential for a shift in how enrolled producers perceive and access social capital. Prior to training, producers may have been unaware or unable to access the latent social capital of their producer groups, just as they may have been unaware of technical knowledge relating to good agricultural practices. Bonding social capital is a case-in-point.

Formerly, the receipt of government largesse would depend on direct contact with village elites who could facilitate material assistance delivery. While the 4C-related training in Sumatra includes an aspect of material assistance, it is primarily oriented towards technical training and so has contributed to the creation or considerable strengthening of a knowledge exchange network. While the provision of training can be interpreted through the prism of a *proyek*, where village elites can enhance their own social capital and patronage (discussed further below), the knowledge sharing elements of the program delivered by relatively well-resourced and committed agronomists, appear to be well-received by respondents. Producers are thereby integrated into an extended knowledge exchange network - through *existing* farmer groups - that allows access to agronomic methods that they would not otherwise be exposed to.

This access to new networks, and commensurate improvement in the social capital of producers, commences as soon as farmer groups are targeted by the roll-out firms. The capacity of most groups was under-utilised prior to VSS roll-out, as groups met only when discussing distribution of government subsidies, religious activities, or to plan *gotong royong* (mutual help) events. Upon the introduction of training (or establishment of groups), however, a meeting is organised by the farmer group head and company agronomist, a structured training plan is presented, and a collective effort to improve coffee production is embarked upon by group members (even if less enthusiastically enacted).

Training increases the frequency of group meetings, which are both ceremonial and include knowledge exchange. Ceremonial performance contributes to bonding social capital production in four ways (Cilliers & Wepener 2007), each of which are evident in this study namely;

- a material level: training is conducted at a common meeting point;
- a sense of belonging: training creates trust through shared experiences at training (discussed further below);
- civic literacy; training improves the capacity of attendees to understand technical aspects of coffee production; and
- the ethos to foster equity; training facilitates voice upgrade, as the weight of farmer group numbers feeds confidence in and of group leaders to push for reciprocal, equitable conditions for their members.

Irrespective of any subsequent application of improved agricultural methods or yield improvements, we suggest that the very act of organising training activities reinvigorates (and in some cases

establishes) farmer group activity and so generates a degree of bonding social capital. The VSS activity was therefore an important impetus for group formation and activation, lubricated with material assistance and knowledge transfer, which provides a group asset of value. According to respondents, this bonding social capital has direct social benefits while also enhancing the possibility for future adherence to development programs initiated by government, private sector and NGOs. The incorporation of farmer groups within a more extensive social network, centred initially on the firm, is another benefit to which we will now turn.

Bridging social capital and knowledge exchange networks

While bonding social capital is strong across the study area, bridging social capital is highly variable among individuals. Just 32% of producers reported receiving training prior to being verified, and were reliant on word-of-mouth knowledge transmission (from older relatives) within their social networks to discuss coffee management. While this suggests the capacity of farmer group structures to persist through periods of dormancy or under-utilisation, training re-enforces the groups as sites of semi-formal social interaction, and training events both strengthen and expand the social networks of producers. For example, Firm B insists on its agronomists living in villages with enrolled producers. This builds bridging social capital between global market forces (conveyed by trainers) and farmer groups, which in turn reinforces the importance of technical information (even if producers are unwilling to put theory into on-farm practice).

Knowledge exchange is not just uni-directional from agronomists to enrolled producers – the firms also benefit through the continual refining of their extension system. The network allows producers to present specific issues they are facing on-farm, such as pest management concerns, disease outbreaks, or expected coffee prices. ICS agronomists assist where possible, and relay this information to those responsible for tracking the success of the training program against corporate policy goals. The training program thus creates a ‘knowledge network’ that links producers with global actors, and provides access to technical knowledge from which remote Indonesian farm households had been previously excluded.

Producers are positive about this activation of their bridging social capital, perceiving it as a departure from their previous networks, which were dominated by a form of state-based patronage that appeared designed to systematically prevent the empowerment of local social institutions. Social capital was often limited to bonding social capital (immediate friends and family in rural communities). As a result of training, the opportunity to expand social circles (i.e. strengthen bridging capital) presented by VSS-associated training events is looked upon favourably by producers. Producers adopt a “substantive perspective” (van Dijk 2011) of the social networks and capital they may have been previously unaware of, or unable to access. Access to this bridging social capital, and the higher quality knowledge network VSS entailed, needs to be assessed against the previously poor levels of agricultural extension in the region, such that the training program and enhanced price transparency were seen to be a considerable departure from the previous norm.

Farmer groups as patronage-based social structures

Farmer group leaders, who act as critical conduits of information from both government and from private firms, are especially supportive of 4C training interventions. The group leader is likely to be a village elite⁶ and may see various opportunities to improve their social and material well-being through a reinvigorated farmer group. All firms, particularly Firm B with its KUB system, re-enforced

⁶ Farmer group leaders have historically been viewed as village elites since Suharto’s government (Li 2016), and are likely to hold greater financial and social capital than other group members.

the importance of farmer group heads as local community leaders who may also benefit from their critical conduit role. For example, when direct sourcing operations are implemented, group leaders would assume an important role as a supply coordinator for verified coffee, thus generating lucrative rents. Leaders would be responsible for pooling verified coffee and presenting to the firms. In the case of the group leaders who evolved into KUB suppliers to Firm B, this had become a medium-scale business ensuring considerable wealth accumulation. As a result, the leaders became active participants in what was perceived to be the implementation of a development project.

Non-leader producers in turn also see material opportunities from the program if they maintain good relationships with the group leaders. In a different Indonesian context, Jakimow (2018) has described a “moral atmosphere” of manoeuvring to reap benefits from involvement in a program (known colloquially as “*bagi-bagi*”) among participants, which she claims “permeates development encounters” in Indonesia. This notion suggests an imperative to share any benefits derived from program participation between implementers and beneficiaries, and is evident in the way both individual producers and group leaders position themselves to benefit. For example, while material benefits accrued to participants (Table 9), they were distributed through group leaders, who were thereby empowered by demonstrating (to group members) their proficiency as gatekeepers to these benefits. Furthermore, it is important to emphasise that it is the *act* of participation that brings benefit, not the consequence of participation (as sometimes assumed in published Theories of Change).

Unsurprisingly, group leaders were often strong advocates for 4C. One group head declared, “Of course certification is beneficial. It is removing harmful pesticides from our farms, which would otherwise enter our water systems, which we use for drinking and showering.” Another was disparaging of producers that opted out of 4C, declaring, “If they don’t want to join, they don’t have to, they can leave... But they are the ones missing out!” Other group leaders frequently referred to enrolled producers as “*berani*” (brave or courageous), implying those who shied away from VSS were not. In addition to the default stance of opportunism among group members, the standing of group leaders mean their opinions carry weight, and they are likely to positively influence their member’s perceptions of 4C enrolment. This promulgates a positive perception of participation in farmer groups and associated activities.

The positive appraisal of farmer group function may also be attributed to recognition among members of the groups’ existing institutional strength. Indeed, extension programs alone are not sufficient to generate opportunities for smallholders, and require strong local institutions that build on local knowledge (McKenzie 2013; Postigo 2017). For example, training is anchored on to farmer groups with the political stability, and formal support from the government, to increase the chance of program success. Training for some farmers builds on HKm-approved practices, which has already produced positive results (Kerr et al. 2006). The groups do have democratic means of electing leaders and this can represent an opportunity of social mobility for some, which is otherwise rare among the rural poor. It is also conceivable that “voice upgrade”, which refers to “an increased capacity for inclusive negotiations within the value chain” (Gradin 2016, p.363), may become more prominent through these democratic, collective activities that mobilise latent social capital. More tangibly, the decision of Firm B to encompass several producer groups into KUBs - who may then be granted more autonomy pending demonstrable progress in performance - has strengthened existing institutions as conduits of benefit for producers, as evidenced by their positive perceptions.

Conclusion

There is a discrepancy between the positive perceptions of certification among our producer respondents and the more equivocal findings of the impact of VSS on their livelihoods, at least through the published theories of change. The empirical data collected to date may underestimate or even systematically ignore what farmers truly value about 4C enrolment. Our perception survey and associated fieldwork has indicated the positive perceptions can be principally attributed to the use and strengthening of existing institutions (farmer groups), the development of social capital, and the associated improved resilience of enrolled producers.

4C enrolment is largely inoffensive to producers, as enrolment both mirrors government *proyek* with which they are already familiar, and re-enforces existing social structures. The latter occurs through the use of existing farmer groups as templates for 4C roll-out and the use of village elite (as group leaders) as conduits of information and benefits. For the former, producers' experience has demonstrated that participation in interventions provides potential for material gains, which has also occurred through 4C enrolment, evidenced by the receipt of tarpaulins, masks and in some cases, seedlings. Beneficial gains in on-farm practices have been difficult to empirically ascertain (Bray & Neilson 2017), but there is an apparent gain in potential for social networking through the 4C intervention. The process of establishing 4C production units, delivering training programs, verifying compliance, and (in some instances) developing supply chain relationships, has enrolled previously marginalised producers into a new social network.

The potential for beneficial change to producer structure therefore lies in the activation of latent social capital. If we are to accept that an active response to changing vulnerabilities, together with a person's freedom to choose their degree of engagement, is crucial in improving livelihoods (Scoones 2015), then it seems that training provides producers with these opportunities. Training actively seeks to build human capital, albeit in a specific, on-farm endeavour. Less targeted, but arguably more importantly from a producer perspective, is the validation and strengthening of existing social capital. Firms have proved adept at rapidly establishing farmer groups across the study area, providing bridging and linking capital to producer groups in the process and challenging the perception that the development of social capital is necessarily a slow and laborious process (McKenzie 2013). Training offers an active response to changing vulnerabilities in coffee production (which plays a significant role in livelihoods), an extended network through the provision of bridging capital, and an improvement in resilience. This improved utilisation of social networks should be seen as an asset through which producers are able to widen their access to resources (Bebbington 1999).

We have emphasised the way the 4C program has been integrated into existing social structures in Sumatra, and it is through these structures that producers are constructing perceptions about program benefits. It is likely that these perceptions diverge significantly from the way standards organisations, and the firms implementing the standards, consider their own programs. Producers consider the programs largely through the lens of a *proyek*, with potential material and social benefits this entails (*bantuan*), and within a moral atmosphere of *bagi-bagi* whereby groups operate as patronage systems of support. While producers do not seem to expect transformation of their livelihoods, or even significantly altered livelihood strategies, as a result of program participation, the 4C program does strengthen the recognised social structures through which livelihood resilience is often achieved.

The study finds the development of social capital has occurred primarily through knowledge exchange systems, through the creation of trust, and through a move towards collective action at a small scale, each of which has been facilitated by training rolled out by coffee firms through existing farmer

groups. The training has relied on the semi-formalised structure of both existing and new producer groups to develop knowledge exchange systems, and has implemented reliable, regular training sessions, which have incorporated pre-existing rituals and norms. The training has represented a substantive change in the subjective perspective of producers. Importantly, however, this does not necessarily suggest an improvement in livelihoods through the pathways envisaged by standards organisations (i.e. a shift towards improved agricultural practices as a means through which producers can achieve poverty alleviation). This study has highlighted the importance of community social capital improvements as a result of a VSS program, as new network formations are created through the process and this may have far-reaching and hard-to-predict flow-on benefits in the future.

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7. DISCUSSION & CONCLUSION

7.1 Restating the research problem and methodology

This thesis examined the interface of voluntary sustainability standards (VSS), livelihoods and the coffee value change in southern Sumatra. I challenged the as-yet unsubstantiated narrative of benefits brought to coffee producing communities by VSS, which is promoted by the lead firms of coffee's global value chain. To facilitate the thesis, I completed **8 months** fieldwork across three growing regions in southern Sumatra, where several thousand coffee producers have been enrolled in the Common Code for the Coffee Community (4C).

While I have emphasised the contextual importance, and institutional environment, there are nevertheless many aspects and findings of the research that can be generalised. Firstly, lead firms have unmatched influence on, and control of the coffee value chain, including roll-out of VSS, it is important they are made accountable for their claims of improvements to producer livelihoods arising from VSS enrolment. Secondly, other studies have identified the precariousness of smallholder livelihoods in different scenarios around the world, including in Mexico (Long 2001), Nicaragua (Bacon 2013, and Beuchelt & Zeller 2011), and India (Neilson & Pritchard 2007), as detailed in Chapter 2.

To this end, my research contributed to three major themes of current debate on the use of VSS by lead firms in the coffee value chain. The first is impacts of VSS on producer livelihoods, which drew attention to the contrast between low-risk livelihood strategies and demands of VSS upgrading strategies. The second is the way the local institutional environment of VSS roll-out sites can influence intervention outcomes, which has not received sufficient attention in peer-reviewed literature. The third is the way upgrading strategies in VSS theories of change pay insufficient detail to what producers consider positive outcomes of VSS, subsequently missing an opportunity to gain greater traction towards the start of the value chain.

I employed participant observation methodology to complete three case studies of villages across southern Sumatra. This was complimented by 220 semi-structured informal interviews and a survey of 550 VSS-enrolled producers. This chapter first summarises the key findings of the research. I then elaborate on the significance of these findings relative to broader value chain analysis. After identifying potential areas of further research and limitations of my own research, I conclude by examining the future directions for VSS in the face of my findings.

7.2 Summary of key research findings

7.2.1 The complexity of rural livelihood strategies may not match the simplicity of VSS theories of change

The thesis used the sustainable livelihood framework to understand the assets and capabilities of coffee producers in the study area. A complex rural livelihood strategy emerged. Southern Sumatra's coffee producers are typically poor, have a low education level, and own 1 to 2 hectares of land. With such limited assets, producers prioritise low-risk livelihood strategies, and seek a diversity of income options. Producers favour coffee production because of its reliable, low input, low output mode of production. This provides a base of income, which is then used as a platform to pursue alternative and diversified income sources.

Chapter 5 suggests the complexity of rural livelihoods receives poor recognition within corporate policy. In particular, VSS theories of change, which are often employed as a guide for corporate engagement with producers, relies on the intensification of coffee production and subsequent generation of greater yields. Similarly to other theories of change, the 4C theory of change has several tacit assumptions, namely; rural smallholders are sustained through a singular reliance on coffee-derived income for their livelihoods; after a coffee harvest there is a surplus of labour in coffee producing areas; and current agricultural practices require modernisation in order to bring livelihood benefits through increased yields to producers. In short, it assumes capacity and willingness on the part of producers to direct more capital and labour towards coffee production. From my research, these are problematic assumptions that demonstrate a misalignment with the low-risk livelihood strategies of smallholders. This is *the* pertinent point for understanding why VSS in southern Sumatra have not gained the expected traction in producer livelihoods.

For most rural smallholders, a sustainable livelihood is difficult where households rely on agriculture alone (Rigg et al. 2016), regardless of the efficiency of agricultural practices. The association between an "agrarian transition" at the household scale (moving from reliance on farm-centric to off-farm income) and improved livelihoods is well established. In southern Sumatra's highlands, households actively search for off-farm employment, as those with a lack of diversity beyond primary production are less resilient to shocks to, or changes in agricultural markets. Smallholder's typically look to minimise labour inputs into risky activities, and for most smallholders, this warrants minimal investment of labour into agriculture beyond the production of rice, particularly if it comes at the cost of off-farm employment. Instead, off-farm sources of income (e.g. on construction projects, courier work, *warungs* etc) are favoured.

VSS roll-out is accompanied by training through exporter-employed agronomists, and is the most visible interface between the standards and the producers. Many agronomists were frustrated at the languid nature of practice uptake among producers, and the need to present the same training several times. But this betrayed an erroneous perception among roll-out partners that mistook low risk livelihood strategies for a reticence to adopt changes in any part of their life. This reticence is, in fact, a reflection of the incompatibility of 4C's push for intensified coffee production with producer livelihood strategies.

This is not to say producers are either obliged to implement 4C practices, or that they retain a negative view of standards. Many producers ignore the less palatable aspects of 4C-enrollment. My case study found *some* positives to be gained from VSS enrolment. Primarily, a small price premium was available to enrolled producers although this was insignificant relative to seasonal variations in yield. Other tangible benefits were more common through the act of participation in training, than its on-farm implementation. Protective equipment, tarpaulins and other equipment were frequently received during training events, whereas on-farm benefits from training were harder to ascertain. I detailed less tangible benefits from VSS in the form of social capital, which are summarised in the following sections. These benefits are not prominent in 4C, or other VSS, theories of change.

Our understanding of the interaction between VSS and livelihoods is further complicated by cultural obligations in certain communities, which affect modes of production. For example the *Tunggu Tubang* culture of the Semendo highlands, detailed in Chapter 4 (Bray & Neilson 2018), places a high degree of importance on both the inheritance of ancestral family rice paddies (and coffee gardens if present) and the "branching out" of the male lineage. This cultural value is intrinsically tied to swidden methods of agriculture, rather than modern, intensified agricultural production systems, and is thus at odds with 4C's technocratic theories of change. Nevertheless, these cultural nuances must be better understood as part of efforts to understand priorities of both smallholders, and the institutional environment in which VSS are introduced (summarised in the following sections).

Subsequently, I have been cautious in downplaying the importance of agriculture to household incomes. As mentioned previously, agricultural production is either a baseline that underpins a household's ability to transition to off-farm work, depending on opportunities available, or part of a complex mosaic of contributing incomes to a livelihood (Neilson & Shonk 2014). But the idea that agricultural modernisation can be easily adopted by smallholders is flawed because of the implied imposition of greater labour requirements. Indeed, those with the capacity to invest more time and capital in coffee production with a view to long-term returns promised by VSS are also, ironically, best placed to seek livelihood

improvements via an exit (or at least a diversification) from agriculture. To this end, I have proposed a number of alternative pathways in which VSS can impact producer livelihoods at the end of this Chapter.

7.2.2 The mesh of institutional influence must be considered, as it influences VSS outcomes

Understanding the institutional environment proved important in answering my second research question, namely, “What factors influence the impact of Voluntary Sustainability Standards on producer livelihoods?” The extent to which VSS impacts a producer community depends not only on the actions of producers following training, but the way existing institutions within their lives are influenced or co-opted by VSS roll-out. I based my understanding of institutions on concepts proposed by Davis & North (1971), and later developed by the likes of Mutersbaugh et al. (2005) and Neilson & Pritchard (2009). I found that where VSS can achieve a degree of entanglement with existing institutions, and lead firms/roll-out partners are able to influence the local value chain towards achieving VSS outcomes, they are likely to have greater traction and be received positively.

My literature review (Chapter 2) established few empirical studies explicitly discuss the institutional environment of VSS roll-out sites. This is an oversight given the influence of pre-existing institutions on the outcome of VSS-roll out apparent in southern Sumatra, and the struggles that occur between institutions to control local value chains (Neilson & Pritchard 2009). Panhuysen & Pierrot (2018) note the challenge of embedding or normalising sustainable practice throughout the coffee value chain. The roll-out of VSS, however, creates a new institutional space, which is subject to a struggle for control between pre-existing institutions which in turn influences the results of the roll-out.

While there is ostensibly little difference between the three study villages, there has been a difference in traction of 4C between them, which I attribute to this mesh of institutional factors (Bray 2019 – Chapter 5). This mesh consisted of existing government support for producer communities (from the Ministry of Agriculture, schools and health clinics), physical infrastructure, existing farmer groups (and, where applicable, collective marketing capacity), and existing patronage relationships (i.e. supply chains) between producers and local traders. I found VSS gains more traction where lead firms can successfully coordinate these overlapping institutions.

The introduction of 4C through Exporter B’s *Kelompok Usaha Bersama* (KUB’s, or “working groups”) was the best example of this coordination. The wholesale incorporation and streamlining of existing supply chains through KUBs has smoothed the path for 4C to be introduced along the same lines. Exporter B’s use of the KUB demonstrated the capacity for VSS roll-out to minimise disruption to existing patronage and trading relationships. In contrast, other VSS roll-out partners have established new, competitive

market structures, which have been antagonistic to local supply and patronage systems alike. The KUB system does not challenge the status quo of patronage relations and local supply chains, but instead reinforces them with institutional support. This institutional support enables village elites to demonstrate their own capacity for influence, the benefits of which their farmer group members can enjoy. By introducing 4C through the KUB system, Exporter B has normalised its use by placing it within existing norms and procedures.

Exporter B has also had a presence in some of its VSS roll-out sites for over 25 years. This has enabled it to target discrete regions with well-coordinated training programs, bolstered by the placement of agronomists within communities. This provides a sense of prominence and permanence to the program, or “institutional thickness”, contributing to its normalisation. The training program has extended beyond coffee by contributing to existing schooling and health programs. It has coordinated political, educational and healthcare institutions into executing a targeted plan (improving livelihoods through coffee production). This institutional presence and associated material benefit has ensured Exporter B’s entanglement in existing institutions, upon which the community has become reliant, even as the local government has failed to demonstrate its capacity for similar levels of coordination.

However, even in a best-case scenario, changes in the institutional environment of a supply chain facilitated by the introduction of VSS are likely to be insignificant relative to long term structural changes that will arise from improvements in education and infrastructure in southern Sumatra over the last 10 years. Primarily, these structural changes will encourage labour out of agriculture, and thereby discourage additional resources moving towards coffee production. In each study village, free schooling has become available for all years in the last decade. Study village A boasts a vocational high school that didn’t exist fifteen years ago, which teaches agriculture, computer science, mechanics and nursing, and several graduates now work for Exporter A. The contribution of VSS to livelihood improvements should thus be considered relative to both the pre-existing institutional environment, the capacity of roll-out firms to influence these institutions, and the structural changes that are occurring throughout Indonesia.

7.3.3 Positive producer perceptions, and the development of social capital

In answering my final research question (“What are farmer perceptions of VSS and the processes associated with VSS?”), it would be easy to assume that indifferent on-farm impacts would result in indifferent attitudes towards 4C among producers. It was with this type of approach that I realised this assumption is not supported by the perceptions survey presented in Chapter 6. By surveying producer

perceptions, I demonstrated that 4C roll-out offers some unexpected low-risk opportunities for the consolidation of livelihood capitals. I established that the act of participation, which includes regular meetings and training from agronomists, is likely to facilitate the provision of material goods to participants. The training itself is also well received by producers, although the survey revealed uncertainty about the extent to which it was implemented. From the subjective perspective of producers, however, the introduction of training regarding an important crop is an important, substantive development. Less tangibly, the act of participation can mobilise latent social capital, primarily through the development of trust, and collective learning (“knowledge exchange”).

As training has become normalised within study village 3, the farmer-centric position has enabled appreciation of knowledge sharing being generated, transformed and melded “in relation to the everyday contingencies and struggles that constitute social life” (Long, 2001, p170). “Knowledge is built upon the accumulated social experience, commitments and culturally-acquired dispositions of the actors involved” (*ibid.* p170). As noted by Fox (1996), the capacity to identify shared problems and knowledge is a pathway to both a collective voice and action that benefits otherwise social-capital-poor communities, and I have assumed this is an important utility of improved social capital.

The absence of onerous obligations arising from 4C enrolment encourages a positive disposition among producers. Enrolled producers must remove unacceptable practices, average a “yellow” audit scorecard, and are required to attend training. Training is viewed favourably for both its ability to facilitate the receipt of material goods to individuals, and the opportunity it provides to meet and socialise with other producers in the community. The former also validates social manoeuvring in order to receive goods from interventions, while the latter prompts a mobilisation of social capital through shared knowledge generation, which may build resilience among participants. Socialising activities are unquestionably one of the primary reasons producers retain positive perceptions of 4C, both for those in newly established farmer groups, and those members of pre-existing groups.

Allowing for indifferent impacts, it is rare that exporter roll-out of 4C negatively impacts producers. If shared experiences are positively re-enforced in a neighbourhood, the community buy-in may be greater (a result also noted by Elder et al. 2012). Semi-structured interviews from my fieldwork indicated a generally positive perception, and even pride, from enrolment. One group head declared, “We are famers; we work hard, so it is important we follow this advice and work smart too!” The interviews indicated that shared rules and values introduced through training are likely to enhance information exchange and knowledge networks in producer communities. This is a fundamental part of social capital development.

Enrolled producers within the same farmer group, social circle, or neighbourhood, may influence one another's decision making, presenting an opportunity for new rules and values associated with VSS to be normalised. The process of positive feedback shared among a community is reminiscent of the Bourdieuan concept of "habitus"; "the process by which the rules and values of social space become internalised via routine interactions and observations" (van Dijk 2011, p.103). The positive feedback between producers with regards to the program in this instance has arisen through significant, careful engagement by Exporter B, demonstrating the benefits that *may* arise from bolstering services to producers. The development of a collective identity was easily recognised in the purchasing of uniforms for specific farmer groups, and producers' general enthusiasm for attending training sessions and socialising with one another. Similarly to observations in other studies of rural Indonesia (e.g. Bebbington et al 2006), these steps are small, but important parts of the growth of political economy among some of Indonesia's most disadvantaged communities.

However, social benefits arising from VSS roll-out are not universal. Again, the influence of a pre-existing institutional environment is apparent. Non-enrolled producers were quick to voice their concern that VSS-enrolled producers were the same producers who received support from the government. This path dependence emphasises that institutions are often politically charged, not neutral, arbiters of access (Scoones 2015). My research indicate producers become enrolled in VSS through path dependence, and maintenance of patronage relationships, which in turn suggests that lead firms and their VSS roll-out partners may have to consider how their programs reach can extend beyond farmer groups. Similarly, enrolled producers may consider that enrollment is materially beneficial to them, relative to non-enrolled producers, a finding also noted by Long (2001).

These findings confirm the view that social capital should be considered "an asset through which people are able to widen their access to resources and other actors" (Bebbington 1999, p.2021). The social capacity of cooperatives and farmer groups is important for smallholders, as it can provide access to training, financial assistance, government support and new markets. While Warren (2016) noted that social obligations, and horizontal social ties were likely to propel people in leadership positions to use their social capital for the gain of the wider community, there is only limited evidence this occurs in southern Sumatra. Instead, the utility of additional social capital is most likely used by smallholders to advance their own socio-economic standing, even if that advancement is perceived only. For example, closer ties with village elites may have certain consequences in decision making, or simply result in respect among the smallholder community. The withdrawal of exporter's support for VSS-training would not spell

the demise of farmer groups, but it could have negative implications for the group's social capital through a reduction in the number of group meetings. While social empowerment is briefly mentioned as an aspiration for participants by 4C's (2013) theory of change, there is no defined quantifiable goal. This is a surprising omission, given the known impacts of social empowerment on standards of living.

7.3 Significance of findings/Contribution to debates

The challenge to lead firm governance posed by the ongoing low standards of coffee producer living has prompted contribution to three themes in the literature, namely:

- The complexity of smallholder livelihoods (examined in Chapter 2, Chapter 3 and Chapter 6);
- The governing role of lead firms over the supply chain, including the accompanying corporate policies (examined in Chapter 5); and
- The VSS theories of change (examined in Chapter 2 and Chapter 3).

This section explores the dissonance between these three themes.

7.3.1 Complexity of smallholder livelihoods

Following a review of the growing body of empirical studies on the impacts of VSS on smallholder livelihoods (Chapter 2), I questioned whether the impact pathways of theories of change are valid. Uniform theories of change that require the same of producers across geographically different areas, countries and growing regions, may be futile where little consideration has been given to both regional institutional differences, and livelihood norms developed over decades or even centuries. Different socio-economic and institutional structures and different agro-ecological settings are of particular importance. Even in southern Sumatra, there is a variation between the people of Semendo, who traditionally planted coffee as part of a swidden system, and the descendants of Javanese transmigrants, who did not. "Contextual factors" (which I interpreted as institutional influences) were the most commonly cited cause of variation in outcomes of VSS roll-outs, although this did not appear to be picked up by theories of change. We should also consider that "Producers are basically oriented towards keeping control over the organisation of their... enterprise" (Long, 2001, p204), and may have a variety of reasons to be suspicious of the motivation behind interventions.

My thesis has consequently advocated for a producer-centric, rather than objective, view of interventions. This has identified that producers are reticent to implement "modernised" on-farm practices, but interrogate the underlying reasons they choose not to and thus identify the reason VSS struggle to become normalised (i.e. not gain traction) on the ground. Essentially, the low-risk livelihood trajectories of

producers are at odds with the calls for intensification of coffee production found in VSS theories of change. This explains why calls for greater intensification of coffee production are mismatched in southern Sumatra, as they may be for a number of different producing regions globally. Alternatively, where VSS *do* gain traction, this may be attributable to the consolidation of social capital, and the intertwining of VSS in the institutional mesh that exists at roll-out sites.

In their current form VSS are not capable of addressing the failure of the coffee supply chain to ensure the livelihood security of its smallholder producers. The singular focus of VSS on the role income plays in livelihoods distracts from the more important themes of risk minimisation and resilience in livelihood decision making that are important when determining the extent of impact from value chain interventions on southern Sumatra's smallholders. While price incentives are a good "hook" to entice producers to participate in interventions like VSS, they are not sufficient to ensure traction of value chain interventions at the farm gate, particularly in the absence of yield improvements. Instead, far greater investment in producer livelihoods, particularly in understanding their aversion to risk, is required of lead firms and their roll-out partners.

7.3.2 Lead firms, supply chain governance & corporate policy

The third research question posed in the Introduction was, "What role do Voluntary Sustainability Standards perform in relation to the governance of the contemporary global value chain for coffee?" Lead firms have a large degree of influence over the institutions along their supply chains, but struggle to fully control the institutional environment when interventions are rolled-out. Certainly, VSS roll-out is an attempt to govern local institutional environments and had also mooted as a way of shortening supply chains.

Exporter B successfully demonstrates how this can be normalised, albeit with a significant investment of resources. It adopted a more holistic roll-out of VSS, which encompassed inflexible local supply chains, as a means of influencing local institutional environs. This acknowledged that the first points of sale of coffee after leaving the farm gate were not inevitably dictated by the highest price, but instead by complex local patronage relationships. For this reason, Exporter A found its use of 4C was only partially successful (at best) in study village A at interrupting these relationships. In contrast, Exporter B demonstrated that VSS could be rolled out through existing supply chains, which act as conduits of information and control. While VSS may be used as a prompt for lead firm engagement in the upstream of the value chain, it has not been a particularly effective means of by-passing local supply chains.

I also noted in the Introduction that, “Upgrading through VSS relies on the long-term provision of training in good agricultural practices or their equivalent, which is also clearly designed to improve governance in the upstream supply chain. But it is not always clear whether lead firms are willing to commit to this investment. The thesis has demonstrated that for the most part, the use of VSS by lead firms in southern Sumatra has been confused and sometimes myopic. While some have noted the business case for VSS relies on market demand, the idea that consumers have more sway over value chain governance than lead firms is mistaken (Grabs 2018). The reasons for the abandonment of VSS by lead firms, which include market pressures, and the poor capabilities of producers, suggest that lead firms’ have not deployed the required resources, or patience, to understand the socio-economic settings of their VSS roll-out sites.

This was often due to changes in lead firm ownership, as aptly demonstrated in southern Sumatra by the abrupt halt in purchases of 4C-verified coffee in southern Sumatra by Mondelez after their 2015 acquisition by JDE. While this demonstrates the reach and power of lead firms, it also demonstrates how their distance (physical and figurative) from upstream supply chain components extends to an emotional sphere. Where interventions are withdrawn, lead firms do not lose face with producers. Instead, local roll-out partners are left to explain to producers why certain promises have not been kept. I provided several examples where explanations no longer appeared necessary – producers had grown accustomed to such behaviour. Executives in the global north are able to make decisions that will influence entire communities, without necessarily visiting fieldwork sites. Visits of such a nature generally feature prominently on social media and are therefore relatively easy to track and follow. As a result, I am aware of less than five such visits by senior executives from lead firms to the southern Sumatran highlands across the three-year period of my fieldwork. It is easy to see that without further efforts to build in-depth understanding of the socio-economic environment of roll-out sites, the impact of governance through VSS upon the supply chain is likely to be limited.

7.3.3 Theories of change & upgrading

There is a persistent view that VSS are able to address social and environmental externalities of production through market incentives (Grabs 2018). 4C, for example, has been described as a tool for industry-wide collaboration that moves VSS away from a niche setting, above the struggle for market share (Kolk 2013). However, despite over 50% of global coffee production being covered by at least one VSS (Panhuysen & Pierrot 2018), smallholder livelihoods have not improved, and 148 problems of production quality persist, including in southern Sumatra. This suggests fundamental flaws in VSS’s proposed impacts pathways.

For example, enrolled producer's rejection of the required increases in labour inputs, has left little chance of livelihood improvements through improved yields. At the same time, relatively high prices have been present across southern Sumatra during the period of study. Had VSS resulted in improved yields, it is likely to have resulted in an oversupply in local markets, with possible falls in price. This simple rationale demonstrates how themes of resilience and low-risk livelihood strategies have essentially not been considered by theories of change, or by policies of lead firms. This gives pause to consider whether the ideals of "modernising" on-farm production should be abandoned in favour of examining how existing farming systems can be improved. Even NGOs like the Sustainable Agricultural Network (SAN) have now publicly stated that certification is not the best approach to improved sustainability among farmers, considering it too complex, costly and ineffective (Grabs 2018).

Meanwhile, the successful aspects of the VSS interventions, including the receipt of material goods and improvements in social capital, have been achieved outside the major pathways predicted by VSS Theories of Change. In particular, the strengthening of social capital is not an explicitly forecast outcome in the 4C theory of change. The strengthening of social capital improves the resilience of communities by enabling knowledge exchange, although the extent of social capital improvements may be dependent on the VSS interaction with local institutional environments (discussed above). Nevertheless, we can add another paradox to Daviron & Ponte's (2005) list; the paradox between the apparently overblown rhetoric of certification and the ongoing positivity with which most producer's embrace certification.

VSS are more path dependent than the upgrading pathways of VSS suggest. Process upgrading implicitly suggests that new knowledge accessed through a value chain can be used to produce particular products more efficiently and so increase competitiveness and subsequent value capture. However, such assumptions may not be directly relevant in diversified smallholder livelihood contexts, or indeed in other contexts found in coffee growing regions around the world. The receipt of material goods mirrors the benefits of government proyek, while social capital has not been generated so much as consolidated in pre-existing communities of farmers. The generic, one-size-fits-all approach of VSS to improving production around the globe is not sympathetic to localised issues, which may not necessarily find repetition outside southern Sumatra. Future value-chain interventions must be designed with the capacity to accommodate local variations in the institutional environment. Clearly, this flexibility in design requires far greater input from producers, but lead firms have, to date, shown an unwillingness to cede influence to producers.

7. 3.4 Future Directions of VSS

Panhuysen & Pierrot (2018) have forecast major changes to the way VSS are used by lead firms and their exporting partners. These changes are already underway in southern Sumatra. VSS is being used less as a means of encouraging efficient production among producers, and more of a means to engage with producers. It has forced firms to realise that a shift towards “service delivery” to farmers is in their interest. The more technical VSS, like Utz and RA, having had their programs withdrawn by roll-out partners, have adapted to this by promoting a “technical arm” to provide training services for the Global Coffee Platform, which has essentially replaced 4C verification. This moves away from the imposition of a generalised, technical version of what producers should do, in favour of specialised, targeted assistance for practices that lead firms wish to normalise. If VSS are internalised, which it appears lead firms are leaning towards, an onus will remain to demonstrate how they are addressing these problems.

There is also potential here for public-private partnerships to increase the reach of these programs. Organisations like SCOPI have already begun coordinating government, industry and "service providers" to ensure the roll-out of training is founded in good agricultural practices. However, the government's greater resources, particularly within the Ministry of Agriculture, could activate similar networks throughout the archipelago. The Ministry does, however, have a primary focus on edible crops, making progress towards this unification of purpose across coffee's private sector difficult.

With the unification of UTZ and Rainforest Alliance in late 2016, after the majority of fieldwork for this thesis was completed, it is apparent that UTZ's focus on traceability will be adopted by RA, expanding the services available for lead firm's use. This offers a potential solution to a number of problems in places like southern Sumatra, where NGOs have expressed concern about the absence of traceability in the proximity of National Parks (WWF 2007). Companies like Exporter B, who have expressed concerns about sourcing coffee from areas of conservation forestry, could foreseeably use RA to verify the precise source locations for their final products.

In Indonesia, domestic coffee demand is forecast to grow. An Exporter A representative considered this growth would continue to the point where a volume equivalent to the entirety of Indonesian annual coffee production would be consumed domestically in Indonesia. Demand for southern Sumatran Robusta is also likely to grow in “emergent” markets in the Middle East and China. However, at this stage, consumers in these markets appear largely uninterested in value added by branded VSS, meaning an acceleration of VSS away from branded, third party audited certification schemes, towards non-branded, internalised service delivery programs, like the Global Coffee Platform. While the hyper-competitive

nature of coffee production may discourage lead firms from investing in producer welfare and sustainability programs (Panhuysen & Pierrot 2018), it is more likely VSS will be used as “supply and risk management tools that increases the coordination and information exchange between actors” (Grabs 2018, p.17). The extent to which VSS are employed to this end may depend on the long term commitments to VSS by lead firms and their roll-out partners.

7.3.5 Limitations and future research

7.3.5.1 Limitations

The fieldwork undertaken for this thesis was largely undertaken during harvest season. However, I attempted to ensure the data collected was not a snapshot of a small period of time by undertaking repeat visits to the study area.

Full cooperation for the fieldwork was given by just two exporters located in Bandar Lampung. The interaction of VSS with producer communities enrolled by the other exporters may have varied to that discussed in the thesis (although review of other literature indicates this is unlikely at a fundamental level).

The participants in my perceptions survey was dominated by men. While I strived for a degree of gender balance in my semi-structured interviews, the process of group formation and the outcome on both women and household livelihoods appears an interesting, specific area for future research.

Other areas of potential research in the same area include the impact of technology, particularly mobile phones, on the livelihoods of producers and the communication of information along the value chain. Smart phones are still uncommon among producers, but live market information is accessible by producers, drastically changing more traditional means of price conveyance.

7.3.5.2 Further Research

Further research is dependent on the ongoing commitment of lead firms to VSS, and their transparency or willingness to assist research into researching their practices. For example, several exporters in Bandar Lampung expressed discomfort with the idea of providing me with lists of their VSS-enrolled producers, with which the perceptions survey could have been bolstered, and my semi-structure interviews could have interrogated.

Because innovation is so closely linked with improving resilience, those farmers that are capable innovators are more likely to have greater adaptive capacity. Leadership can play a crucial role in this.

From (Borda-Rodriguez & Vicari 2015, p.320), *“The bedrock of adaptive capacity is the ability of co-operative leaders, managers and members to reflect and enact changes.”* In their case study of Malawian coffee cooperatives, (Borda-Rodriguez & Vicari 2015) found that education, strategic long term planning, the inclusion of women and diversification of cooperative business activities were crucial in allowing innovation and developing resilience. These are interesting avenues for research that could not be considered in the scope of this thesis. In particular, there are a number of women’s farmer group movements breaking out across southern Sumatra, some of them assisted by the major exporters, and their interaction with VSS and Exporters should be of further interest to researchers.

This could form part of a broader area of future research examining the greater comparison of coffee growing regions within Indonesia. While many stakeholders are keen for coffee from Indonesia to be marketed under a national banner, this belies the heterogeneity of coffee quality and production types across the archipelago. Further research, incorporating differences in value chain governance, could articulate, and provide consumers an opportunity to appreciate, this difference. Others have noted, for example, the potential for a comparison of livelihoods between enrolled producers in Sumatra and Java. This thesis has provided substantial groundwork for these comparisons.

7.4 Conclusion

The use of VSS in the production of Robusta coffee production in southern Sumatra is in flux. Inconsistent and sometimes disappointing on-farm outcomes from VSS are causing lead firms and VSS organisations themselves to reassess their roll-out. In the face of a plateau in enrolments, Rainforest Alliance and have merged in an attempt to gain greater market share, in the process retaining Utz’s focus on traceability and service provision. This merger occurred not long after Starbucks eschewed third party VSS in favour of their own internally managed VSS. Even the Common Code for the Coffee Community (4C), the VSS studied in detail for this thesis, has been sold by its original owners, who have adopted another service oriented scheme - the Global Coffee Platform.

This leaves VSS, particularly third-party VSS, in a precarious position. The success of VSS depends on continuity of use by lead firms, and an enthusiastic response from producers, stemming from a motivation to be actively involved, not simply passively enrolled. Assuming lead firms recognise the need to engage with their producers, the replacement of third-party VSS with internal standards will only assist so far as upgrading strategies are realistic. This means focusing on improving producer livelihoods through appreciation of their low-risk livelihood strategies, and cannot be solely focused on improving production efficiency. It is unsurprising that Scoones (2015, p.69) has called the relationship between environmental

sustainability and economic growth “the core policy dilemma of our age”, particularly given its direct relation to livelihood and lifestyle choice.

There is also a need to hold lead firms accountable for actions that may impact producers within their supply chain. This thesis demonstrates that lead firms have attempted to use VSS to rectify a disconnect that exists between themselves and smallholder livelihoods enrolled in VSS. The positive engagement with VSS by most producers reflects improved social capital and resilience. However, the thesis dispels the notion that VSS, or any other value chain intervention, can single-handedly address issues of producer livelihood security. Rather, value chain interventions can positively contribute to the livelihoods of smallholders where lead firms are able to influence the institutional environment in achieving similar outcomes, providing producers are not negatively impacted. For producers to be motivated to participate in the intervention over the long term requires a program of broad-based capacity building that goes beyond the provision of training by roll-out partners to include government services, and support from NGO’s. So while it is true that an “active response to changing vulnerabilities... influence how livelihoods unfold” (Scoones 2015, p.30), the response can be shaped by other actors within the institutional environment.

In the Introduction, I noted the success of value chain interventions will be determined by validated evidence of improved, sustainable producer practices, together with improved livelihoods, natural resource management and access to markets. However, the upgrading strategy of VSS to achieve this end - modernised agricultural production - is not gaining traction, and lead firms should carefully consider the reasons on a regional basis. Corporate policies of lead-firm and exporter strategies may change, but consideration and interrogation of these policies should continue to account for their impacts on coffee producers, as it is their livelihoods strategies that are as significantly impacted as any others along the supply chain. Value chain interventions continue to offer the opportunity to positively impact producer livelihoods, but only through greater understanding of producer’s resource base, access to markets, and livelihood strategies.

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APPENDICIES

Appendix A – Survey Information Sheet

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Smallholder livelihoods and sustainability in Indonesian coffee and cocoa value chains

PARTICIPANT INFORMATION STATEMENT

(1) What is the study about?

You are invited to participate in a study by a team of Australian and Indonesian researchers on the livelihood benefits and impacts of value chain interventions in the coffee and cocoa industries. The project is funded by an agency of the Australian Government, the Australian Centre for International Agricultural Research (ACIAR), which aims to develop practical solutions to real problems being faced by farmers.

(2) Who is carrying out the study?

The study is being carried out by a team of researchers from the University of Sydney in Australia, the Indonesian Coffee and Cocoa Research Institute, Hasanuddin University and the University of Lampung. A team of Australian and Indonesian field researchers and University students will be involved in field activities.

(3) What does the study involve?

If you agree to participate, the researchers will ask questions about household farming activities, off-farm income sources, marketing activities, participation in farmer groups, natural resource management and social wellbeing. An audio recording of the interview and photography will only take place with your consent.

(4) How much time will the study take?

For farm households and stakeholder interviews, the researchers would like to meet with you and talk for approximately 45 minutes.

(5) Can I withdraw from the study?

Being in this study is completely voluntary - you are not under any obligation to consent and - if you do consent - you can withdraw at any time without affecting your relationship with The University of Sydney. You may stop the interview at any time if you do not wish to continue, the audio recording will be erased and the information provided will not be included in the study.

(6) Will anyone else know the results?

The researchers will complete survey forms and write down notes that summarise the discussion in our meetings. These will not be given to anyone else. All aspects of the study, including results, will be strictly confidential and only the researchers will have access to information on participants. A report of the study may be submitted for publication, but individual participants will not be identifiable in such

a report. The researchers will not mention your name in any articles they write arising from the survey. Your comments and answers will remain completely anonymous at all times.

(7) Will the study benefit me?

We cannot guarantee that you will receive any benefits from the study. The overall goal of this study is to improve smallholder livelihoods and sustainability, and the researchers will visit cocoa and coffee-growing communities in various parts of Indonesia. The information collected will be used to write articles in academic and industry journals that, it is hoped, will help inform appropriate rural development policies by increasing understanding of the issues that face cocoa and coffee farmers.

(8) Can I tell other people about the study?

Yes

(9) What if I require further information about the study or my involvement in it?

When you have read this information, the field researcher will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please contact the Australian or Indonesian researchers directly (Dr Jeff Neilson (jeffrey.neilson@sydney.edu.au, telp. +61 2 9315 4733; Dr Sukrisno Widyotomo (swidyotomo@gmail.com, telp +62 812 347 3256). Alternatively, you may ask field staff and they will contact one of the researchers, if necessary.

(10) What if I have a complaint or any concerns?

Any person with concerns or complaints about the conduct of a research study can contact The Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email). Or you can contact Soetanto Abdoellah, Research Director, Indonesia Coffee and Cocoa Research Institute, +62 331 767 130 (Telephone); stanto@iccri.net (Email).

This information sheet is for you to keep

Appendix B – Language School Certificate

Certificate no. : 082/WB/V/16



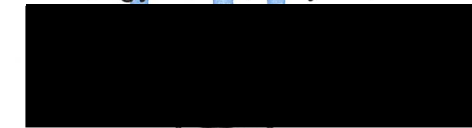
WISMA BAHASA

This is to certify that

Joshua Bray

has completed a 75 session intensive training of bahasa Indonesia
during the period of February 15, 2016 to May 16, 2016
and has proved competent in the language at the Intermediate level

Yogyakarta, May 16, 2016



WISMA BAHASA

Agus Soehardjono, S.S., M.M.

Director

Appendix C – Perception Survey (English Version)

PERCEPTIONS SURVEY – Draft, May 2015

Hello, my name is [your name], I am from [affiliated organization]. We are conducting interviews with coffee farmers in your region, and I would like to interview you because of your involvement with [insert company here] and their associated certification scheme [insert scheme here]. We hope

We have already received permission from the KaDes, and I can give you more information about this survey

There are approximately 30 questions in this survey and it will take around _____ minutes. There is no obligation to answer. I can give you the number or email of my lecture, if there are problems or a complaint.

Are you happy to undertake an interview for a short time?

NAME: _____

DESA: _____

AFFILIATED COFFEE COMPANY AND CERTIFICATION: _____

GENERAL

1. Do you know if you are involved with the _____ program?

a. Yes

b. No

c. Don't know

2. How long have you been involved with the program?

3. How did you hear about the program?

4. In your opinion, is there a difference between _____ and certification program?

5. Have you received training / guidance through the certification program?

a. No

b. Yes

ECONOMIC

6. Has the amount of your production changed since the introduction of certification?

- Declined
- Stable
- Increased

7. During harvest season, how often do you receive price information?

- Never (0)
- < 1/ month (1)
- Every week – Every month (2)
- Every 3 days – 1 / week (3)
- Every day (4)

8. Do you receive a premium price for certification?

- No
- Yes, 0 – 2,000 IDR/kg (3)
- Yes, > 2,000 IDR/kg (4)

9. Where do you sell the majority of your coffee?

- A local collector
- Cooperative
- Company buying station

10. Have you ever received access to credit?

Yes/no

If yes, from where did you receive credit? _____

11. Since certification, how much time have you spent on certification?

- More time spent on managing coffee
- No change
- Less time spent managing coffee.

12. How has your expenditure on farm inputs (fertilisers, pesticides, other equipment) changed since certification?

- Increased
- No change
- Decreased

SOCIAL CAPITAL

13. Has a new farmer organisation been established since certification?

- Yes
- No

14. Since certification, has the transparency of management in your co-operative improved?

- No (0)
- Yes (1)

How: _____

15. Do you think employment opportunities in coffee production for women in the desa have improved since the introduction of certification?

- No
- Yes _____ → how much per day?

16. Do you hire people to help with on-farm activities?

- No (0)
- Yes (1) → how much per day? _____ How many hours per day? _____
 - Including smokes and food?

16. As a result of certification, have your work methods changed?

Yes

No

If so how? _____

PHYSICAL

17. Has your farmer group (or cooperative) received any physical infrastructure or facilities as a result of certification?

- No (0)
- Yes (1)

Like what?

HUMAN

19. How often do you use protective equipment when needed?

- Never use (1)
- Rarely use (2)
- Often use (3)
- Always use(4)

20. Has this changed since the introduction of certification?

- No (0)
 - Yes (1)
-

21. Have you received training through the program?

- No (0)
 - Yes (1)
-

22. Who provided the training?

23. How often have you attended training?

24. Total hours

25.

What topics were covered in the training?

26.

Did you learn anything new?

- No
- A little
- An average amount
- A fair amount
- A great deal

27. Which of the following statements do you agree with most?

- I have spent too much time attending training related to certification
- I have spent about the right amount of time in training related to certification
- I would like to spend more time in training related to certification

28. Have you previously received coffee-related training from the government?

- Yes
- No

29. If yes, what was more useful?

- Training from the government
- The quality of training was about the same;
- Training from the company

ENVIRONMENT

30. Has your use of chemicals/pesticides changed since certification?

- Use more
- No change
- Use less

31. Has your use of fertiliser changed since certification?

- Use more
- No change
- Use less

Certified before or after?

32. Is there the following land management techniques?

- | | |
|------------------|--------|
| • Compost | Yes/No |
| • Mulch trench | Yes/No |
| • Terracing | Yes/No |
| • Shade trees | Yes/No |
| • Fertiliser Use | Yes/No |

Before

After

- | | |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
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| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

Certified before or after?

33. Do you have the following water management techniques?

- | | |
|--------------------------|--------|
| • Waste water management | Yes/No |
| • Irrigation | Yes/No |
| • Buffer Zones | Yes/No |
| • Water source ID | Yes/No |

Before

After

- | | |
|-----------------------|-----------------------|
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| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> |

General (2)

34. Do you think certification has had an overall positive impact on the Desa?

- Yes
- No
- Not Sure

35. Do you think the program has had an overall positive impact on you and your family?

- Yes
- No
- Not Sure

36. What aspect of the standards do you consider most useful?
