

Value Chain Analysis in Lampung Province, Indonesia

Zoe Masterpole, University of Minnesota, Masters of Development Practice Candidate

Emily Teleposky, University of Minnesota, Masters of Development Practice Candidate

973-900-4783, 311 Harvard Street SE, Apt 921, Minneapolis, MN

Joshua Thompson, University of Minnesota, Masters of Development Practice Candidate

Sara Zaghloul, University of Minnesota, Masters of Development Practice Candidate

Introduction

In an effort to become more sustainable, many companies are turning to certifications to verify that their products come from ethical sources. Sustainability certification has been created by the developed world as a solution to problems related to globalization and global production. Many of these certification schemes were created by environmental/social advocacy groups (e.g., Rainforest Alliance) or by individual companies (e.g., Starbucks' C.A.F.E. certification).¹ Public opinion has been one of the largest drivers of this trend.² These certifications fall in line with Sustainable Development Goal (SDG) 12, sustainable consumption and production.³

Certification costs are often borne by the producers in developing countries. These top-down decisions affect millions of smallholder producers around the world. Globally, there are 2.5 billion people whose livelihoods depend on agriculture, and 1.5 billion of them are smallholders.⁴ This report, in part, analyzes the costs and benefits of such certifications on smallholder forest producers in the Lampung region in Indonesia. Certification is seen as the best way to achieve market expansion⁵, but the research team explored other options, considering whether the costs outweigh the benefits. This research focused on one particular second-tier cooperative, Unit Kreatif Industri Rakyat (UKIR), which unifies and provides services to multiple first-tier cooperatives and their producers. The research was also conducted with Rainforest Alliance (RA) Indonesia, which has a working relationship with UKIR.

UKIR, with the help of RA, is exploring various forest certification schemes, like Forest Stewardship Council (FSC), in efforts to increase market access for their products. Sustainable forest certification is often seen as a market-based solution to many of the world's problems. Like consumers and multinational corporations (MNCs), forest producers also have the right to make

¹Sonke, Daniel. "Brief History of Sustainable Brief History of Sustainable Certifications Certifications & the Protected Harvest Program ." Vineyard Team. Lecture presented at the 2008 Sustainable Ag Expo. Accessed July 13th 2019, <http://www.vineyardteam.org/files/resources/Sonke.pdf>.

² *ibid.*

³ "Sustainable Development Goals," United Nations Development Program, accessed 13 July 2019, <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

⁴"Enduring Farms: Climate Change, Smallholders and Traditional Farming Communities." Food and Agriculture Organization of the United Nations. Last modified 2012.

http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Factsheet_SMALLHOLDERS.pdf.

⁵ Interview with head of UKIR, interviewed by team, Lampung Province, May 25, 2019

their own market-based decisions about whether it is pragmatic to obtain any sustainability certifications. Therefore, three value chain analyses were conducted to guide that decision. A value chain analysis requires the understanding of many factors affecting the product, producer, and market. ⁶Mapping and analyzing the value chains for these producers in Lampung province is a crucial step to determine the full range of market options that a producer has, and if tapping into the certification market is necessary. RA helped select the products that were analyzed (coffee, honey, timber).

Certification

This report focuses on sustainability certifications for forest products that are verified by an external auditor. For agriculture production, there are a myriad of relevant global certifications, including: FSC, Sustainable Forest Initiative (SFI), RA, UTZ, Fair Trade Certified.⁷

Forest product sustainability certifications are presented as a way to achieve the broad goal of responsible production and consumption (SDG 12).⁸ Forest certifications, like FSC, encompass both environmental and social responsibility.⁹ A corporation can purchase FSC-certified timber and feel like they are making responsible purchasing decisions. Consumers can then look at FSC-certified products and feel like they too are making a responsible and ethical decision through purchases. This report explores the effects of certification on the producers, namely the perceived and realized benefits of joining the market for certified products.

In addition to the voluntary schemes discussed, Indonesian producers are subject to certifications that need to be obtained to legally sell their products. The Indonesian government is looking to compulsory certification as a way to solve environmental and economic issues surrounding forestry. The Ministry of Forestry and the Environment (MoFE) has introduced an Indonesia Legal Wood (SVLK) license. Unlike international certification standards, SVLK was primarily created to curb the problem of illegal logging; auditors check for standardized logging systems, processing and logging permits.¹⁰ Also, food products sold in Indonesia require a Halal certification. The cooperatives in UKIR were preparing for group FSC and SVLK certifications. They also expressed interest in Rainforest Alliance certification (coffee), and halal certification (coffee and honey). While halal is technically a requirement to sell food products, it is not functionally necessary on the local market.

⁶ Lundy, Mark, Alexandra Amrein, Jhon Jairo Hurtado, Gertjan Becx, Nancy Zamierowski, Fernando Rodriguez, and Erika Eliana Mosquera. *LINK Methodology: a Participatory Guide to Business Models That Link Smallholders to Markets* (version 2.0). International Center for Tropical Agriculture. Last modified November 2014.

⁷ Jay S. Golden, "An Overview of Ecolabel and Sustainability Certifications in the Global Marketplace"

⁸ "Sustainable Development Goals," United Nations Development Program, accessed 13 July 2019, <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

⁹ Interview with Forest Stewardship Council United States staff, interviewed by Zoe Masterpole, April 5th, 2019

¹⁰ "SVLK," Indonesian Legal Wood, accessed July 16, 2019, <http://silk.dephut.go.id/index.php/info/svlk>

Consumer Side of Certification

Consumers are becoming increasingly aware of product origin for a number of reasons. The first is that there have been several news stories in the past thirty years of disasters at factory warehouses, such as the explosion at the Rana Plaza factory in 2015.¹¹ In addition to the human rights violations, consumers are also becoming increasingly cognizant of the environmental and social impacts of their spending decisions.

Although these consumer trends are often attributed to millennials (those born between 1981 and 1996), research shows that the desire to buy sustainably and ethically stretches across all generations.¹² Nielsen conducted a study of consumer trends in 2017 and found even in the 65+ category, 65% of consumers stated that it is “extremely important” to them that they support companies with environmental responsibility.¹³ This trend is also not specific to the United States, and countries like India, Colombia, and Mexico had 94% of respondents say that environmental stewardship is important to them as well.¹⁴

Consumers do not like to feel like they are complicit in these large-scale human rights violations and environmental degradations.¹⁵ That being said, it is unreasonable for any individual to understand the full-scale implications of how all their products are made. A person who makes the median income in the United States spends 25 to 30% of their yearly income on consumer goods -- defined as any voluntary household consumption, after immediate needs are met.¹⁶ People spend tens of thousands of dollars per year on consumer goods, and cannot be expected to understand the environmental and social impacts of every one of those purchases. Thus, certification stands in as a shorthand.

Another benefit of sustainability certification is to make supply chains more transparent. Today’s global supply chains can be incredibly long and complex. Sustainability certifications serve as a way to make consumers feel more at ease, and like they have some knowledge of where their products come from.

Consumers in Lampung have dealt with this opaqueness differently. In Lampung, FSC-certified timber has no domestic market, local consumers have no desire to pay more for certified products.¹⁷ Consumers also prefer to buy locally grown and roasted coffee; certifications such as RA do not hold the same weight. Consumers expressed concerns about adulterated coffee

¹¹ “After Rana Plaza: Do Consumers Care About Supply Chain Responsibility?,” Tim Kraft, last modified February 5 2019, <https://nextbillion.net/rana-plaza-supply-chain-transparency/>

¹² “The Evolution of the Sustainable Mindset,” Nielsen, last modified November 9 2018, <https://www.nielsen.com/us/en/insights/report/2018/the-education-of-the-sustainable-mindset/>

¹³ *ibid.*

¹⁴ *ibid.*

¹⁵ Kraft, Tim. “After Rana Plaza: Do Consumers Care About Supply Chain Responsibility?”

¹⁶ “Consumer Spending,” Business Dictionary, accessed July 8 2019, <http://www.businessdictionary.com/definition/consumer-spending.html>

¹⁷ Interview with Rainforest Alliance consultant, interviewed by the team, Lampung Province, June 29, 2019

(ground coffee mixed with corn or rotten beans) and honey (mixed with water) but have not sought out certification as a way to rectify those issues.¹⁸ Instead, they put their trust into buying locally produced products; honey is often purchased directly from the producer. Local consumers care about quality, and buying locally

Business Side of Certification

Businesses aim to obtain certification as a way to respond to global demands for more sustainable production. In 2013, only 20% of Fortune 500 companies reported their Environmental and Social Governance (ESG) practices. As of 2019, 60% choose to do so, indicating that many corporations are examining their triple bottom line -- or their adherence to making money, not damaging the environment, and ensuring that all stakeholders are treated fairly, not just their consumers and shareholders.¹⁹ On the surface level, these trends seem promising. A majority (72%) of corporations also mention SDG 12 in their marketing or external communications that are sent to stakeholders; however, only about a third of those companies explicitly mention SDG 12 in their business strategy.²⁰ This, of course, does not mean that the company is not doing anything to ensure more responsible production and consumption, but it is certainly notable.

Buying inputs from certified sources is one of the ways that businesses can improve their supply chains, and verify to consumers that they behave responsibly. Businesses choose more certified products as a competitive advantage, attracting environmentally or socially aware consumers. Sales have been reported to grow four times as much for companies that demonstrate sustainable practices which includes sourcing certified products.²¹ According to a report by the World Wildlife Fund for Nature (WWF), sales of FSC certified products increased by more than 30% for one big retailer in Switzerland between 2012 and 2015.²² These examples show that as social awareness of sustainability is growing, companies sourcing and selling certified products are performing better in the market.

¹⁸ Interview with members of Tirta Kencono cooperative, interviewed by the team, Lampung Province, May 24, 2019

¹⁹ Julia Wilson, "Consumer Preferences Continue to Shift Towards Sustainability, Market Research Shows," last modified November 13, 2018. <https://www.triplepundit.com/story/2018/consumer-preferences-continue-shift-toward-sustainability-market-research-shows/55496>.

²⁰ Adam Butler, "Do Customers Really Care About Environmental Impact?," accessed July 8 2019. <https://www.forbes.com/sites/forbesnycouncil/2018/11/21/do-customers-really-care-about-your-environmental-impact/#5734bd3240d0>

²¹ "Europe's food sector shows highest growth of sustainable product sales" Oliver Morrison, Food Navigator. Accessed July 12, 2019

<https://www.foodnavigator.com/Article/2019/05/29/Europe-s-food-sector-shows-highest-growth-of-sustainable-product-sales>

²² "Responsible sourcing of forest products beneficial for businesses" WWF. Accessed July 12, 2019 http://wwf.panda.org/wwf_news/?299794/Responsible%2Dsourcing%2Dof%2Dforest%2Dproducts%2Dbeneficial%2Dfor%2Dbusinesses%2Dnew%2Dreport

Producer Side of Certification

The producers in Lampung who are looking to participate in these certification schemes are often subsistence farmers who see certification as a way for them to make money.²³ They need money to pay for their immediate needs. The forest producers were not interested in environmental stewardship or social equity as much as they were interested in gaining stable market access and the subsequent increased economic standing.²⁴ Through field visits and interviews, it was learned that the biggest barriers to certification are the costs and the fact that many Indonesian smallholder producers do not legally own their land.

All certification schemes have some number of indicators that producers need to follow. The producers decide that they want to become certified and make necessary changes, integrate new practices, and obtain documentation of their compliance, all of which costs money. For example, many certifications require a strong commitment to increased biodiversity within the practice.²⁵ This requires substantial labor inputs according to the certification's requirements for increased biodiversity within the operation. Then, the producer pays an auditor to come and weigh the farm's practices against the standards, at which point they may need to make additional changes. The producers have to also pay for the certification itself, as well as pay to renew it every few years. For an example, the specific schedule and costs of FSC certification in Indonesia can be found in Appendix A.

In Lampung, the costs of certification are prohibitively high to many smallholder producers. Some producers have joined cooperatives, partially so that they can get group certification and share those costs. This can occur through second-tier cooperative models. Second-tier cooperatives often seek funding from the government or NGOs to pay for this²⁶, as the costs are usually too expensive for a cooperative to pay for on their own, as was the case with UKIR.²⁷

These second-tier cooperatives have more financial and human capital, making group certification more feasible. They also have political clout, and are able to serve as bridges to non-governmental organizations (NGOs) and local governments. These can all be leveraged to help achieve certification.

Diversified Income & Livelihoods

Sustainability certifications are one of the many ways that smallholder producers can increase their market access, and find more stability in the market. Another way to do so is through

²³ Interview with UKIR staff, interviewed by team, Lampung Province, May 22, 2019

²⁴ *ibid.*

²⁵ Masterpole et. al., "A Value Chain Analysis of Acacia in Lampung Province, Indonesia," July 2019

²⁶ Maryudi, Ahmad. 2009. Forest Certification for Community-Based Forest Management in Indonesia: Does LEI Provide a Credible Option? Institute for Global Environmental Strategies.

https://www.researchgate.net/publication/303400357_Forest_Certification_for_Community-based_Forest_Management_in_Indonesia_Does_LEI_Provide_a_Credible_Option.

²⁷ Rainforest Alliance employee, personal conversation with team, June 29, 2019

diversifying their income streams. Diversified farming allows producers to smooth their incomes and strengthen their farms against disease and adverse weather.

Many smallholder producers in Lampung already diversify their crops to some extent.²⁸ Very rarely were monocropped areas seen. Many producers cultivated multiple crops, mainly some combination of timber, coffee, rubber, cassava, palm oil, and honey. Depending on price fluctuations, producers may change their crop mixtures from year to year. It was learned in interviews that some producers are increasingly planting cassava or rubber -- which are felt to have steadier markets -- instead of coffee.²⁹ Producers often weigh the benefits of replanting trees after they are felled, and can choose to plant another crop if they need quicker returns, as trees take at least six to seven years to be ready for harvest.

Diversified systems are also a requirement of many certification schemes, namely for the aforementioned benefits to the producer. For example, one criterion of the Indonesian Ecolabel Institution (LEI) certification social standard (2.1.3) requires that smallholder producers getting certified have steady sources of income outside of timber that are diverse.³⁰

Livelihood improvement can be measured in a variety of ways and is not always comprehensive. Certifications aim to touch on some of the broader criteria for livelihood improvements such as increased income and decent working conditions.³¹ This, however, is still done at the cost of increased labor inputs and strict operational requirements.

Value Chain Analysis

Timber

Value chain

Indonesia's expansive landmass and tropical location make it ideal for the production of specialty woods, such as teak and mahogany as well as low-cost and fast-growing species such as acacia. The basic value chain for acacia timber in the Lampung region is outlined in figure 1. Most smallholder acacia production is confined to Lampung. Farmers, sawmills, markets and consumers are local. Timber is traded within or between village communities and is used for furniture, home construction, and handicrafts. Some acacia does leave the region to be sold on larger national and export markets via purchases made by larger firms from sawmills and pulp mills. Lampung is not known as a major timber-producing region, but acacia timber is a good

²⁸ Interview with UKIR staff, interviewed by team, Lampung Province, May 25, 2019

²⁹ Interview with Serasi Mandiri Jaya Cooperative, interviewed by team, Lampung Province May 28, 2019

³⁰ "Standar LEI 5000-3/14- Standar Penilaian Aspek Sosial Sertifikasi PHBML." n.d. Indonesian Ecolabelling Institute.

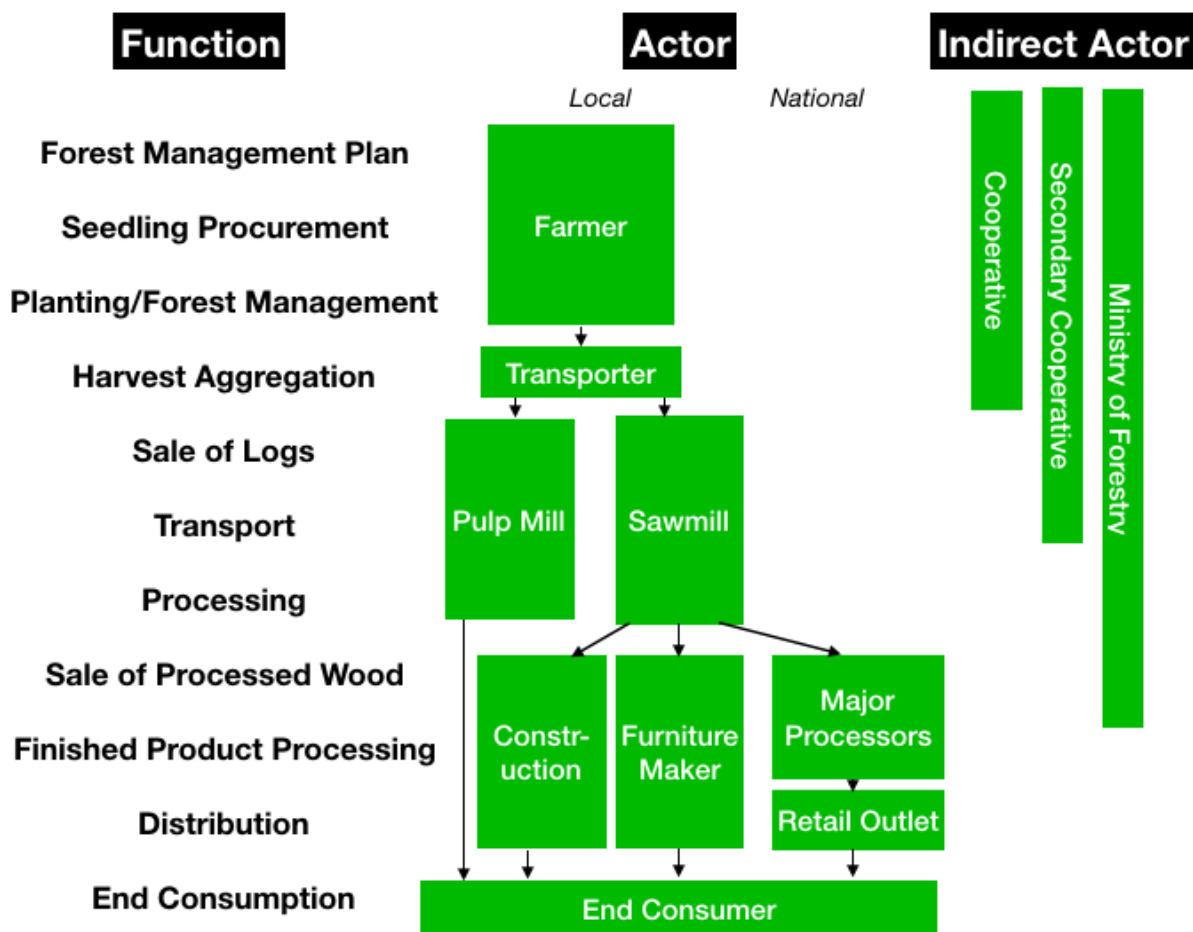
³¹ Interview with Employee of Rainforest Alliance Indonesia, interviewed by team, Lampung Province May 25, 2019

source of income, prompting many farmers to put aside some land planted with timber. However, current smallholder practices are not conducive to strong market contribution. Most observed cooperative members are not engaged in intensive, long-term timber production. Many practice subsistence farming and keep plots with trees as a long-term asset. The trees can be harvested when a larger sum of money is needed. Many key components for market contribution are missing, which impacts where timber can be sold and for what price. Missing components for market contribution vary among farmers and are generally unattainable for financial reasons. They are:

- SVLK certification (mandatory under federal law)
- Legal land claim or ownership
- Consistent acacia timber supply
- High-yield management practices (e.g. pruning and thinning)
- Value added management practices (e.g. enhanced biodiversity and soil conservation)

Without these components, even SVLK certification, smallholders are still able to operate in the local market, which uses negotiable but low prices. Producers in this case have low bargaining power and generally take the price they can get from a buyer.

Figure 1: Functional Value Chain of Acacia Timber in Lampung



Certification

The two timber certifications to be used by UKIR smallholders are SVLK (mandatory) and FSC (voluntary). Obtaining the SVLK certification requires a land certificate and gives producers the ability to sell to local sawmills and pulp mills. The absence of a high-yielding supply comes from a general lack of silvicultural knowledge, which has not been acquired as timber has only recently become a marketed commodity for these farmers. In order to consolidate needed management practices and enhance bargaining power, local cooperatives, in conjunction with second-tier cooperatives, have decided to implement FSC certification. The certification will significantly (by 30% to 40%) increase the income potential for the farmers, however, at the cost of substantially greater labor inputs than currently practiced.³²

Despite SVLK being mandatory by the government, it still comes at a high cost to the producer, 140,000,000 IDR (9,655 USD), and needs to be renewed every ten years. For producers with assets valued less than 500,000,000 IDR (37,000 USD)³³, the government has given the option of a self-audit, but the certification from the self-audit does not hold the same market value as the

³² Interview with head of UKIR, interviewed by team, Lampung Province June 25, 2019

³³ Forest Legality Initiative

full SVLK certification, as buyers would not pay the same premium for it. Additionally, producers must have a certificate of legal claim to their land in order to obtain SVLK. Obtaining the basic certificate to land ownership is free of charge and issued by the head of the village. This, however, is only for land that is not designated one of the four federally designated forest types. Some forested areas have been given special protections. Some of these may still be harvested for timber - but only with full ownership of the land. Full ownership is a step up from a land certificate, and is also more expensive to obtain. The full ownership claim (HKm) costs 150,000,000 IDR (10,345 USD).³⁴

Voluntary certifications include those such as FSC, LEI (Indonesian Ecolabel Institute) and IFCC (Indonesian Forestry Certification Cooperation). These certifications all have different requirements to obtain, both in practice and price. FSC certification is highly sought by farmers as it can increase profits by 30-40% given an appropriate market.³⁵ However, FSC has some of the highest costs to obtain, has a rigorous certification process and lasts only five years. The cost for FSC certification largely depends on the producer's commitment to implement the certification standards. The full cost can range from 345,000,000 (24,402 USD) to 445,000,000 (31,475 USD)³⁶.

The high cost of these certifications means that smallholder farmers have extremely limited options aside from joining cooperatives to share costs. However, the certifications are one of only a few ways that farmers can add enough value to their product to reach a larger national or export market.

Coffee

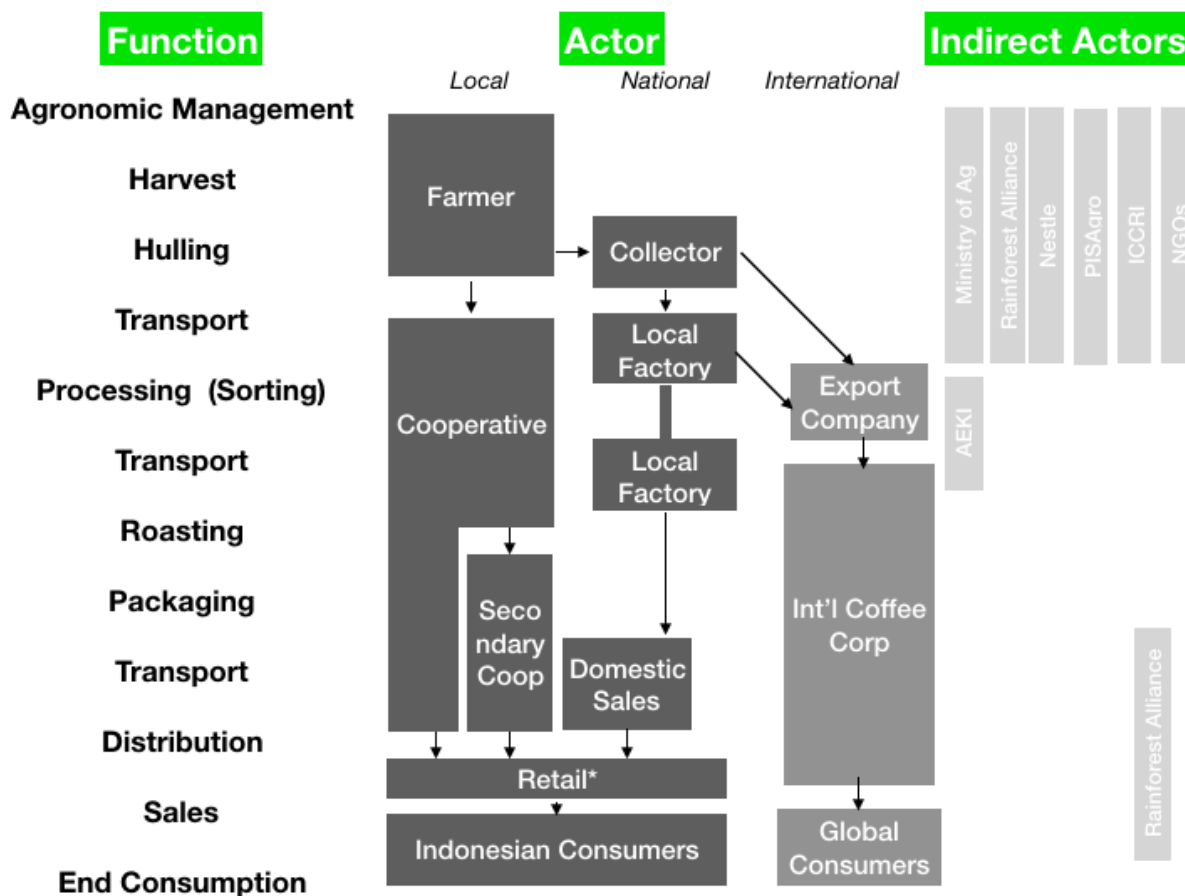
Value chain

Figure 2: Functional Value Chain of Coffee in Lampung

³⁴ Interview with head of UKIR, interviewed by team, Lampung Province July 13, 2019

³⁵ Interview with Rainforest Alliance consultant, interviewed by team, Lampung Province June 29, 2019

³⁶ Interview with FSC Indonesia consultant, interviewed by team, Lampung Province June 29, 2019



**local retail includes online sales, local market, direct to consumer sales*

Indonesia specializes in Robusta which constitutes three-quarters of all coffee produced in Indonesia, and 70% of that is produced in Southern Sumatra.³⁷

The processing of coffee as it changes hands can be seen in the functional value chain, as shown above in figure 2. When a producer sells unsorted green beans to a collector, they receive 19,000 - 22,000 IDR/kg (1.34 - 1.56 USD) . As seen in figure 3, the process of sorting the beans is the most valuable step in coffee production. Thus, it would benefit the producers to do that process themselves, as they could receive up to 45,000 IDR/kg (3.18 USD) for sorting. Many producers cited time as the reason why they do not sort green beans. However, it was found that the investment of time pays off.³⁸

The coffee market within Lampung is heavily influenced by the global coffee market. Many of the producers interviewed stated that they were interested in exporting coffee. Some of these smallholders have some of their green beans exported, but it goes through the collector and thus producer does not receive a premium for it. To export directly, a producer would need to establish a contract directly with an exporter, and promise some certain volume. The necessary volume

³⁷ Masterpole et. al., "A Value Chain Analysis of Coffee in Lampung Province, Indonesia," unpublished manuscript, June 2019

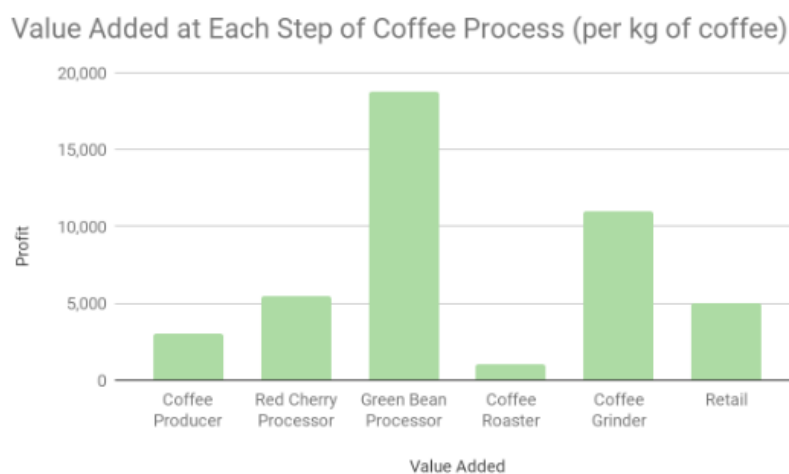
³⁸ *ibid.*

and stability would be greater than what most smallholder producers producers, or cooperatives, currently manage.

Although coffee production in the country has increased, exports have dropped by twenty percent in the past five years. The Indonesian domestic market has grown considerably in the last ten years and coffee consumption has doubled.³⁹ This all signals that domestic demand has grown quickly, and Indonesian smallholder coffee producers can capitalize on that.

Given the costs and requirements of exporting coffee, it is pragmatic for smallholder producers or cooperatives to sell coffee in the regional market. Many Indonesian coffee producers and cooperatives are looking to sell coffee domestically, as there are not as many barriers to sell and producers often receive a price premium. Producers get more money for a few reasons. They bypass many changes-of-hand that are necessary for export and they are able to sell sorted green beans at a premium. Most international coffee buyers only purchase unsorted green beans, but many local buyers -- especially local roasters and coffee shops -- purchase sorted green beans, which means the farmers double the profit per kilogram.

Figure 3. Value Added Steps in Coffee Processing



Certification

The coffee market explored in Lampung did not center around certification. The exception is the producers who sell to Nestle, who need to become 4C certified. Unlike RA or Fairtrade, there is not a large market premium for 4C certification.⁴⁰ Additionally, in Lampung, Nestle covers the

³⁹Fransika Nangoy & Marcy Nicholson, "Indonesia's growing thirst for coffee drains premium bean supplies, last modified June 22, 2018, <https://www.reuters.com/article/us-indonesia-coffee/indonesias-growing-thirst-for-coffee-drains-premium-bean-supplies-idUSKBN1JI02R>

⁴⁰ UTZ Certified, 4C Association, Sustainable Trade Initiative, and IDH. "Stepping-up from 4C Compliance to UTZ Certification." Last modified 2012. https://www.sustainabilityxchange.info/filesagri/CARTILLA_4C-UTZ_ingles_V3_smallpdf com_lowres.pdf.

costs of 4C, so the burden is not as high on the producers.⁴¹ Otherwise, coffee sustainability certifications were discussed as a vague goal. Currently, the growing demand in Indonesia is large enough that the certified export market is not necessary. Many producers explained that it is something they are interested in for the future, but currently cannot afford it, and continue to sell to locally without it.⁴²

One of the ways that producers can prepare for future certification is to plant coffee as part of an agricultural mix. As discussed earlier in this report, biodiversity is good for farms and livelihoods alike. Coffee grows well with trees, avocados, black pepper and chile pepper.⁴³ In a bad production year for coffee, these added crops can also serve to stabilize the income of the producers. It is also a necessary step to future certifications. Diversifying farm yields would be a current good practice, as well as an investment in preparing a farm for future certification.

Given the size of the observed cooperatives in Lampung, certification is not necessary at this point. The producers in Lampung are mostly interested in gaining stable market access; to do so, they have opportunity within Lampung and Indonesia. After a cooperative saturates the domestic market, then it would be pragmatic for them to explore RA certification and consider developing a direct exporting relationship.

Honey

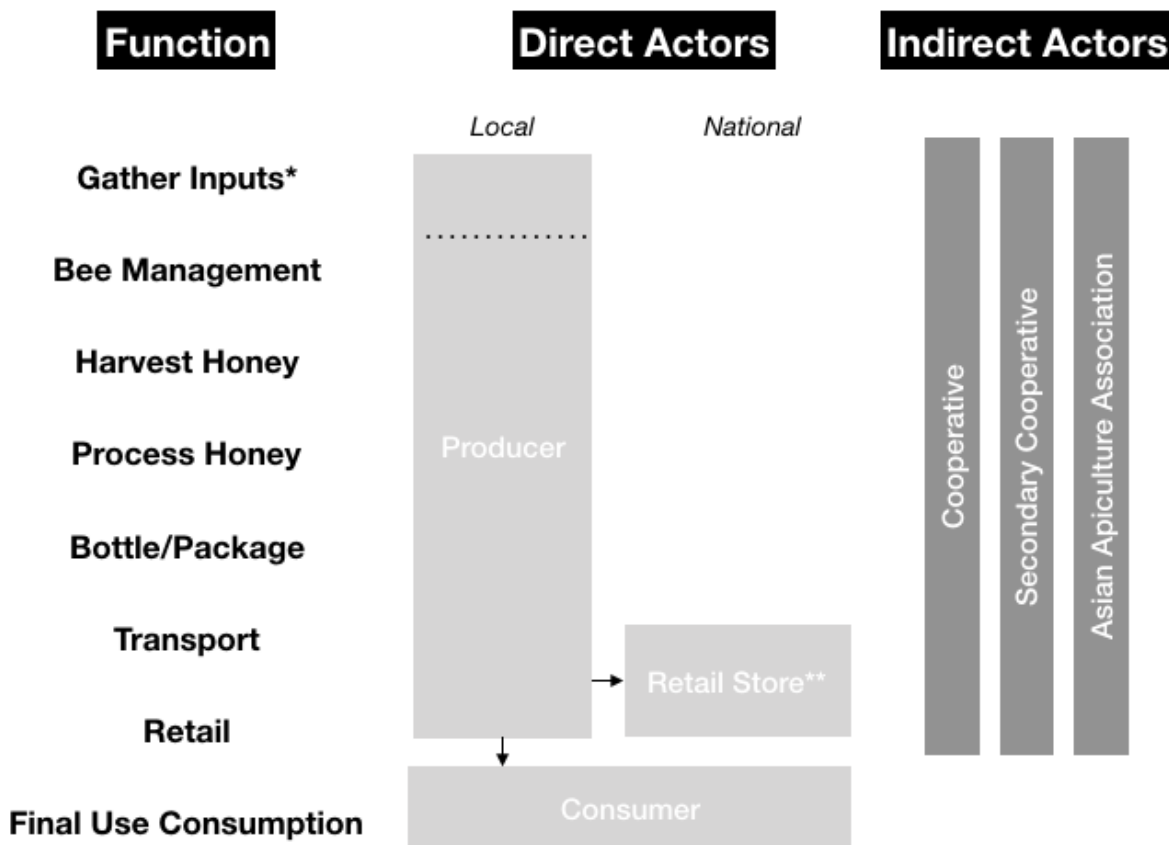
Value chain

Figure 4: Functional Value Chain of Honey in Lampung, Indonesia

⁴¹ Interview with Nestle employees, interviewed by team, Lampung Province, June 25, 2019

⁴² Interview with Titro Kencono Cooperative, interviewed by team, Lampung Province, May 24, 2019

⁴³ Interview with Nestle-supported farmer, interviewed by team, Lampung Province, June 25, 2019



* Farmers may purchase their hives/colonies or make/collect their own

** Retail stores include supermarkets, convenience stores and local markets

Honey is produced throughout the country by smallholder producers normally as a part-time activity, thus neither a lot of time nor attention is given to it.⁴⁴ The little governmental support that honey producers receive comes out of the Indonesian Ministry of Forestry, which spends most of its efforts on timber management. Despite this, it provides a steady source of income as there is large domestic demand for locally produced honey.

Indonesia is a net importer of honey with imports coming from Saudi Arabia and Australia to meet domestic demand. It is notable that consumers do not have a lot of trust in the honey sold on supermarket shelves as they fear it is adulterated.⁴⁵ Their concerns are not able to be addressed as there are no widely known and understood certifications that be able to speak to any quality or sourcing concerns. Therefore, people look to purchase directly from smallholder honey producers. These producers are split between those who wild harvest honey and those who managed

⁴⁴ Gratzner, K. et al. "Challenges for Beekeeping in Indonesia with Autochthonous and Introduced Bees.", last accessed July 7, 2019, <https://www.tandfonline.com/doi/pdf/10.1080/0005772X.2019.1571211>

⁴⁵ Interview with a local honey producer, interviewed by team, Lampung Province, June 7, 2019

colonies of bees; the chain in figure 4 is that of the latter. Though this is not found to be the most common path, it is the path with the largest market potential and environmental benefits.⁴⁶

The honey value chain, locally, is in the hands of smallholder producers. They have the option to hold every value-added role if they choose to do so. Honey production is typically viewed as supplemental rather than essential to the livelihoods of those involved as most do not derive their entire income from honey production. The honey producers interviewed said that they consistently sell out for the months that they are able to produce and sell honey proving it to be a reliable source of income. There are outlets for honey produced locally to be sold in retail locations but there are strict processing standards that would need to be achieved as well as Halal certification, as described previously.⁴⁷

Something not captured by the value chain is the biodiversity benefits that honey provides which are important to the environmental goals of certification. This is accomplished by first reducing the amount of wild harvesting of colonies that is done. Secondly, incorporating apiculture into any agricultural operation will improve biodiversity while increasing outputs. There are many opportunities for value-added products such as acacia honey.⁴⁸

Conclusion/Discussion

While global corporations and consumers view certification schemes as the way to achieve SDG 12, smallholder producers in Lampung view it as a way to access more markets. Certification standards cost a smallholder producer a large portion of their income, and depending on the product, it is not always necessary to become sustainably certified in order to access stable markets. Indonesia is a net importer of honey, and the demand continues to grow domestically. Producers that add honey to their operation need not look outside of Lampung to sell their product. Coffee producers in Indonesia have ample opportunities to sell green coffee beans domestically. Additionally, they can make more money selling on the domestic market by selling sorted green beans, which is not an option on the certified market. Timber is a different case, as the local market is saturated to the point that FSC certification is a logical next step to continue expansion.

Overall, farmers can also increase their current livelihoods without certification by diversifying their agricultural mixes. Diversification allows producers to be less susceptible to risk, allows them to smooth their income throughout the year by growing various crops and helps them prepare for future certification when they reach the point when that is feasible and necessary.

Sustainability certification is a step in the right direction; it benefits consumers and multinational corporations (MNCs) alike. However, the benefits do not always trickle down to the producers, as the costs and the burden to change often fall of them. This paper presents the disproportionate

⁴⁶ Masterpole et. al., “A Value Chain Analysis of Honey in Lampung Province, Sumatra, Indonesia,” unpublished manuscript June 2019

⁴⁷ *ibid.*

⁴⁸ *ibid.*

benefits and costs that stakeholders take on in the effort to become sustainably certified. This is not the case for every sustainability certification, as this research focused on a set of producers in one specific region. However, it would behoove MNCs to consider taking on more of these costs themselves, and not leaving it to the smallholder producers.

Bibliography

- Business Dictionary, "Consumer Spending," Accessed July 8 2019, <http://www.businessdictionary.com/definition/consumer-spending.html>
- Butler, Adam. "Do Customers Really Care About Environmental Impact?" *Forbes*. Accessed July 8 2019. <https://www.forbes.com/sites/forbesnycouncil/2018/11/21/do-customers-really-care-about-your-environmental-impact/#5734bd3240d0>
- Gratzer, K. et al (2019). "Challenges for Beekeeping in Indonesia with Autochthonous and Introduced Bees.", Accessed July 7, 2019 <https://www.tandfonline.com/doi/pdf/10.1080/0005772X.2019.1571211>
- Indonesia Investments. "Agriculture in Indonesia." Accessed July 8, 2019, <https://www.indonesia-investments.com/id/budaya/ekonomi/ikhtisar-struktur-ekonomi/per-tanian/item378>
- Indonesia: Forest Legality. (2016, August). Retrieved July 16, 2019, from <https://forestlegality.org/risk-tool/country/indonesia#tab-laws>
- Kraft, Tim. "After Rana Plaza: Do Consumers Care About Supply Chain Responsibility?" Next Billion. Last modified February 5 2019, <https://nextbillion.net/rana-plaza-supply-chain-transparency/>
- "Enduring Farms: Climate Change, Smallholders and Traditional Farming Communities." Food and Agriculture Organization of the United Nations. Last modified 2012. http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Factsheet_SMAL_LHOLDERS.pdf.
- "SLVK," Indonesian Legal Wood, accessed July 16 2019, <http://silk.dephut.go.id/index.php/info/svlk>
- Lundy, Mark, Alexandra Amrein, Jhon Jairo Hurtado, Gertjan Becx, Nancy Zamierowski, Fernando Rodriguez, and Erika Eliana Mosquera. LINK Methodology: a Participatory Guide to Business Models That Link Smallholders to Markets (version 2.0). International Center for Tropical Agriculture. Last modified November 2014.
- Masterpole, Zoe, Teleposky, Emily, Thompson, Joshua and Zaghloul, Sara. "A Value Chain Analysis of Acacia in Lampung Province, Sumatra, Indonesia." Unpublished manuscript July 2019.
- Masterpole, Zoe, Teleposky, Emily, Thompson, Joshua and Zaghloul, Sara. "A Value Chain Analysis of Honey in Lampung Province, Sumatra, Indonesia." Unpublished manuscript June 2019.
- Masterpole, Zoe, Teleposky, Emily, Thompson, Joshua and Zaghloul, Sara. "A Value Chain Analysis of Coffee in Lampung Province, Sumatra, Indonesia." Unpublished manuscript.

July 2019.

- Maryudi, Ahmad. 2009. Forest Certification for Community-Based Forest Management in Indonesia: Does LEI Provide a Credible Option? Institute for Global Environmental Strategies.
https://www.researchgate.net/publication/303400357_Forest_Certification_for_Community-based_Forest_Management_in_Indonesia_Does_LEI_Provide_a_Credible_Option.
- Nangoy, Fransika and Nicholson, Marcy. "Indonesia's growing thirst for coffee drains premium bean supplies" *Reuters*. Last modified June 22, 2018, <https://www.reuters.com/article/us-indonesia-coffee/indonesias-growing-thirst-for-coffee-drains-premium-bean-supplies-idUSKBN1JI02R>
- Nielsen, "The Evolution of the Sustainable Mindset," Last modified November 9 2018, <https://www.nielsen.com/us/en/insights/report/2018/the-education-of-the-sustainable-mindset/>
- Pilon, Annie. 2018. "25 Legit Green Business Certifications." *Small Business Trends*, Last modified December 29, 2018. <https://smallbiztrends.com/2016/10/green-business-certification.html>.
- "Standar LEI 5000-3/14- Standar Penilaian Aspek Sosial Sertifikasi PHBML." n.d. Indonesian Ecolabelling Institute.
- Sonke, Daniel. 2008. "Brief History of Sustainable Brief History of Sustainable Certifications Certifications & the Protected Harvest Program ." Vineyard Team. Lecture presented at the 2008 Sustainable Ag Expo. Accessed July 13th 2019, <http://www.vineyardteam.org/files/resources/Sonke.pdf>.
- United Nations Development Program. "Sustainable Development Goals." Accessed 13 July 2019. <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
- United Nations Indonesia. "Goal 15: Life on Land." Accessed July 8, 2019 <https://un.or.id/component/content/article/19-sdg/105-goal-15-life-on-land?Itemid=437>
- UTZ Certified, 4C Association, Sustainable Trade Initiative, and IDH. Last modified 2012. "Stepping-up from 4C Compliance to UTZ Certification."
https://www.sustainabilityxchange.info/filesagri/CARTILLA_4C-UTZ_ingles_V3_smallpdf.com_lowres.pdf.
- Wilson, Julia. "Consumer Preferences Continue to Shift Towards Sustainability" *Triple Pundit*. Last Modified November 13, 2018. <https://www.triplepundit.com/story/2018/consumer-preferences-continue-shift-toward-sustainability-market-research-shows/55496>

Appendix A. FSC Certification Costs and Schedule

Farmer Costs for FSC Certification	
Description	Cost (IDR)
Year One Assessment (Three Auditors)	100,000,000
Year Two Assessment (One or Two Auditors)-	75,000,000
If Major Violation is Found	
Auditor visit 3-months Later	20,000,000
Year Three Assessment	75,000,000
Year Four Assessment	75,000,000
Year Five Recertification	100,000,000
5 Year Total	445,000,000 (31,475 USD)
If Minor Violations or Nothing is Found	
Year Three Assessment	35,000,000
Year Four Assessment	35,000,000
Year Five Recertification	100,000,000
5 Year Total	345,000,000 (24,402 USD)

FSC certification ideally comes with a price premium between 30-40%. The new price point estimates producers would be able to get 1,690,000 IDR -1,820,000 IDR/ m^3 for their acacia wood.

With no violations during the auditing processing and assuming a 30% price premium, the cooperatives would need to sell 41 m^3 per year to break even if they follow-through with FSC certification. With a major violation, the cooperative would need to sell 53 m^3 per year to break even. These calculations are dependent on stable acacia prices and market access, which are not guaranteed even after receiving the certification.