

TOWARDS SMALLHOLDER COFFEE FARMER'S EMPOWERMENT IN MANGGARAI REGENCY, EAST NUSA TENGGARA PROVINCE

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ABSTRAK

Tulisan ini bertujuan untuk menganalisis pemberdayaan petani perkebunan kopi rakyat di Kabupaten Manggarai, Provinsi Nusa Tenggara Timur (NTT). Dari hasil penelitian diperoleh gambaran bahwa kopi merupakan sumber mata pencaharian utama bagi petani setempat. Akan tetapi, tingkat kehidupan mereka boleh dikatakan relatif belum berkembang. Hal tersebut disebabkan oleh rendahnya teknis budidaya pemeliharaan, lemahnya permodalan, dan tingginya ketergantungan petani terhadap pedagang dalam pemasaran kopi. Intervensi lembaga pemerintah dan non-pemerintah (LSM), pihak swasta, dan berbagai pihak pemangku kepentingan lainnya dengan melibatkan petani secara hakiki merupakan langkah strategis yang harus dilakukan dalam upaya pemberdayaan petani kopi, khususnya di lokasi penelitian.

Kata kunci : pemberdayaan, petani, kopi, Manggarai, Nusa Tenggara Timur

ABSTRACT

This article aims at studying smallholder coffee farmer's empowerment in Manggarai Regency, East Nusa Tenggara Province. Research result shows that coffee was the main livelihood source of the local farmers. Nevertheless, the living condition of farmers was relatively underdeveloped. This was due to low extent of agricultural practices, lack of capital, and highly dependent of farmers to traders in marketing the coffee. Intervention of government institution, non-government organization, private sector, and other related stakeholder through inclusion of farmer's participation is a strategic way to empower smallholder coffee farmers particularly in the location of the study.

Keywords : empowerment, farmer, coffee, Manggarai, East Nusa Tenggara

INTRODUCTION

Background

Coffee (*Coffea spp*) was introduced in Indonesia by the Dutch Royal East Indies Company (*Verenigde Oostindische Compagnie/VOC*) sometime in 1696 to 1699. It was initially planted for research purposes, but became profitable as a trade commodity. The Dutch colonialist distributed coffee seeds to the locals to enable the latter to expand coffee plantation. Eventually, the program of "*cultur stelsel* (forced planting policy)", and the establishment of several estates, coffee began to spread all over the country (Najiyati and Danarti, 2006).

Recently, coffee is one of the top grassers in foreign exchange earnings in Indonesia. It is also considered as one of sources of farmer's income. In the world market, Indonesia ranked fourth among the coffee producing countries, after Brazil, Columbia, and Vietnam. Indonesia produces two varieties of coffee, namely Robusta and Arabica. Proportion of total volume and value exports of Robusta was higher as compared to Arabica, namely about 90 percent and 10 percent respectively.

Total planted area of coffee farms in Indonesia was 110,486 hectares (DGEC, 2006). It was predominantly cultivated by smallholders (90.1%) while the rest was respectively developed by government (6%) and private sectors (3.9%). The primary provincial producing coffee

in Indonesia are South Sumatra (Sumsel), Lampung, Bengkulu, and Aceh (NAD). East Nusa Tenggara (NTT) ranked seventh after East Java (Jatim) and South Sulawesi (Sulsel).

Objectives

This article is generally aimed at studying the performance of smallholder coffee farmers and its empowerment in Manggarai Regency as a top rank of central producing coffee in NTT Province. Specifically, the objectives of this article are to discuss: (1) size and structure of smallholder coffee farms; (2) production and processing of smallholder coffee farms; (3) market conditions of smallholder coffee farms; (4) supporting structures to smallholder coffee farms; and (4) encountered problems of smallholder coffee farms and its recommendation (empowerment).

METHODOLOGY

Conceptual Framework

The essence of empowerment is actually the essence of development. The former is related to the power or authority to act, while the later is associated with the action or process of developing or being developed. According to de Wit (2000), empowerment refers to increase decision-making and countervailing power,

more assets, and improve access to resources and institutions. Meanwhile, Morales (1990) stated that development is a process by which the members of society increase their personal and institutional capacities to mobilize and manage resources to produce sustainable and justly distributed improvements in their quality of life consistent with their own aspirations.

In fact, the word empowerment has several meanings and uses. However, empowerment can be viewed as a multilevel process, which includes individual involvement, organizational development, and community change. Individual involvement refers to participation of a person in decision-making. Organizational development refers to the structures, which mediate between the individual and community and facilitate the collective action that lies at the heart of community change. Community change refers to the impact of involvement in the community (Checkoway, 1995).

Navarro (1986) mentioned that the value of empowerment through viable and effective participation of community organization stem from the increases capability of the disadvantages and poorer members of the rural community of influence decisions affecting their lives and welfare. Genuine development cannot take place so long as the rural development strategy falls short of empowering the poorer members of society.

To achieve empowerment, the process usually adopted is to help individuals from a group with a carefully considered from organization. This is set-up with long-term processes of development in view since it is through the group that people gain confidence in themselves, develop solidarity, and work out how to act collectively. Part of the process of creating solidarity is through discussion of the linkages impinging on their lives, such have made them practically and economically dependent. It is from this understanding that the group can devise strategies to break the chain and create "space" for an alternative development under their own control. This may include economic activities where the surpluses are not extracted but are used by those who produce them in a sustainable development (Wright, 1990).

In the case of smallholder coffee farmers, the essence of empowerment should be in line with agribusiness chains in which it encompasses wholly on-farm and off-farm activities. It is conceptually implemented in particular framework as described in Figure 1. Smallholder coffee farmers are the central point of empowerment in the form of organization (farmer's group). On-farm and off-farm activities should link to external institutions such as government agency, non-government organization (NGO), private sector, and other related stakeholders supporting regulation, infrastructure, technical assistance, investment, and advocacy towards smallholder coffee farmer's group. Smallholder coffee farmer's empowerment would be achieved if equal perception, commitment network, collective decision, and synergic activity were set up holistically in line with participatory approach.

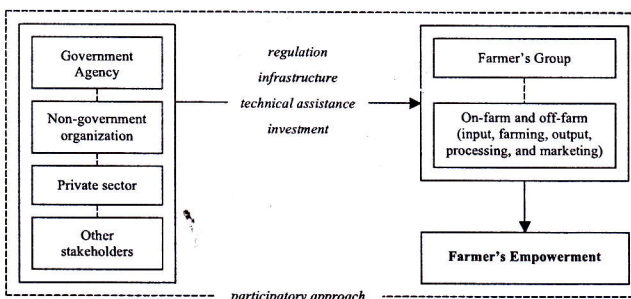


Figure 1. Conceptual Framework of Empowering Smallholder Coffee Farmers in the Locale of the Study

Research Design

The study was conducted in Manggarai Regency in January to February 2007. Data and information were derived from primary and secondary sources. Primary data and information were obtained from interview results with farmers, processors, traders, key informants, and other related persons or institutions using snowballing method and direct observation along the coffee agribusiness chains in the site of the study. Checklist was prepared as interviewed guideline. Secondary data and information were collected from report documentations of related institutions. All data and information were interpreted and analyzed in order to provide recommendation for smallholder coffee farmer's empowerment in the locale of the study.

RESULTS AND DISCUSSIONS

Size and Structure of Smallholder Coffee Farms

NTT can be categorized as the lowest producing province among the uppermost of coffee producing provinces in Indonesia. In 2005, total harvested area, production, and productivity of coffee farms in NTT and other provinces in Indonesia can be seen in Figure 2.

Total productive planted area, production, and productivity of coffee farms in NTT were 30,208 hectare, 13,250 ton, and 438,6 ton per hectare, respectively. Meanwhile, total number of coffee farmers was about 82,393 households. Central producing area was the regencies of Manggarai and Sumba Barat (Table 1).

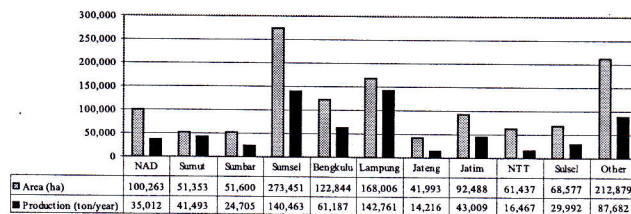


Figure 2. Number of Harvested Area and Production Coffee Farms in Indonesia, 2005. (Source : DGE, 2006)

Production and Processing of Smallholder Coffee Farms

In Manggarai Regency, coffees are grown at both low altitudes (mainly Robusta variety) and in elevated mountainous regions (primarily Arabica variety).

Table 1. Productive Planted Area, Production, Productivity, and Number of Smallholder Coffee Farmers in NTT, 2005

Regency	Productive Planted Area (ha)	Production (ton/year)	Productivity (kg/ha/year)	Number of Farmer (household)
Sumba Barat	6,300	1,850	293.7	20,966
Sumba Timur	290	58	200.0	946
Kupang	93	13	139.8	263
Timor Tengah Selatan	70	41	585.7	930
Timor Tengah Utara	157	26	165.6	1,000
Belu	179	45	251.4	536
Alor	305	144	472.1	749
Flores Timur	1,329	332	249.8	3,983
Lembata	297	104	350.2	1,244
Sikka	1,098	141	128.4	2,350
Ende	1,106	389	351.7	3,430
Ngada	2,372	1,633	688.4	5,079
Manggarai	16,612	8,474	510.1	40,917
NTT	30,208	13,250	438.6	82,393

Source : DGEC, 2006

Smallholder coffee farmers in high altitude locations are able to produce viable yields and quality Arabica coffee without applying fertilizer or undertaking pest control. In these regions, coffees are grown under indigenous forest while more productive lands near to the village are used for subsistence food crops.

Coffee is the main source of local smallholder farmer's income in Manggarai Regency. The smallholder farmers plant coffee crops using growth seeds (30 cm height) collected from surrounding coffee trees. Seeds were transplanted with planting space of about 2.5 x 2.5 meters.

There are three main coffee varieties grown in Manggarai Regency, namely Robusta, Arabica Hybrid, and Arabica Juria. Robusta is the most common variety in lower elevation areas (up to 700 meters) and Arabica grown in mountainous areas (above 800-1,500 meters). Total planted areas of Robusta and Arabica was respectively 17,000 hectares and 5,000 hectares. Average production of Robusta and Arabica was 7,000 tons per year and 3,500-4,000 tons per year, respectively. Arabica Juria, in particular, produced 1,000 tons per year.

Historically, Arabica Juria has been planted since 100 years ago. This coffee crop had ever been transplanted with Robusta called Arabica Hybrid (S-795), however, its productivity is lower than the productivity of Arabica Juria. It was noted that Hybrid Arabica coffee could be harvested two years after planting, while the Arabica Juria can be produced five years after planting.

Coffee crops are usually planted using cover trees of *dadap* (*erythrina spp*), *gamal* (*gliricidae sp*), *albasia* (*albasia spp*), and *segon* (*paraserianthes sp*). Average planting space of Robusta and Arabica Hybrid are 2.5 x 2.5 meters (600 trees/ha). Meanwhile, average planting space of Arabica Juria is about 5 x 5 meters and some others are 10 x 10 meters because this variety has bushy leaves. Arabica Juria can be grown in rocky soil and steep land of hilly areas as a part of land conservation.

Coffee yields (both Arabica and Robusta) are affected by weather conditions at flowering (at the end of the dry season). Higher than usual rainfall during flowering

can reduce yields by up to 30-40 percent and is a major cause of fluctuating yields from year to year. This can be a problem for smallholder farmers in mountainous regions who heavily rely on coffee productions for cash incomes. The affect of season (wetter or drier than normal dry season) usually has an opposite affect on Robusta. Having a mix of Arabica and Robusta can be a good method for farmers to manage this risk.

Harvesting period of coffee is usually in April to October (sometimes up to December). Peak harvesting period is April-May (Arabica) and June-October (Robusta). Harvesting coffee is carried out by picking the red fruits (cherry), followed by peeling (husked skin) using mechanical equipment or traditional wooden pulping tool (*luwak*).

Coffee yield and quality is also affected by the timing of cherry picking, and a common problem for processors is receiving beans with a wide range of ripeness. Cherries that are picked while still green (as opposed to red) reduce the final quality of the green bean. Coffee cherries picked at a green stage also have lower bean weight and parchment yield than fully ripe beans.

Fermenting coffee is conducted in two-way processes, namely wet and dried fermentation (Figure 3 and Figure 4). Wet fermentation process is as follows : (1) coffee is soaked in the water within one night; (2) coffee is washed (cleaned) from it phlegm; and (3) coffee is normally dried under sunrays within three days. Meanwhile, dried fermentation is handled through keeping the coffee in the sack within one night and dries it under sunrays for three days. It was noted that the taste of dried fermentation of coffee is stronger than that of wet fermentation.

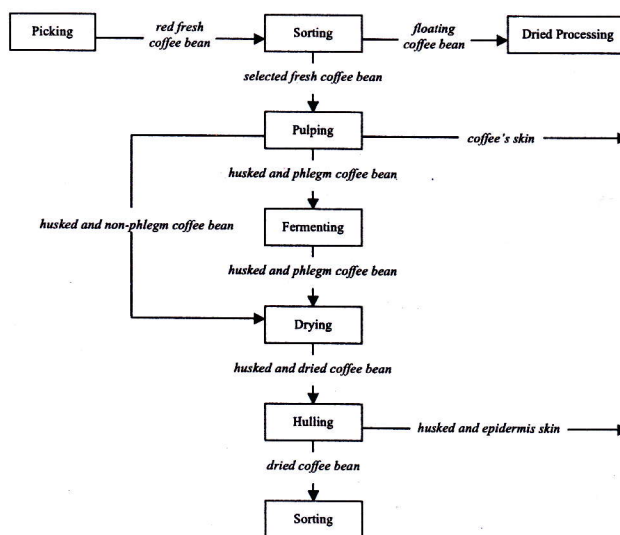


Figure 3. Wet Processing Coffee in Manggarai Regency

Market Conditions of Smallholder Coffee Farms

In Manggarai Regency, coffee price was determined by traders. In other words, coffee market in this area can be categorized as monopolistic (not open market). For instance, the price of coffee in Surabaya has increased but coffee price in Manggarai is still fixed.

Traders who directly connected to farmers were

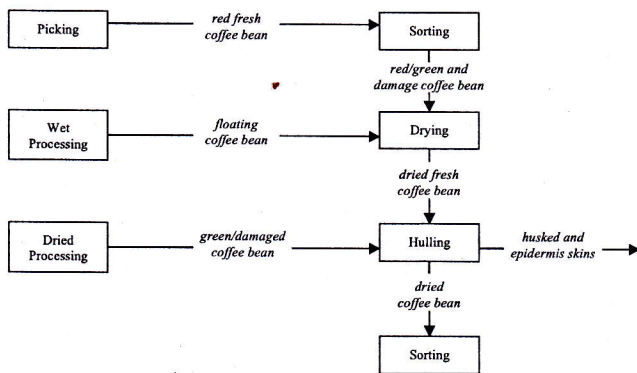


Figure 4. Dried Processing Coffee in Manggarai Regency

local collector in which some of them gained trading capital from big scale traders. The practice of *ijon*¹ was still implemented for which it was aimed to secure the traders' trade. Some traders provided farmers' daily needs with cash before harvesting coffee. Those farmers should sell their coffee to the said traders in which the price was lower than market price.

The price of coffee at local market and farm gate is quite different. Currently, coffee price in Ruteng Market is about IDR 7,000 per kilogram (fermented coffee bean) while farm gate price is only IDR 3,000 per kilogram (fresh coffee bean). One liter of fermented coffee bean with 16 percent moisture content is equal to 3.1 ounces of fresh coffee bean. Meanwhile, one kilogram of fermented coffee bean is equal to four liters of dried parchment coffee.

In order to solve the aforementioned problems, PD Komodo Jaya initiated purchasing coffee through farmer's group and sold it to Starbuck via PT Lion Lestari in Makassar. The most priority of purchasing coffee was Arabica Juria. Moisture content is the major determinant of coffee quality (minimum 12% and maximum 16%). Therefore, coffee is often re-dried by PD Komodo Jaya to meet moisture buyer (PT Lion Lestari) standard.

Due to environmental concern, PT Lion Lestari currently commences new requirement in trading coffee with PD Komodo Jaya. Through the new requirement, PT Lion Lestari does not purchase coffees: (1) that was planted in conservation area in 2004; (2) planted in surrounding watershed area; and (3) that may cause environmental degradation especially related to waterway pollution.

Marketing channel of coffee in Manggarai can be seen in Figure 5. Individual smallholder farmers can perform the roles of producer, local collector, village trader and also be part of a farmer's group. Usually smallholders with higher social status adopt the roles of local collector and village traders. The complexity of the marketing channel illustrated in Figure 5 shows that implementing supply chain transparency programs, such as fair trade, can be challenging and is likely to require reducing the involvement of intermediaries.

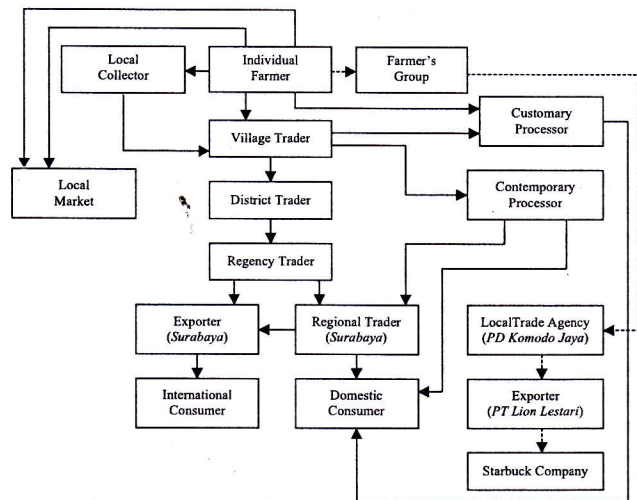


Figure 5. Marketing Channel of Coffee in Manggarai Regency, NTT

Supporting Structures to Smallholder Coffee Farms

In order to support local smallholder coffee farms, the local government of Manggarai Regency in collaboration with *Puslit Koka* (Research Institute for Coffee and Cacao) of Jember (East Java) had developed smallholder coffee production program over a five-year program, beginning in 2004/2005 funded by local government (*APBD/Anggaran Pendapatan dan Belanja Daerah*). The program focused on smallholder coffee technology development, particularly harvest and post-harvest handlings. It was implemented through farmer's groups in the form of trainings of picking, processing, and packaging of dried coffee bean (*ose*). Introduced technologies include: (1) pulping; (2) washing methods; (3) improved coffee drying equipment (21 days); and (4) handling for transport (12% moisture content).

Anecdotal evidence indicates that smallholder coffee farmers had been reluctant to adopt the improved practices due to additional labor requirement without significant price increases. To address the situation, the local government (Estate Crops Office) collaborated with a private company in establishing *UPH (Unit Pengolahan Hasil/Processing Unit)* and providing a loan of approximately IDR 120 million to farmer's groups to purchase 60 tons of fresh coffee bean (IDR 2,000/kg) and processing through *UPH* (farmers normally receive IDR 2,500 for fresh bean from the market). *UPH* had also purchased parchment coffee from farmers with the price of IDR 14,000 per kilogram (12% moisture content).

The local government had also introduced other development programs such as the farmers' empowerment program to improve farmers' bargaining power and appears to be relatively active in encouraging growth of coffee agribusiness. The farmers' empowerment program also provided price quality and market information to farmer's groups and was implemented by the Cooperative Office in collaboration with PD Lahir Sejati Unggul (exporter).

In order to increase *PAD (Pendapatan Asli Daerah/*

¹ Buy commodity from farmer by paying system for it long before the harvest

Table 2. Encountered Problems of Smallholder Coffee Farmers in the Locale of the Study

Human and Natural Resources	Technological Characteristic	Institutional Aspect
Smallholder farmers live in subsistence condition.	Smallholder farmers have lack of capital to access or to provide the technology.	There is no invention from local government to improve the quality of green bean.
Smallholder farmers expose their risk on single crop (coffee) as a main source of income.	Smallholder coffee farmers have lack of understanding of post harvest process.	Private sector usually does not require good standard of commodities.
Smallholder farmers make the family needs first rather than provide from the market.	Technology of post harvest not always available for smallholder coffee farmers.	Limited credit provision of smallholder farmers.
Smallholder coffee farmers know that Arabica Jura as a family's heritage, so they have to maintaining its availability.	Low use technology in processing a parchment to improve the quality.	Smallholder farmers are unable to access of information, it will give an impact to the prices and timing of sales.
Smallholder farmers have lack of capital for routine expenses and lack of cash from other crops	The extent of local government role in technology dissemination is low.	The buyers accept the poor quality of coffee from the smallholder farmers as a consequences they will pay with a low price.
Smallholder coffee farmers fully understood that improved quality means they will gain higher prices.	The quality of seedlings provided by government is quite poor.	Lack of understanding by local government towards smallholder farmers needs.
The topography became a major constraint to deliver the commodity to large collector/processor.	Technology of post harvest not always available for smallholder coffee farmers.	Lack of understanding from intermediate (private sector) on how to improve the quality of smallholder farmers' green beans.
Smallholder farmers are unable to obtain the information of prices correctly.	Smallholder farmers have limitation to implement the best practices process for better quality and price.	Lack of communication facilities in remote area.
Smallholder farmers have lack of capital to pay hired labor and providing good quality of seedling.	Smallholder farmers have a lack of access to input because a lack of knowledge when using the input (e.g., knowledge of pruning for better quality and volume).	Complexity of marketing channel.
	In remote areas which is transportation became a constraint, smallholder farmers usually produce green bean.	Knowledge of prices can be limited in remote areas

Source : adapted from IFC-SADI, 2007

Locally-Generated Revenue), the local government of Manggarai Regency had implemented the regulation of *SPPMK (Sumbangan Peningkatan Produksi dan Mutu Kopi/Contribution for Increasing Production and Quality of Coffee)*. However, this regulation has been annulled because it was contradictory with central government regulation. Hence, local government launched new regulation called third party (businessmen) contribution of about 2.5 percent of the quantity of trading coffee based on the price of IDR 100 per kilogram fresh coffee bean.

Encountered Problems of Smallholder Coffee Farmers and Its Recommendation

Even though certain development programs have been provided, smallholder coffee farmers are still facing some problems in the locale of the study. It was embedded along agribusiness chains, including on-farm and off-farm activities. Those problems can be primarily categorized into human and natural resources, technological characteristics, and institutional aspects (Table 2).

Based on aforementioned problems, smallholder coffee farmers need to be empowered through specific recommendations. Table 3 summarizes the recommendation towards smallholder coffee farmer's empowerment in line with the aspects of regulation, infrastructure, technical assistance, investment, and advocacy.

CONCLUSIONS AND POLICY IMPLICATIONS

Coffee is the main source of local smallholder farmer's income in Manggarai Regency. There are three main

Table 3. Recommendation towards Smallholder Coffee Farmer's Empowerment in the Locale of the Study

Aspect	Recommendation
Regulation	Engage local government and private sectors in demonstration farm field days so that they become initiator of future smallholder training sessions. Improve smallholders' access to working capital by assisting the development of improved farmer loan capacity within local Banks and cooperatives. New models of making capital available to smallholders via farmer associations and marketing mechanisms should be explored.
Infrastructure	Establish a demonstration farm with existing lead buying firms and farmers' buying groups to improve coffee quality, growing, and post harvest practices. A demonstration farm program should include the following components : (1) training on tree pruning and management of agri-inputs; (2) replacement of old trees, seedling selection, and planting; (3) nutrient and pest and disease requirements; (4) safe handling of agri-chemicals and principles of sustainable agriculture and environmental protection; (5) improved post harvest handling to pulping, fermentation, and drying practices; (6) inter-row cropping in newly planted areas; and (7) farm planning and budgeting.
Technical Assistance	Include risk management strategies for farmers in demonstration and improved practices program such as having a mix of Robusta and Arabica trees. This can help to manage market (price fluctuations) and production risks that can result from unseasonably wet or dry weather at flowering. An unseasonably wet flowering season has the opposite effect on Robusta as it does on Arabica. Having a mix of Arabica and Robusta coffee can be a good way for farmers to manage this risk.
Investment	Undertake further research into the home consumption and cash income needs of smallholders in coffee producing areas so that it can be directed at reducing smallholder-dependence on coffee for income by developing other potential crops/enterprises. Undertake further research into the environmental sustainability of the current coffee producing practices to minimize environmental degradation and ensure farmers have long-term future in economically viable coffee growing.
Advocacy	Work with existing buying groups and processors to expand coffee's operation and/or replicate farmer's accreditation and improved post harvest practices. Provide business development services to trader buying group to manage current financial and operational problems and improve its level of service to smallholders.

Source : adapted from IFC-SADI, 2007

coffee varieties grown in this regency, namely Robusta being the most common variety followed by Arabica Hybrid, and Arabica Juria. Coffees are grown at both low altitudes (mainly Robusta variety) and in elevated mountainous regions (primarily Arabica variety). Smallholder coffee farmers in high altitude locations are able to produce viable yields and quality Arabica coffee without applying fertilizer or undertaking pest control. In these regions, coffees are grown under indigenous forest while more productive lands near to the village are used for subsistence food crops.

Coffee price was determined by traders. In other words, coffee market in this area can be categorized as monopolistic (not open market). Traders who directly connected to farmers were local collector in which some of them gained trading capital from big scale traders. The practice of "ijon" was still implemented for which it was aimed to secure the traders' trade. Some traders provided farmers' daily needs with cash before harvesting coffee. Those farmers should sell their coffee to the said traders in which the price was lower than market price.

Apart from the aforementioned issues, some problems have been encountered by smallholder coffee farmers in the locale of the study particularly in line with human and natural resources, technological characteristics, and institutional aspects along agribusiness chains, including on-farm and off-farm activities. Specific recommendation to empower smallholder coffee farmers are badly needed. The recommendation should be embedded in the aspects of regulation, infrastructure, technical assistance, investment, and advocacy.

Smallholder coffee farmer's empowerment would not be achieved if equal perception, commitment network, collective decision, and synergic activity were not set

up holistically. Interventions of government and non-government institutions, private sector, and other related stakeholders with genuine farmer's participation are strategically implemented. Therefore, participatory among coffee stakeholders is key point in order to recognize what tasks and responsibilities should be accomplished.

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