Quality Upgrading in Specialty Coffee Chains and Smallholder Livelihoods in Eastern Indonesia: Opportunities and Challenges

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SUMMARY

A popular rural development strategy in recent years has been the value-chain approach, where improved linkages between farmers in marginalized rural communities and expanding market opportunities form the foundations for development assistance. The direct involvement of international buyers can facilitate knowledge transfer and skills upgrading for producers, placing them on potentially dynamic learning trajectories that enable improved competitiveness in a global market. The growing international demand for specialty coffees, and the increasing willingness of global coffee buyers to engage with rural producers in countries such as Indonesia, appears to offer one such opportunity. However, the capacity for Indonesian smallholders to benefit from these opportunities is determined by the ways in which coffee production is embedded within the socio-institutional and agro-ecological aspects of farmers' lives. Value-chain interventions that aim to upgrade the quality and consistency of coffee at the farm-level require locally tailored approaches that take into account the basis of farmers' livelihood strategies and resource constraints. This paper questions rural development strategies that assume enhanced farmer integration with specialty coffee chains will inevitably result in improved livelihood outcomes without further institutional supports.

INTRODUCTION

The growth of international specialty coffee markets in recent decades has increased the demand for high-quality coffee production at origin. This enhanced demand offers opportunities for smallholders to engage in product upgrading and potentially increase the farm-gate price of their coffee. Eastern Indonesia has begun participating in relatively high-priced commodity production in recent decades. The volume of Arabica exports from Sulawesi alone surged five-fold between the mid-1980s and the mid 1990s, due to strong demand from the USA and Japan following deregulation of the ICO export quota system. This study examines smallholder farmer engagement in specialty coffee production across the islands of Sulawesi and Flores. The study integrates global value chain analysis with a livelihoods approach to address the critical linkages between quality upgrading in the value chain and farm livelihood strategies, asking the question whether or not quality upgrading directly contributes to improved livelihoods. Do quality upgrading initiatives generate spatially variable outcomes? If so, can we determine the institutional conditions under which quality upgrading is likely to confer benefits upon farmers' livelihoods?

The global trade in specialty coffees has changed remarkably over the last decade. Global coffee buyers are now actively seeking to develop new relationships with coffee farmers across Indonesia through quality improvement programs, price premiums and transparent

supply chains. A key motivation for this engagement is the construction of marketing narratives for the benefit of consumers (West, 2010). This engagement is somewhat problematic and a challenge for international roasting firms.

On its website, an Australian coffee roaster from specialty coffee company describing his effort to build relationship with local producers in Bali.

"Being at Kintamani, observing the negotiations with farmers, being part of making improvements in harvesting and understanding each others' needs was all about give and take. Trading at origin – not just buying direct trade – is a philosophy of coffee quality and a long term commitment. While it's easy to talk the talk in the industry, managing a relationship with coffee farmers is far more complicated. This is a tough job and always a work in progress." (Five Senses Coffee, 'Back to our Roots)

The findings presented in this paper address the complexity of farmers' livelihood strategies across different coffee origins coffee in Eastern Indonesia. The study should be of interest to industry actors wishing to engage with farmers in eastern Indonesia, as well as regional governments seeking to facilitate rural development through improved market engagement.

According to an increasing number of international development agencies, enhanced integration with global markets is seen to be a key ingredient for achieving broader rural development in underdeveloped regions. Value chain approaches have thus been embraced by international donors and, to a lesser extent, national governments. This embrace has occurred alongside (albeit in a somewhat parallel process) a vigorous debate in the academic literature on the implications for firms and individuals in developing countries following integration with the global economy. These implications have been explored through an increasingly voluminous number of studies employing what has come to be known as a Global Value Chain (GVC) approach (Gereffi et al., 2005; Gibbon et al., 2008; Humphrey and Schmitz, 2002; Kaplinsky, 2000). A key set of insights generated by the GVC approach has been the importance of chain 'governance' structures – the parameters usually set down by powerful lead firms under which other actors in the chain must conform – in dictating upgrading possibilities for developing country actors (Gibbon, 2001). This body of literature has tended to align itself with the traditions of critical political economy. Riisgard et al. (2010), for example, criticise the 'win-win managerial solutions' posed by some development agencies which ignore the 'asymmetrical power relations' that characterise many global agri-food chains. The same terminology – value chains – has thus been employed by two competing perspectives on the processes of rural development.

This paper seeks a middle ground by contributing to the conceptual framework presented by Bolwig et al. (2010), which attempts to integrate the 'vertical' aspects of chains (most notably governance structures) with 'horizontal' aspects (especially livelihood strategies and poverty alleviation pathways). To this end, we extend the model set out earlier by Neilson and Pritchard (2009) that presents a fuller account of the role played by 'institutional contexts' in shaping both GVC structures and upgrading potentials. A key finding from this particular coffee-informed case-study is that distinct livelihood strategies affect both the willingness of farmers to participate in value chain upgrading as well as their potential to gain tangible benefits from enhanced value chain integration.

METHODOLOGY

The research findings presented here were generated through a combination of household surveys and interviews with various value chain stakeholders located on the Indonesian islands of Sulawesi and Flores. Household livelihood surveys were conducted during 2009 across the six case-study districts of Enrekang, Toraja and North Toraja (on Sulawesi) and Manggarai, East Manggarai and Ngada (on Flores). A total of 803 respondents were involved in the survey. These respondents were randomly selected from the three most important coffee-growing sub-districts within each District, based on official production data obtained from the District-level Estate Crop Development Agencies (generally Dinas Perkebunan). The surveys obtained data related to agricultural and non-agricultural household income sources, on-farm coffee management practices, post-harvest handling, product marketing and institutional support structures. The field surveys were facilitated by local staff of Dinas Perkebunan in four of the six districts and by a local NGO in two of the districts. Unless otherwise stated, all data presented in this paper is primary data taken from this household survey. This quantitative survey was complemented by value chain interviews with producer organizations (farmer groups and cooperatives), village collectors, regional traders, processors and exporters in Indonesia, along with importers and roasters in Australia.

BACKGROUND TO THE INDONESIAN COFFEE INDUSTRY

According to the International Coffee Organisation (ICO), Indonesian coffee production exceeded that of Columbia in 2008, making Indonesia the world's third largest volume producer after Brazil and Vietnam. The majority of coffee produced and exported from Indonesia is of the Robusta variety, and is currently of little interest to international specialty buyers. Much of this production of low-value Robusta coffee takes place in southern Sumatra, and is exported via the Panjang port in Lampung. Indonesia, however, is also the largest Arabica producer in the Asia-Pacific region and is a well-known producer of specialty origins such as *Aceh-Gayo*, *Mandheling*, *Java* and *Toraja-Kalosi* (Figure 1). Approximately 80 percent of Indonesia's Arabica coffee is produced by smallholders, while the remainder comes from large estates and state-owned plantations, the latter of which are located exclusively in East Java (Directorate General of Estate Crops, 2009). Most of these smallholders engage in low-input agriculture, sometimes integrated into traditional swidden systems at the forest frontier, with low per hectare productivity.

Sulawesi is already well-regarded as a quality coffee origin by international buyers, with Arabica exports routinely attaining significant price premiums above the New York Terminal. The total volume of Arabica exports from Sulawesi, however, is relatively low, with data from the Makassar Port indicating exports of between 3000 and 4000 tonnes annually between 2002 and 2007 (Marsh and Neilson, 2007).

Flores is a less well-known origin, with total annual Arabica production estimated at about 2500 tonnes (Neilson, 2008). Flores coffee is exported predominately through the Surabaya port in East Java. A number of quality-improvement programs have been initiated by both government and industry in Flores over the last five years. As a result, a small portion of the island's production is now marketed as a specialty coffee, although the majority is processed using rudimentary techniques and sold as a standard commercial coffee.

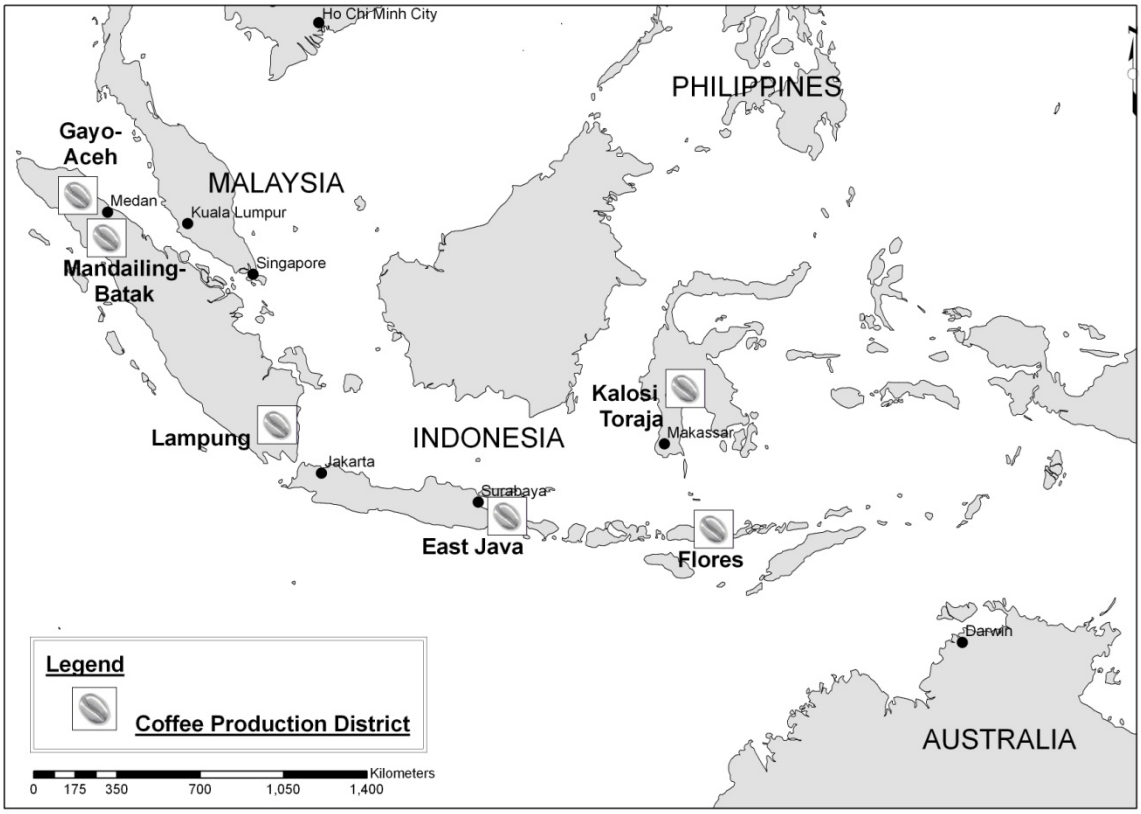

Figure 1. Map of major coffee-producing districts in Indonesia. Source (Neilson, 2008).

Farmers on both islands are connected to the global market through a network of institutions consisting of marketing chains, international development assistance, government support programs and local social institutions. The alignment of these structures collectively determines the farm-gate price of coffee. The Toraja districts of Sulawesi already have relatively 'short' value chains with the local presence of two large foreign-owned processing mills. Government intervention in the Toraja districts is minimal. In contrast, the role of government in supporting coffee production has been much more pronounced in the case of Flores, where international buyers have been less influential.

COFFEE-BASED LIVELIHOODS IN EASTERN INDONESIA

The implicit assumption behind many value chain interventions for rural development is that farmers are reliant solely on the chosen product for their livelihood. Across the different sites of Eastern Indonesia, however, coffee constitutes one element within a complex, and highly varied, strategy that farmers employ to secure their livelihoods (Figure 2). While reliance on coffee for cash-income is higher in the Flores Districts than in Sulawesi, farmers in these districts are also intensively engaged in primary food production. The way coffee is inserted within varied livelihood strategies will inevitably determine the effectiveness of any initiatives to upgrade farmers through the value chain. The dominant livelihood strategies employed by farmers across three case-study districts across Sulawesi and Flores highlight this variability.

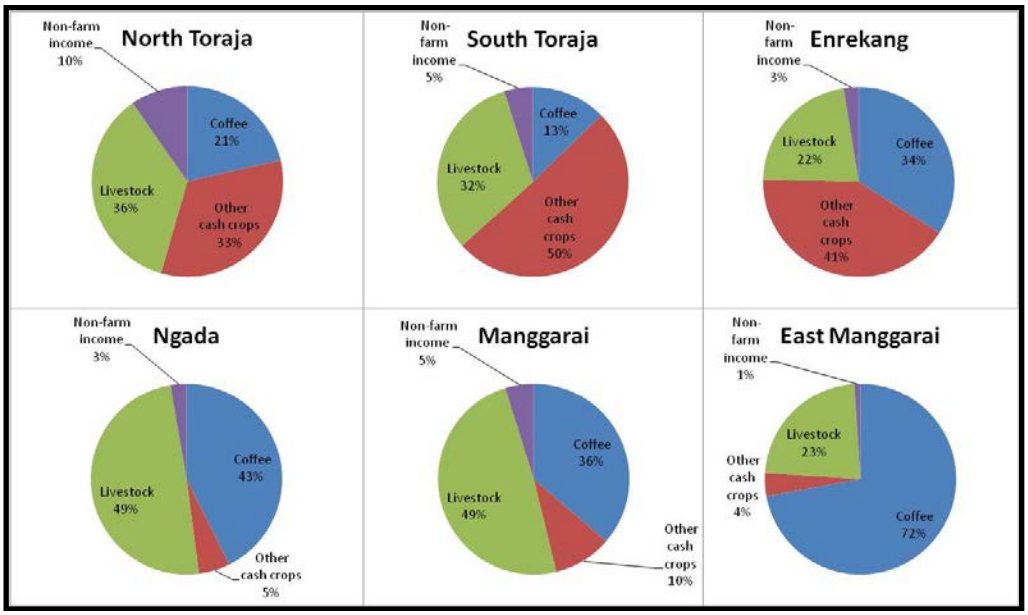

Figure 2. Sources of household income across the six case-study districts in Sulawesi and Flores.

Remittances and traditional farm systems: North Toraja

Of the six case-study districts, farmers in North Toraja received the highest price for their coffee (Table 1). The farmers in this district, however, receive less than 21% of their total income from coffee (Figure 1), prioritizing instead pig and buffalo rearing (primarily for local sale and ceremonial consumption), rice farming (associated with high social prestige - 56% of households were fully self-sufficient in rice), and remittances from émigré family members (37% of households received regular remittances). While North Toraja shows the highest degree of dependence on remittances, these transfers were an important income source for rural families across all districts (Table 2). North Toraja is also unique in that no households held formal land certificates and land transactions are extremely rare. Access to land, including for coffee cultivation, is determined primarily by traditional inheritance customs and ceremonial participation (Neilson, 2004). The livelihood strategy in North Toraja can therefore be characterized by strong embeddedness within traditional cultural and agricultural practices, but with an increasing reliance on migration and remittances for wealth accumulation. Despite the strong demand for coffee produced in this region, and the fact that few other locally-produced commodities are traded out of the region, coffee is a relatively minor element within household-level strategies.

Table 1. Average Farm-gate prices in 2009 (Rp/ kg GBE).

District	South Toraja	North Toraja	Enrekang	Ngada	Manggarai	East Manggarai
Average farm-gate price	23,819	25,434	24,005	17,309	16,632	17,141

Note: Approximate exchange rate in 2009 1 USD = Rp10,000.

Table 2. Percentage of households receiving remittances from family members.

South Toraja (n=65)	North Toraja (n=135)	Enrekang (n=199)	Ngada (n=207)	Manggarai (n=97)	East Manggarai (n=100)	Average
14%	37%	13%	26%	33%	17%	23%

Intensive agricultural cultivation: Enrekang

Enrekang is located directly to the south of the Toraja Districts in Sulawesi. Livelihood strategies here, however, are distinct from those in North Toraja. Less reliant on both local production of rice and remittance incomes, farmers here have instead prioritized commercial agricultural production as a key element of their broader livelihood strategy. 41% of total income in Enrekang is obtained from agricultural crops other than coffee (Figure 1), with substantial cash incomes generated from vegetable crops and fruit trees (e.g. red onion, salak, tomato). Farmers in Enrekang apply external inputs (synthetic fertilizers and agrochemicals) to their coffee plots at rates far-exceeding those in North Toraja (Table 3), suggesting a far-greater willingness to invest capital in coffee production. As a result, per hectare yields in Enrekang are double those in North Toraja. In a relative sense, the farm systems in Enrekang are highly commercialized, and farmers will allocate household resources across the farm system to those activities where a financial return is most likely.

Table 3. Intensive cultivation in Enrekang (use of synthetic fertilizers and herbicides).

	South Toraja (n=65)	North Toraja (n=135)	Enrekang (n=199)	Ngada (n=207)	Manggarai (n=97)	East Manggarai (n=100)
Urea	0%	1%	89%	0%	0%	0%
ZA	80%	24%	26%	0%	0%	0%
KCl	42%	7%	30%	0%	2%	0%
SP36	0%	0%	71%	0%	1%	0%
NPK	15%	10%	27%	0%	13%	0%
Herbicides	54%	33%	92%	0%	5%	3%

Prioritising food security: Ngada Districtc of Flores

Conditions on the island of Flores are distinct again from both the commercial orientation of Enrekang and the remittance-based economy of North Toraja. Farmers in the Ngada District of Flores are mostly concerned with self-sufficiency of staple food crops, both rice and corn, and the rearing of livestock (cattle). These farmers have few other sources of cash income (Table 4) and 70% of the farmers surveys in Flores were self-sufficient in corn production. Average corn production in Ngada was reported by farmers to be 184 kg per household per year, compared to 56 kg / year and 26 kg / year in the Manggarai and East Manggarai Districts respectively. The recent history of regional food shortages in Bajawa seems to have encouraged a conservative livelihood strategy emphasizing food security (e.g. corn, rice production and livestock). Farmers in Ngada may be reluctant to increase allocation of household resources to coffee farming and quality improvement at the expense of food production in the absence of improved institutional supports for food security.

Table 4. Income sources amongst coffee farmers in Ngada.

Sources of livelihood	Ngada	Average of all 6 districts
Coffee	42%	33%
Other cash crops	5%	29%
Livestock	50%	33%
Non-farm income	3%	5%
	100%	100%

VALUE CHAIN UPGRADING IN EASTERN INDONESIA

At least three types of upgrading are identified in the value chain literature: product, process and functional upgrading (Schmitz, 2006). According to this framework, process upgrading is where improvements are made to the production process to generate outputs more efficiently, usually through technology improvements (eg. mechanisation). Product upgrading is where suppliers move into higher value product lines to achieve increased unit values (eg. organic or specialty production). Functional upgrading is where suppliers acquire new functions in the chain such as engaging in downstream processing of raw materials. To different extents, all three types of upgrading are evident in Eastern Indonesia.

The dominant industry development policy adopted by the government of Indonesia (frequently implemented at the District-level) has been to assist farmer organisations engage in functional upgrading, generally through the provision of small-scale processing equipment (such as hulling machines, graders, and even roasting machines). This development approach reflects a belief in agro-industrialisation as a poverty alleviation pathway and assumes that downstream processing will deliver 'value-added' to rural communities. Downstream processing, however, does not always lead to overall 'value-adding'. Coffee farmers in the Sulawesi districts generally sell wet parchment to traders, whereas farmers in Flores sell green beans. As presented in Table 1, farm-gate prices in Sulawesi are noticeably higher due, to a large part, to the ability of centralised mills to manage quality effectively.

Table 5. Institutional supports for coffee farmers (as reflected by farmer responses).

	S. Toraja	N. Toraja	Enrekang	Ngada	Manggarai	E. Manggarai	Average
Participation in govt. extension	34%	34%	74%	57%	45%	22%	44 %
Participation in farmer groups	26%	27%	66%	65%	51%	41%	46%

Product upgrading, essentially through quality improvement and product certification, has been driven primarily by international buyers and, to a lesser degree, by the Government of Indonesia. Consumer demands for product traceability have clearly been a primary driver of upstream coordination in the Indonesian coffee industry (Neilson, 2008). Large processing mills, with significant foreign ownership, are located in the Toraja Districts of Sulawesi and have been responsible for a campaign of quality improvement over number of years (Neilson, 2005). In contrast, government agencies have played a limited role in facilitating coffee development in the Toraja region (as indicated by levels of government extension presented in

Table 5). Furthermore, Table 5 suggests the participation in farmer groups does not necessary correlate with product upgrading or help farmers to negotiate for a higher market price. Farmers in Toraja largely manage farm production on an autonomous basis with close linkage to international coffee buyers, yet they are the most advantaged in terms of gaining high return for their coffee.

CONCLUSIONS

The case of coffee production in Toraja strongly suggests the critical role that can be played by international buyers in facilitating quality improvement and product upgrading, leading to substantially increased farm-gate prices in these districts. The increasing interest from specialty coffee buyers to engage with Indonesian farmers through value chain integration, therefore, offers significant opportunities for quality improvement and enhanced farm-gate prices for coffee. Coffee farmers in Eastern Indonesia, however, employ highly diverse livelihood strategies within which cash income from coffee is frequently a minor contributor. These farmers effectively participate in a range of distinct value chains. The value chain development approach tends to ignore this diversity of farmers' livelihoods and their strategies, and frames rural development issues in terms of a single-commodity logic. This contradiction may help explain the apparent unwillingness of farmers to engage in upgrading initiatives that buyers and development agencies claim to be in their (the farmers') interest, but fails to consider the constraints faced by farmers themselves.

From a policy perspective, there are implications from this analysis for the appropriate role to be performed by public-sector support institutions. It is unrealistic to expect private sector buyers of a single commodity to deliver broad-ranging rural development for communities reliant on a range of livelihood sources. However, sectoral development initiatives instigated by the government of Indonesia have all too often failed to align strategically with the upgrading opportunities presented by enhanced value chain integration. There are many obvious synergies that could be developed that would allow a greater overall impact on rural development without requiring a greater overall investment of public resources. The focus of government interventions should no longer be simply in those areas of market failure or in the provision of public goods. Instead, governments (both local and national) should be looking at those areas of rural development not being provided through value chains.

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