



Growing Inclusive Markets

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CASE STUDY

South East Asia • Indonesia

Key Coffee: Establishing Specialty Coffee Toarco Toraja by Building Capacity of Farmers and Middlemen

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Sector • Agriculture

Enterprise class • Large foreign company

Type of inclusion • Producer, employee



Executive Summary

Indonesia is the third largest exporter of coffee beans, but Indonesian coffee is not as well recognized as Brazilian and Colombian coffee. One of the reasons is that Indonesia exports limited volume of Arabica coffee, which is roasted and retailed as regular coffee in importing countries. Eighty seven percent of coffee exported from Indonesia is Robusta, which is dealt as raw material for the food processing industry. Adding value on to exporting crops is the challenge facing Indonesia.

P.T. Toarco Jaya, subsidiary of Key Coffee Inc., a large Japanese company, has been doing business in the Tana Toraja district of South Sulawesi State since 1976. It established a brand of specialty coffee called “Toarco Toraja” by procuring Arabica coffee from farmers, and by running its own coffee plantation, the Padamaran plantation.

Coffee trees that can produce high quality coffee are grown in the mountainous area, where people travel on foot or on horseback. Toarco took two measures: 1) establishing purchasing stations close to farmers; and 2) making good use of local collectors. Collectors play multiple roles to farmers including providing credits, buying coffee beans from farmers, transporting them to Toarco, and controlling quality of coffee. No other organization can play all of these roles.

When Toarco started procurement from farmers, it faced great challenges: increasing the number of coffee growers; improving their production skills; spreading knowledge on post harvest processing, and raising awareness among farmers and collectors in quality control. Against these challenges, Toarco took various measures: organizing seminars for training farmers in cultivation and post harvest processing, distributing seedlings for free, intensifying the inspection system, and purchasing quality coffee at premium prices.

P.T. Toarco Jaya now exports 200-500 tons of coffee beans per year, while benefiting about 7,000 small-scale farmers as suppliers, and providing 53 full time and 900 temporary jobs at its Rainforest Alliance certified plantation. Today, Arabica coffee has become a reliable source of income for farmers, and Sulawesi is well-known for its coffee.



Introduction

Indonesia is an archipelago country consisting of more than 17,000 islands. The population and economic activities concentrate in the west part of the country including Java and Bali. In the 1990s the government started a development program for East Indonesia to address this gap. Sulawesi is one of the large islands of East Indonesia with 17 million inhabitants. Makassar, the capital of South Sulawesi State, is considered a hub of the development program. While major ethnic groups such as Makassarese and Buginese are Muslim, Toraja people follow Christianity and traditional animism.

Figure 1: Map of Indonesia



Source: https://www.cia.gov/library/publications/the-world-factbook/maps/maptemplate_id.html

People in rural areas grow rice for self consumption and various cash crops such as cacao, coffee and cashew nuts on a small scale. Farmers diversify their crops to make livelihoods and to hedge against risks and shift crops according to price fluctuations. Such behavior arises from their surviving strategy for protecting themselves from the negative impact of mono-cultural economy. However, crops produced by farmers on a small scale and collected by middlemen are not highly valued in world markets due to unreliable quality.

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Market and Location Context

CHALLENGE OF INDONESIAN AGRICULTURAL PRODUCTS

The challenge of Indonesian agricultural products is their low value in the world markets mainly due to unreliable quality. As small-scale farming can absorb labor force, the government policy is favorable to farmers rather than to large scale plantations that can efficiently produce competitive export products. The government has promoted programs called *Transmigrasi* aimed at encouraging migration from Java and other densely populated islands to Sumatra, Sulawesi, Kalimantan, and Papua. Each migrant household can receive 1.75ha of farmland for free and grow rice and cash crops.

While rice remains their primary crop, farmers switch their crops as a response to market prices. It is not difficult to share seeds of crop trees among neighbors. Farmers learn planting skills by doing, but their knowledge of post harvest processing is limited. The markets do not give proper incentives for farmers to improve quality of crops because the agro-industry is under developed and because middlemen are interested in volume and pay little attention to quality.

Cacao is one example explaining the above challenge. Indonesia is the third largest exporter of cacao beans, and 70 percent of them are produced in Sulawesi. Although production volume and low prices of cacao beans make Indonesia highly competitive in world markets, Indonesia has a bad reputation for low quality of cacao beans. Cacao beans need fermentation after harvest to increase the aroma and the taste, but this process is not common among Indonesian small-scale farmers, who only dry beans after harvest. Moreover, knowledge of properly treating disease of trees is not widely spread, resulting in unstable production and deterioration of collected cacao. So far, growing demand in emerging markets makes cacao in short supply, and middlemen try to buy them as much as possible without caring about quality. There is little incentive for farmers to adopt post harvest fermentation.¹

The same is true of coffee production. Indonesia is the third largest exporter of coffee beans, but Indonesian coffee is not as recognized as Brazilian and Colombian coffee. One of the reasons is that Indonesia exports limited volume of Arabica coffee, which is roasted and retailed as regular coffee in importing countries. Eighty seven percent of coffee exported from Indonesia is Robusta, which is dealt as raw material for the food processing industry.

Prices of Arabica coffee are two to three times as high as that of Robusta², and differ by country of production or ports of shipment, reflecting the types and the taste of coffee, and

¹ The government of Indonesia started to impose export tax on non-fermented cacao beans in 2010 to increase the value of Indonesian cacao.

² In 2001, when coffee prices reached the bottom, the price of average Arabica excluding Colombia (highest) and Brazil (lower) was 62 cents per pound; the price of Robusta was 28 cents. Although prices are rising in these days, it is driven by Arabica. In September 2010, average Arabica hit 222 cents; Robusta hovered around 81 cents,



methods of post harvest processing. The bulk of Robusta is processed into coffee products such as instant coffee, and ready-to-drink canned coffee, which is very popular in Japan.

Production of coffee in Indonesia started during the colonial period under the Dutch. Before World War II, Indonesia had ranked third as coffee exporter: its brands had been known as Java Arabica, Toraja Arabica and Sumatra Mandarin. Since the Dutch owners of coffee plantations left during the war and following the fight for independence, small-scale farmers have been dominant producers (representing 95 percent of the planted coffee area)³. Farmers prefer to grow Robusta coffee because it is more resistant to disease and requires less labor. The difference of prices between Arabica and Robusta that they sell to middlemen is not large enough to make the farmers switch to Arabica. And, again, low skills of post harvest processing and little attention to quality lower the value of Indonesian coffee.

South Sulawesi, however, shows strikingly different component ratio of Arabica and Robusta. Arabica accounts for 95.5 percent of exports, 90 percent of which is exported by P.T. Toarco Jaya.

The Tana Toraja district of South Sulawesi inherently has ideal soil, altitude, and climate for Arabica coffee production⁴ and Toarco distributes superior seedlings to farmers for free, and spreads knowledge and skills on post harvest processing. When it comes to purchasing coffee beans from farmers and collectors, it applies rigorous standards. In addition, Toarco controls the quality of coffee by hand-picking before shipping (about five percent of beans are rejected in this process) and by careful storage and transportation (through its own storehouse and containers that control humidity and temperature). Toarco Toraja Coffee has established a good reputation and large companies such as Starbucks began to procure coffee from areas surrounding the Tana Toraja district and sell them naming ‘Kalosi Toraja’ or ‘Sulawesi’.

GLOBAL COFFEE VALUE CHAIN



Coffee cherries (Photo credit: Hidemi Yoshida)

As green beans can be stored for several years while roasted coffee can be kept for a few months only, producing countries export mainly green beans. In producing countries, small-scale farmers and plantations cultivate coffee, harvest coffee cherries, and process them into parchment beans (i.e. ‘parchments’) by removing pulp, washing and drying.⁵ Collecting and transporting parchments to processing/storing facilities are done by cooperatives, collectors or companies. In processing facilities, parchments and silver skins

³ As a comparison, small holders represent 97 % for coconut, 85% for rubber, and 80 % for cacao, respectively. Oil palm is increasingly planted in large estates.

⁴ Weak acidity, great changes of temperature between night and daytime at an altitude of 1,000 meter or more, and moderate rainfall are important conditions for Arabica production

⁵ See the photos of cultivations and post harvest processing in Annex.



are removed, and then coffee becomes green beans (see Annex 4). Green beans are graded by size and weight, and by cup testing. Exporters buy and ship green beans.

In consuming countries, roasters, coffee chain stores and other food industries purchase green beans from trading companies or import by themselves, then roast green beans for regular coffee, pack and sell them to retailers and consumers, or process green beans into coffee products such as instant coffee and liquid coffee. To ensure stable taste and aroma for volume sales, blending different types of coffee is commonly performed.

Coffee prices are heavily influenced by futures contract in world markets and fluctuate depending on weather and production of dominant producing countries. After abolition of the International Coffee Agreement in 1989, which had set the export quotas on member countries for ensuring producers profit, coffee production increased worldwide, resulting in decline of prices in early 1990s and 2001.⁶ The main causes of steep decline of coffee prices in 2001-02 were: 1) increase of Robusta coffee production in Vietnam; 2) roasters' adoption of cheap Robusta for industrial processing; 3) improved efficiency in coffee production at large scale plantations in Brazil; 4) large yields of coffee worldwide in the year, 5) a standstill of the export quota agreement to sustain coffee prices; and 6) multinational companies' pressure on lowering prices.

Roasters and retailers in consuming countries can add their costs to prices to secure profits. On the contrary, coffee growers have to sell coffee at the internationally equalized prices regardless their production costs. Coffee growers in many countries suffer from low prices that cannot cover production costs. Having been accused by civil society organizations in developed countries, many retailers and coffee chain stores started to deal with fair trade products to some extent and engage in Corporate Social Responsibility (CSR) activities such as providing funds to community development projects in coffee growing areas.

COFFEE MARKET AND PLAYERS IN JAPAN

Japan began to import green beans in the 19th century. Small roasters sold coffee to cafés, where people went to enjoy coffee. A company called Café Paulista played an important role to make coffee popular by serving coffee to the public at reasonable prices. It was established by the first leader of the Japanese immigrant party in Brazil, who received the license to sell coffee granted by the Government of São Paulo State.

Import of coffee stopped during World War II, and green beans started to be imported again in 1950. The quota system for importing green beans was abolished in 1960, followed by the beginning of free import of instant coffee in 1961. In the decades of high growth period of the Japanese economy and the food industry, import of coffee increased rapidly: from 10.8 thousand tons in 1960 to 120 thousand tons in 1975. Consumption of regular coffee, instant coffee and canned coffee kept increasing steadily, Japan has imported more than 400

⁶ Prices of Arabica are lead by the futures contract at the Intercontinental Exchange (NYSE: ICE) in New York. Prices of Robusta are mainly dealt at the London International Financial Futures and Options Exchange (LIFFE).



thousand tons since 2000. In that year, Japan got ahead of France as the third importing country after the US and Italy.

Green beans account for 90 percent of coffee import. Japan imports coffee from more than 40 countries, whereas 75 percent is from 4 large exporters, namely Brazil, Colombia, Vietnam and Indonesia. Instant coffee (both final products and intermediate products) accounts for only 4.5 percent of total imports.

Most green beans are imported by major trading companies in Japan, but some roasters like Key Coffee Inc. and UCC Ueshima Coffee Co. Ltd. also engage in importing green beans. As to regular coffee, beans are roasted, blended and packed by major roasters, and sold to supermarkets and the food service industry. Roasted beans are also sold at roasters' own shops or specialized retailer shops, milled in front of clients. Robusta coffee is processed into coffee-products by roasters or general food makers. Coffee chain stores have been growing for the last decade, establishing own brands, providing food and coffee beverages for eat-in and take-out, and selling roasted beans. This poses a challenge on conventional players by changing consumers' behavior, shifting from enjoying strait coffee at cafés to preferring coffee served in different styles such as cappuccino at stylish chain stores.

KEY COFFEE INC.

Kimura Coffee Shop, the predecessor of the present Key Coffee Inc., was established in 1920 in Yokohama. It imported green beans and sold roasted beans to cafés. It was incorporated in 1952 and changed the name to Key Coffee in 1989 as “Key” was the brand logo since 1928. It extended its sales offices to China and Korea and developed a coffee plantation in Taiwan before World War II, but had to withdraw at the end of the war. Key Coffee increased its sales riding on the boost of food service industry after the deregulation of coffee import.

Key Coffee has 4,465 million yen (55 million USD) of paid-in capital today.⁷ It employs 1,230 staff members and has a head office, a laboratory and 4 roasting factories, in Japan. Its 74 office branches cover all parts of Japan. Key Coffee also sells coffee and serves food directly to end clients at its 77 own retail shops. Gross sales in FY2009 were 50,328 million yen (629 million USD). Coffee related business accounts for 87.3 percent, food service business and other business account for 10.6 percent and 2.1 percent respectively. Key Coffee ranks second in the regular coffee business in Japan with 16 percent of sales share. Though it does not export roasted coffee from Japan, it developed a new brand of canned coffee for growing Asian consumers in 2008.

⁷ Data is from end of June 2010.



Development of Toarco Toraja Coffee

BACKGROUND

In the early 1970s, Key Coffee had grown to become a leading roaster in Japan. The company was exploring ways to win the intensifying competition by increasing its share in the market and adding value to its products.

In 1972, a buyer of Key Coffee found coffee beans from Toraja. Key Coffee had once dealt with Toraja Arabica before the War, but it had disappeared from the world market at that time. Key Coffee and its business partner Toshoku⁸, a food trading company, jointly conducted a field study of coffee production in Toraja.

The study team found that farmers in Toraja kept growing Arabica coffee for local consumption. The production and marketing were not modernized. Farmers lacked skills and knowledge on taking care of coffee trees and post harvest processing. Collectors visited farmers on horse-back to buy coffee beans during pre-harvest months, and bought at low price in the markets during harvest months. However, the quality of coffee beans was good and the geographical conditions were excellent for production of Arabica coffee. The team concluded that there was a possibility of revitalizing Toraja coffee if they take time to gain support from local people.

In 1973, Key Coffee started the Toraja Coffee Project. The company believed that the project would not only bring profits to the company itself but also would contribute to the economic development of the local society, and that revitalizing Toraja Coffee in the international market would benefit Indonesia exports.

BEGINNING OF TORAJA COFFEE PROJECT

In 1973, Sulawesi Kohsan was established as a Japanese company for the Toraja Coffee Project in which Key Coffee and Toshoku invested half-and-half. In order to get a business license in Indonesia, Sulawesi Kosan had to find a local partner. It chose Utesco, a licensed company of agricultural products. Its parent company P.T. KP was a construction company owned by ex-servicemen and had experience doing business with Japanese companies. In 1976, Sulawesi Kosan and Utesco jointly established P.T. Toarco Jaya.⁹ TOARCO is an abbreviation of Toraja Arabica Coffee. The project consisted of two business components: 1) procurement of coffee beans from farmers; and 2) development of the Padamaran plantation.

At the end of 1977, the first cargo of green beans departed the port of Makassar for Japan. In 1978, Toarco Toraja Coffee started to be sold with the campaign tagline “Revival of the mysterious coffee”, which attracted Japanese consumers; it became the most important strategic product of Key Coffee symbolizing the company’s value on quality coffee.

⁸ Toshoku merged with Cargill in 2007.

⁹ Sulawesi Kosan invested 80% and Utesco invested 20%.



PROCUREMENT OF COFFEE BEANS FROM FARMERS

Today, Toarco runs four purchasing stations in coffee growing areas and one station in Rantepao, a commercial town of the Tana Toraja district. Toarco purchases coffee from registered farmers and collectors there. The total amount accounts for 80 percent of Toarco's procurement, while the remaining 20 percent comes from the Padamaran plantation.

When farmers sell to buyers, there are three forms of coffee:

- 1) coffee cherries
- 2) parchments
- 3) green beans

Coffee cherries are picked from trees. For producing good coffee, cherries must be picked at the peak of ripeness and processed into parchment upon the harvest. Parchments are processed cherries; the process includes peeling pulp, removing the residue, and drying. For removing the residue, either dry processing method or wet processing method is applied. The wet processing is more complex and labor intensive; beans are fermented in water, and then washed to remove the residue. This method produces mild coffee, thus Toarco applies it. Green beans are hulled beans (i.e. after the skin of parchments has been peeled). Sixty kilogram of green beans is packed in a jute bag for shipment.

When Toarco started to procure coffee from farmers, it purchased coffee in the above three forms. Toarco set the prices reflecting market prices and the grades. Cherries were graded into three categories by ripeness and seize. Parchments and green beans were graded by the aroma, degree of wash and dry, size, and impurity. In the early stage of the business, Toarco preferred to purchase cherries because they could sort out unripe cherries and could control the post harvest processing and storing.

Today, Toarco purchases mainly parchments and green beans from farmers and collectors. Through trainings, farmers gained knowledge and skills of post harvest processing and understand the standards of Toarco, such as degree of drying. It benefits both Toarco and farmers: Toarco can avoid concentration of work in the high season and reduce labor costs for processing; farmers can sell parchments and green beans at higher prices than cherries, and beans are easier to preserve and transport.

THE PADAMARAN PLANTATION

The Padamaran plantation is known as a rare successful case for agricultural project invested by Japanese companies in Indonesia. It is located at the altitude of 900-1,250 m covering an area of 530 ha.



Padamaran Plantation entrance (Photo credit: Key Coffee)

Toarco obtained the right to use the land from the government in 1976, where farmers grew coffee on a small scale at an abandoned plantation.¹⁰ Toarco cut down indigenous trees across 100 ha and developed terraces for planting coffee trees in 1977, and started to plant coffee seedlings in 1978. In 1986 more than 785 thousand trees had been planted, and the Padamaran plantation recorded the highest yield, i.e. 227 tons of green beans. After that year, Padamaran suffered from a sharp decline of harvest due to molds disease and soil deterioration caused by herbicide. Toarco

introduced a new type of trees resistant to molds and developed manuals for protecting trees from the disease. It started manual weeding instead of using herbicide.

Though the yield recovered in 1990, Toarco was under pressure to eliminate cumulative deficits by reforming the production system in a more profit-oriented way. The mid-term plan for 1993-95 was targeted at increasing productivity of each tree, decreasing area of planting trees, improving human productivity, localizing the management, and introducing a new type of mold resistant trees to the entire plantation. Since 1994, Padamaran has been profitable with 3-400 thousand trees. The number of employee has been reduced from 155 in 1990 to 53 in 2011.

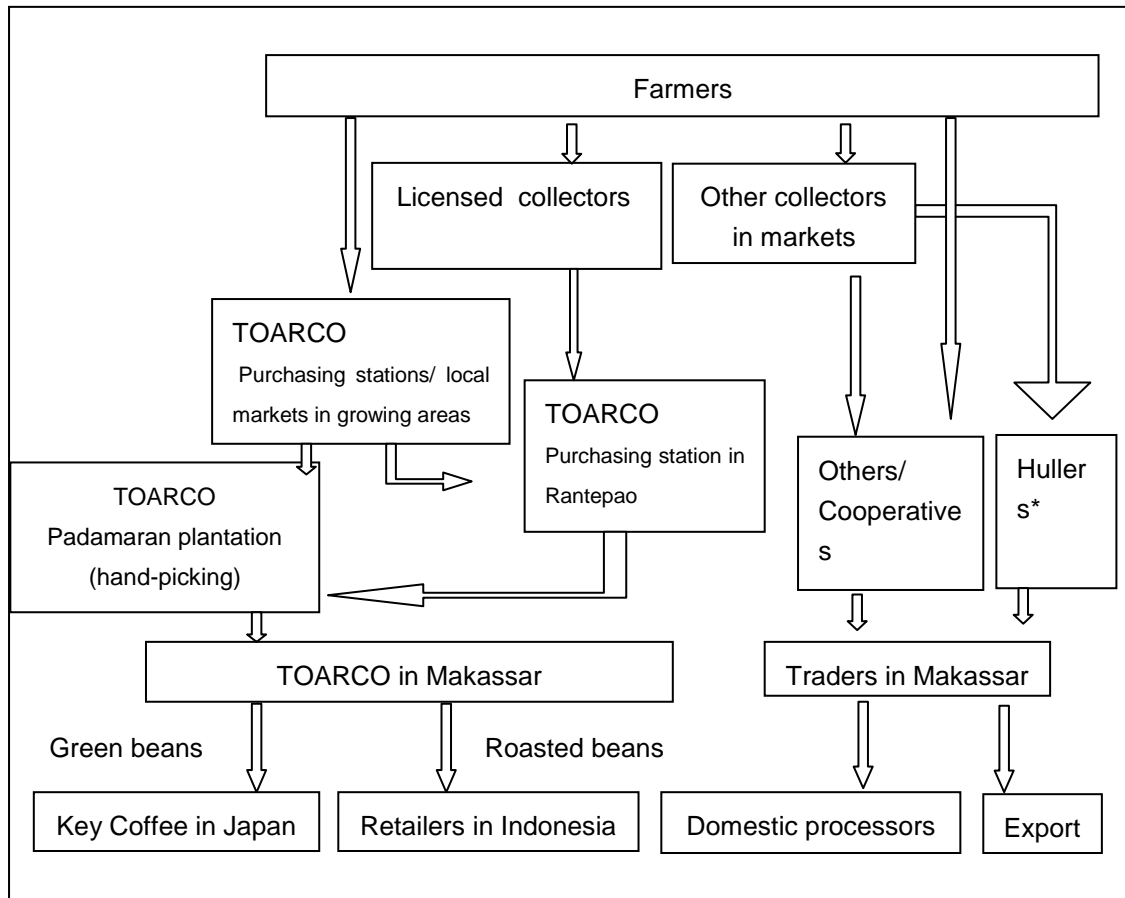
Padamaran put the priority on production efficiency in the early stage, but it started eco-friendly coffee production in recent years. Today, 40 species of indigenous plants including shading tees, water retaining trees, and short underbrush are planted around coffee trees. The area once used for planting coffee trees is being recovered to forests with original vegetation. Coffee cherry flesh and other organic ingredients are made to compost. Ten thousands coffee trees are grown organically. The Padamaran plantation got certified by the Good Inside in 2007 and by the Rainforest Alliance in 2009.

The Padamaran plantation is an asset for Key Coffee in various ways. Each year, the first crop of the plantation is sold at a premium price to Japanese coffee lovers. Its staff and business partners visit for deepening their understanding of coffee production.

¹⁰ The farmers received compensation based on the number of coffee trees.



Figure 2: Value Chain of Toraja Coffee



**Hullers are companies who own machines for processing coffee. Middlemen (collectors and traders) can rent a coffee pulper (machine for peeling flesh) by hullers and use their yard to dry beans until water content 15 percent (Rp. 350/kg half-dried). They sell the parchments to hullers including those they processed at huller's yard, those they purchased in markets, and those they were rejected by Toarco. Hullers process the parchments into green beans with a coffee huller machine. After that, middlemen can negotiate price to be received in Makassar. Middlemen must pay transportation fee to Makassar Rp. 210/kg.*

FINANCIAL MODEL

On September 6, 1977, the opening day of purchasing stations, Toarco set the price for cherries at 220 Rupiah per kg, for parchments at 600 Rupiah per kg, and for green beans 1,200 Rupiah per kg. Only two farmers sold cherries this day. Farmers were watching prices, because they remembered that green beans had been sold at 2,000 Rupiah per kg in May of the same year at Rantepao.

In September 1978, Toarco raised the purchasing rate of green beans to 1,650 Rupiah per kg. Then to cut the farmers' relationships with traders in Rantepao, Toarco raised the rate to 2,700 Rupiah by November of the same year. In 1981, coffee procured at the purchasing station exceeded 200 tons per year. Toarco purchased coffee in cash from the beginning.



According to an interview conducted in September 2008¹¹, a coffee farmer, Mr. Tandhi, went to a market in Sapan every two weeks by walking for 10 kilometers. On the interview day, he sold beans to a collector, Mr. Yusuf, and gained 267 thousand Rupiah (31 USD). He said that although life was not easy due to the inflation, his livelihood became stable compared to the time when he had no sources of cash income.

The collector, Mr. Yusuf, buys 150-300 kg of beans every day. The price gap between buying from farmers and selling to Toarco at the purchasing station in Rantepao is only 1000-2000 Rupiah (10-20 cents USD). But interviews with other collectors revealed that the traditional price setting system was performed. In the markets in coffee growing areas, collectors usually apply the same rate as Rantepao using a one-liter measure. They change the way of measuring according to places: in remote areas, a heaped up beans in the measure was regarded as one liter, whereas just a full measure of beans was regarded as one liter in Rantepao. Approximately 20 percent of beans become the collectors' profit. But considering the cost of gasoline, which is 6,000 Rupiah (60 cents) per liter, their profit is not as high as 20 per cent. They also take risks of being rejected by Toarco if their beans do not meet Toarco's standards.

Constraints and Solutions

CONSTRAINTS AND SOLUTIONS IN PROCURING FROM FARMERS

Underdeveloped physical infrastructure

Trees that can produce high quality coffee are grown in the mountainous area, where people travel on foot or on horseback. It costs heavily if one company visits each farmer to buy coffee. Toarco took two measures: 1) establishing purchasing stations close to farmers; and 2) making good use of local collectors.

Making farmers to sell their coffee at Toarco's purchasing stations meant rivaling with traders in commercial towns such as Rantepao and Makale. This was a challenge for Toarco.

At the first purchasing station in Tondok Litak, in order to attract farmers, Toarco financially and logistically supported the community leader to open a kiosk to sell daily commodities in front of the station. Until then, farmers had to spend a whole day traveling to go shopping in Rantepao. Farmers who sold coffee to Toarco got discount at the kiosk. Toarco made use of its trucks, which transported coffee to Toarco's store house in Makassar, to carry the daily commodities procured in Makassar on the way back to Tondok Litak.

Rather than rivaling with traders in Rantepao, Toarco realized that local collectors were important players of the value chain of Toraja Coffee.

¹¹ Yoichiro Sanada (2008), "Report on Toraja Coffee Development by Key Coffee", in online article of *the International Development Journal* (Japanese).



By the nature of coffee beans, which are sensitive to humidity and mold, it is essential to buy coffee beans as early as possible after processing. Even though Toarco established purchasing stations in the growing areas, visiting farmers and buying coffee at their houses ensures to procure high-quality coffee at large scale. Because farmers in remote areas do not have a means of transportation, they tend to keep coffee until they have an occasion to go to markets. Such a collecting task is impossible to be performed by a company. Toarco therefore started to procure coffee from collectors, too. Small scale village collectors visit farmers' houses frequently to buy small amount of coffee.

Collectors also buy beans from farmers at the markets, which open in different places in rotation.¹² They bring the beans to Toarco's purchasing stations at Rantepao, where Toarco purchases from collectors. Toarco publishes the rate every 5-6 days to prevent collectors from exploiting farmers. Even in the 1970s, short wave radio conveyed prices information to remote areas. Toarco also put price notices everywhere to ensure the information reaches farmers.

Limited knowledge and skills

When Toarco started procuring from farmers, it faced great challenges: increasing the number of coffee growers; improving their production skills; spreading knowledge on post harvest processing, and raising awareness among farmers and collectors in quality control.

Toarco organized seminars free of charge during off seasons, the staff members instructed farmers in cultivation techniques and knowledge of sorting coffee, and distributed superior seedlings. To maintain good relationships with local authorities, Toarco invited local agricultural extension workers to attend the seminars. In addition, Toarco established a demonstration farm to introduce the techniques that farmers were reluctant to adopt for fear of losing harvest. For instance, old trees need cutting near the base so as to regenerate young productive twigs. Toarco promoted this technique by demonstrating the results in the farm.

Limited awareness in quality control among farmers and collectors was another big challenge. When market prices were high, farmers harvested unripe cherries and processed them into beans pursuing better price and more income. Other buyers used to procure such beans without caring about mixed unripe cherries, so farmers tried to sell the same way to Toarco. Some farmers even mixed Robusta with Arabica intentionally. Small collectors also brought mildewed or worm-eaten beans to stations.

¹² Having established long-term relationships with collectors, Toarco depends on local markets rather than running its own purchasing stations in production areas.



Selection process (Photo credit: Key Coffee)

Toarco took various measures to show its insistence on quality: it intensified the inspection systems at purchasing stations; and bought excellent beans at a premium price. In the seminar for farmers and collectors, Toarco clarified the standard of coffee eligible to be bought by Toarco. Collectors were trained not only at the seminar but also through daily transaction with Toarco. If the coffee does not meet the Toarco's standard, it is rejected even in

times of short supply; the collectors have to sell them to other buyers at unforeseen prices. Therefore, collectors are conscious about the quality of coffee when they buy from farmers. They also train farmers in quality control through daily transaction. Toarco trained farmers to harvest only ripe cherries and to process cherries into parchments in a proper manner. As a result, farmers acquired the skills to process cherries into beans. Such a process thus benefited both the farmers and Toarco.

Since 1992 Toarco has been purchasing coffee from only registered farmers and collectors who agreed to the quality standards set by Toarco. Toarco records each seller's information such as number of sales recurrences and amount, number of rejections and ratio of faulty beans. If the record is not good, the amount of the next purchase is reduced. Today, 450 farmers and 200 collectors are registered. Each collector is estimated to cover about 30 farmers on average.



Hand picking (Photo credit: Key Coffee)

Toarco appreciates the collectors' efforts by applying premium prices for highly graded coffee and by giving annual awards for the best sellers, based on their performance both in quantity and quality. Most of the awarded sellers have already had a long relationship with Toarco. In addition to the above-mentioned efforts with farmers and collectors, Toarco conducts hand-pick selection at its own factory before shipping.

"We spent 10 years to increase the number of coffee growers and another 10 years to raise awareness in quality."

Hiroyuki Yoshihashi, Sales promotion manager, Key Coffee

Limited access to financial services

While formal financial institutions exist in the towns of Toraja, people in remote rural areas have limited access to them. People traditionally cultivate and save rice, perform ROSCA (Rotating Savings and Credit Association) by contributing a certain amount of rice so that the members can use them in rotation, and sell rice when they need cash.



Toarco grows superior seedlings at its own plantation and distributes them to farmers for free at seminars. Thus farmers can grow coffee without investing their own assets. In order to increase the number of farmers who engage in post harvest processing, Toarco also distributed about 100 hand-made pulpers (peeling machines) for free. They were made of woods combining spokes of bicycles. Once farmers recognize their utility, they can make pulpers by themselves using local materials.

According to the results of the Participatory Rural Appraisal (PRA) workshop conducted with farmers, farmers trust Toarco because it buys beans at stable prices as long as farmers fulfill its standards. Toarco does not make contract with farmers, but registered farmers sell beans to other buyers only when they are rejected by Toarco (rejection rate is around 1-5 percent)¹³.

Collectors are also provider of loans¹⁴ to farmers during the pre-harvest season. Among small and medium sized collectors, there are only few 'pure' merchants. They are mostly coffee growers, too.¹⁵ When farmers have accumulated small capital, they buy motorbikes and collect beans from neighboring farmers. They are trusted buyers and lenders in villages.

Ineffective regulatory environment

At the early stage of the project, an export quota set by the International Coffee Organization (ICO) was standing in the way. Toarco received a license for exporters and gained a quota for 275 tons of green beans per year. But by the time Toarco took off for a stable procurement, the quota was about to be reduced to 250 tons. It was a matter of life or death for the business. Toarco petitioned actively the authorities and Japanese ambassador to Indonesia for expanding the quota. Toarco appealed that the quality of Toraja coffee ranked at the top among Indonesian coffee and would bring foreign currency to Indonesia, that coffee production was contributing to the development of the Toraja region, and that ICO regarded Indonesia as a Robusta exporting country, therefore Toraja Arabica Coffee should be exempted from the quota. Toarco succeeded in regaining the original quota.

The international agreement on export quota was frozen in 1989 and abolished later. Since then, Toarco could export as much coffee as they procured. Although prices of coffee in the world market dropped following the abolition of the agreement, Toarco Toraja Coffee had established its brand in Japan and thus Toarco kept buying beans. Coffee growers in Toraja did not suffer from decline of income.

CONSTRAINTS AND SOLUTIONS IN DEVELOPING THE PLANTATION

¹³ However, Key Coffee is concerned about their competitors. Especially in 2011, due to the long lasting rain fall, coffee production dropped to less than half compared to the previous year, they are cautious about opening their purchasing rate,

¹⁴ According to another research on informal finance in South Sulawesi by the author, loans are provided in cash or in kind for 3-5 months, and repayment is also made in cash or in kind. Interest rates vary from 10 % to 20 % depending on the relationship between lenders and borrowers.

¹⁵ The phenomena that farmers become collectors had been observed widely in Indonesia, Hayami and Kawagoe (1993) "The Agrarian Origins of Commerce and Industry" , St. Martin's Press. New York.



Underdeveloped physical infrastructure

In 1977, Mr. Seino, the first manager, led the construction of the road to the plantation. Because the local government did not have enough funds, the company had to invest its own fund for the construction. Toarco asked the local government to dispatch engineers, and contracted out the construction of some part of the road to local communities. The road was named 'Jalan Seino' (Seino Road) by local residents. To finance the huge investment for road construction and development of the plantation, Toarco received a concessional loan of 144.6 million yen from the Overseas Economic Development Fund (OECF) of Japan.

Limited knowledge and skills

It was not easy to employ farmers and to make them work according to the company's production plan and rules, as they were used to farm by themselves. The measure that Toarco took was decentralization.

The Padamaran plantation was divided into several zones, workers were attached to a fixed zone, and each zone manager was responsible for production and supervision of workers. Employees participated in morning meetings, where they fostered a sense of ownership. One of the results was that employees set the rule for time keeping: those who did not appear to the plantation by working hours were not allowed to enter the plantation. At the processing facility, staff was trained in calculating yield rates, and each member deepened awareness in process control. These efforts led to improved human productivity.

Having experienced study trips in Japan, middle class staff were trained to be leaders of local staff. The manager of the plantation and zone managers have worked with Toarco for 20 to 30 years.



Figure 3: Strategy Matrix

		Strategies					
		Adapt products and processes	Invest in removing market constraints	Leverage the strengths of the poor	Combine resources and capabilities with others	Engage in policy dialogue with government	
Constraints	Market information	Publish buying rate at stations for farmers to avoid exploitation					
	Regulatory environment					Advocate for expanding export quota	
	Physical Infrastructure	Build purchasing stations close to farmers	Build roads	Use local collectors for procuring coffee from farmers	Construct roads partnering with local govt. and community		
	Knowledge and skills	Apply rigorous inspection system; Buy excellent beans at premium price; Award best sellers	Conduct seminars on cultivation and post harvest processing	Train collectors to be trainers; Decentralize responsibility at plantation	Invite extension worker of public agricultural research institute		
	Access to financial services		Provide coffee seedlings and post harvest processing machines for free		Collectors provide credit before harvest season		

Key Coffee and Other Players in the Business Model

KEY COFFEE

When Key Coffee started the Toraja Coffee project in the 1970s, Indonesia was under the Suharto regime. It established a joint venture company, P.T. Toarco Jaya, with a local company, Utesco, to avoid expulsion of foreign capital in the cause of nationalism. In practice, however, staff members dispatched from Key Coffee managed Toarco.

Toarco does not work closely with NGOs, because the civil society in Indonesia only began to grow after the Suharto regime in 1998. Toarco had acquired know-how to work closely with local people by then.

GOVERNMENT

To receive license to use the land for coffee production and to export green beans, Utesco as a local company worked with the central government. Having received licenses from the government, Utesco and Sulawesi Kosan established Toarco, which kept good relationships with the local government. For instance, it invited senior officers from the local government to the inauguration ceremony of the Padamaran plantation. Although Toarco closely worked



with the local government, by inviting extension workers to seminars and investing in local infrastructure, Toarco never offered any bribe to the local government.

LOCAL COLLECTORS

The other important players in Toraja Coffee business are local collectors. Toarco trained them in quality control to become reliable business partners.

Middlemen of coffee can be divided into two types:

- **Traders:** They mainly wait at markets and buy coffee beans from collectors or farmers, who come to markets,
- **Collectors:** They collect coffee beans from house to house and bring them to markets on market days.

Pure collectors only exist in very remote areas where road conditions are bad and access to transportation is limited. And pure traders are only found in large markets around the urban areas such as Rantepao or Makale. Most of collectors are semi traders; they are farmers as well. They generally own more than 1,000 coffee trees in one ha of farmland.

According to the result of the PRA workshop conducted with collectors and farmers, collectors play multiple roles for farmers:

- 1) Vehicles for transporting coffee;
- 2) Lenders during the low income season;
- 3) Quality control;
- 4) Source of information on technical skills in agriculture and processing;
- 5) Suppliers of agricultural inputs;
- 6) Trusted buyers (even in very small amounts, starting at 0.5 liter).

The most important roles played by collectors are as lenders during the low income season, and as trusted buyers. Although Toarco provides free seedlings to farmers instead of production credits, farmers need credits for various purposes such as education or buying agricultural inputs. Collectors are easily accessible sources of financial services for farmers.

Participants of the workshop emphasized honesty as an important asset in their business. Honesty and fair-dealing in measuring volume and price are the most important factors to keep good relationships with farmers.

In many rural development projects or inclusive business models, middlemen are considered as the root of exploitation, and people thus try to reduce the roles of middlemen in value chains. However, collectors who sprouted from farmers in villages play multiple roles to neighboring farmers.

Collectors usually have their own regular suppliers. When their suppliers are in a difficult situation, collectors offer services and help them by lending money or providing agricultural inputs, etc. No other organization can play these multiple roles by itself as shown in Table 1.



Table 1: Roles of collectors

Roles of collectors (for farmers)	Roles of other organizations/institutions for farmers			
	Toarco	Other buyers	Hullers	Bank / Creditor Institutions
1) Vehicles for transporting coffee	Yes, Toarco has 4 purchasing stations in the remote villages	Some branches in villages	No	No
2) Lenders during low income season	No	No	No	Yes
3) Quality control	Very high	Average	Low	No
4) Source of information on technical skills in agriculture and processing	Very high	No	No	No
5) Suppliers of agricultural inputs	Free seedlings	No	No	No
6) Trusted buyers	Collectors and farmers are treated fairly, at the published rate	Not so fair to farmers	Unpredicted price	No

Source: Results of PRA by authors

Results Created by Toarco

IMPACT ON KEY COFFEE AND TOARCO

Key Coffee considers that the Padamaran plantation can produce top quality coffee because they can control post harvest processing. It is easy for them to make a long-term production plan because they can rotate the areas of planting seedlings, harvesting coffee and regenerating old trees. On the other hand, it requires a huge upfront investment and maintenance costs; once tree diseases hit the plantation or weather is not favorable, deficit becomes great.

As to procuring from farmers, while the quality of beans is not as high as that of the plantation and purchasing volume is not predictable, the cost of production and transportation are already born by farmers and middlemen, thus the risk of loss for Toarco is smaller.

Although it took 15 years for Toarco to be profitable, Toarco Toraja Coffee has become an important asset for Key Coffee.

The Sales Promotion Manager of Key Coffee, Hiroyuki Yoshihashi, emphasized the importance of Toarco Toraja Coffee, when he was asked why they could keep such a big project:



“We procure green beans from trading companies for volume sales¹⁶, but we cannot control the quality of such green beans. As a roaster, we want to pursue quality of coffee through engaging production. While Toarco Toraja Coffee accounts for 3 percent of our sales, our knowledge gained through the Toraja business and the brand image of Toarco can benefit the other 97 percent of our coffee business. We send our staff members to the Padamaran Plantation for training”.

The management of Key Coffee considers that the corporate identity and staff’s self esteem are developed through dealing with high-quality coffee. It can be said that Key Coffee captured intangible benefits through the Toarco Toraja Coffee business.

IMPACT ON EMPLOYEES

At the Padamaran Plantation, Toarco employs 53 (including three female) permanent staff members and 900 temporary workers during harvest seasons. For permanent staff, Toarco provides loans for school, marriage, birth, emergency and natural disasters. They are free of interest and must be paid back within 10 months. Toarco also gives grants for employees’ marriage and child birth. Long time employees receive commendation from Toarco. For temporary workers who pick cherries exceeding the target amount, a bonus is paid in addition to the basic daily wage.

Four zone leaders have been working at Padamaran for more than 20 years. Toarco has provided working environments and incentives for employees to gain skills and to keep working with Toarco for a long time. They are farmers as well; living in the villages surrounding the plantation, and they still keep their farming lands. Their family members take care of the farm, some zone leaders work in their farms on holidays, and some hire others. They grow rice, cacao, clove, and Robusta coffee and sell the cash crops to collectors in Rantepao.

Owing to the socio/economic development and increased cash income opportunities, the younger generation can attend school at least up to junior high school. As a result, the position of Toarco as a source of employment has weakened. Those who complete higher education seem to leave the area searching for easier jobs or civil servant positions. Zone leaders’ children have finished senior high school; some of them study at universities in Makassar or work in Kalimantan. Only one daughter of a zone leader, who married in the village, works at the plantation.

IMPACT ON FARMERS

Today, Toarco procures coffee grown in the mountainous area in the Toraja Utara district. The area covers 7,500 ha with an altitude of 1,300-1,900m. Seven thousands households grow coffee in farms totaling 3,000 ha and sell coffee beans to Toarco either directly or through collectors.

¹⁶ Key Coffee procures green beans from more than 20 countries.



Farmers view on coffee production

According to the results of discussion on crops, farmers consider coffee as their main source of cash income.¹⁷ They spend 40 percent and 30 percent of working hours on coffee and on rice respectively. Coffee accounts for 50 percent of their income, while rice accounts for 25 percent.

Although growing coffee brings cash income, it contains risks, including rain fall, marketing, and price. Production was estimated to be extremely low in the harvest year 2011 due to the heavy rain fall. Coffee trees bear one crop a year, so damage caused by weather conditions is bigger than other crops which can be harvested in shorter periods.

Problems facing farmers include mountainous area, small land size, long distance to markets, bad roads, no transportation, and limited workforce.

Farmers views on Toarco

Before the establishment of Toarco in 1976, almost no one cultivated Arabica coffee. Through the discussion on coffee growing as part of the PRA,¹⁸ farmers recognized that their ancestor cultivated what they called Katurra or original Arabica species. Farmers know that the species they are planting today are new species and that seedlings originally came from a coffee research institute in Jember, Indonesia.

Farmers' views on Toarco are listed below:

- 1) It buys only good-quality beans;
- 2) Guaranteed cash and carry system;
- 3) Price is published;
- 4) Fair. Not only collectors but farmers are also welcomed to sell their coffee at purchasing stations;
- 5) It distributes free seedlings;
- 6) It conducts several trainings on coffee cultivation

¹⁷ See Table 7 in Annex.

¹⁸ See Annex



Cup testing (Photo credit: Key Coffee)

Toarco only buys freshly processed coffee: after peeling, fermentation, and washing, beans must be dried under direct exposure to sunshine, and must be delivered to Toarco on the next day for quality check including cup testing. If they passed the quality check, the coffee beans will be purchased at the published rate. If the quality is particularly high, the premium price will be applied. This strict rule on quality is sometimes very difficult for farmers who usually produce only small amounts of coffee. With limited road accessibility, the delivery takes time and they may not be able to fulfill Toarco's standards. Therefore collectors are of great help for farmers to get a better price.

The commitment of Toarco to maintain quality brought about very good education and transparency to the coffee business in Toraja. Since the first purchase from farmers until today, Toarco has consistently purchased only beans that met its standard and have rejected the ones under the standard.

Toarco also trains collectors in teaching farmers about good processing for good coffee. During PRA all farmers and all collectors showed their knowledge on the processing procedure and all of them knew how to grade coffee with the quality standard of Toarco. One PRA group explained that since coffee pulpers or peeling machines were introduced to them, they were encouraged to process coffee cherries. One of the villagers, who has been working at a processing section of Toarco for six years, is able to reproduce the machine based on his experience at Toarco. .

When asked how it would be if Toarco closed their business, farmers could barely imagine the possibility. They answered that it would never happen because Toarco had been in Toraja since the beginning. After a long discussion they concluded that the price of coffee would fall and the quality would be worse, if Toarco close the business.

IMPACT ON THE LOCAL ECONOMY AND SOCIETY

The commitment of Toarco to procure quality coffee from farmers and collectors made Toraja and Sulawesi famous for coffee.¹⁹

Toarco has donated various infrastructures to the local community, including bridges and a hydroelectric power station in the mountainous area. These were not merely CSR activities but also necessary for increasing Toarco's procurement.

¹⁹ See Table 6.



ENVIRONMENTAL IMPACT

Toarco's environmental awareness has evolved. In the 1980s, when the company developed its plantation, environment was not as highly concerned as these days. It planted single species of coffee trees after cutting down original flora in the early stage of the plantation. After experiencing difficulties, they reached a way of planting coffees with 40 species of indigenous trees for shading and retaining water. Preservation of the environment and biodiversity creates social and economic value for the company.

Growth Strategy and Future Outlook

GROWTH STRATEGY

Toarco has reached its production peak (in volume) in the 1990s. Since then, it has been exploring ways of making profit rather than increasing the production at Padamaran and the volume of procurement from farmers. Toarco adopts two strategies: 1) diversifying markets; and 2) adding value to the coffee produced in the Padamaran plantation.

For diversifying markets, Toarco started to roast beans in 1995 and to sell them in Indonesia in 1996. Eighty six percent of Toarco's beans are exported to Japan, whereas 16 percent are sold in the domestic market. Having Indonesian consumers enjoy Toarco Toraja Coffee was a big challenge. Indonesian people usually make coffee by putting milled coffee powder into a cup and pouring boiled water. Toarco demonstrated paper-dripped coffee at a luxury department store in Jakarta. Currently, Toarco sells mainly the beans milled suitable for local style in Indonesia. However, there is a potential that growing Indonesian consumers will prefer to enjoy specialty coffee as it is seen in Brazil.

For adding value, the Padamaran plantation got certifications from two large organizations: the Good Inside in 2007 and the Rainforest Alliance in 2009.²⁰ With the certifications, Toarco can sell coffee at premium prices. They will also help Toarco to position itself in other importing countries including the U.S.

CHALLENGES

As the new style of coffee chain stores is penetrating into Japan, consumers' behavior has been changing. They prefer non-strait coffee, such as cappuccino or others. This poses a big challenge to Key Coffee, because their main business partners are conventional cafés that serve regular coffee with brand name such as Toarco Toraja, Mocha and Kilimanjaro. Toarco Toraja is not as recognized as in the past among younger consumers.

Key Coffee is trying to increase its sales of canned coffee by partnering with a beverage company, using beans from other countries such as Tanzania. Toarco Toraja coffee is not suited to such volume sales due to limited amount of procurement and high costs, but it will keep playing an important role for Key Coffee's business as a symbol of quality.

²⁰ By contrast, Fair Trade certification is not seen so far by Toarco as bringing clear tangible benefits.



Another challenge is about coffee growers in Toraja. Growing Arabica coffee is attractive to farmers, who have limited economic opportunities, but it contains risks of being affected by weather and disease, and it also requires lot of inputs and labor force. Therefore, the second generation of coffee growers may not engage in coffee production. Without having a young workforce, it is difficult to plant new coffee trees, thus resulting in a potential decline of production and quality.

As Mr. Yoshihashi explained, *“we have a responsibility to the local community, we must consider to help the community become attractive to the educated younger generation. One idea to increase the productivity is that some entrepreneurial farmers or middlemen should run middle-scale estates, because farmers are not organized till now.”*

LESSONS LEARNT

Toarco has been concentrating on procuring high-quality coffee and has trained collectors and farmers in quality through business transaction and investments in skill and knowledge development. Toraja became famous for coffee production because Toarco dealt with the farmers as business partners, not as target of a charity project or development intervention. At the same time, Toarco tried to be as fair as possible to farmers and collectors to avoid exploitation. As a result, Toarco gained trust from the local community.



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Annexes

Annex 1: Farmers views on crops

Item of discussion	Kinds of crops				Cattle	Others
	Coffee	Rice	Passion fruits	Tamarella	Pigs	Labor/ handicraft etc
Purpose : Sapan Area (7 men, 3 women)	Selling to market	Eating	Selling to market	Selling to market	Selling to market	Selling to market
Minanga Area (8 men 5 women)	Selling to collectors	Eating	Not planting	Not planting	Selling to market	Selling to market
Percentage of total income	50%	25%	10%	5%	5%	5-15%
Percentage of total working hours	40%	30%	10%	10%	5%	5-20%
Inputs	<ul style="list-style-type: none"> ✓ Seedlings ✓ Fertilizer ✓ Technical assistance 	<ul style="list-style-type: none"> ✓ Seed ✓ Fertilizer 	Seedlings	Seedlings	<ul style="list-style-type: none"> ✓ Breeding stock ✓ Food 	
Labor	<ul style="list-style-type: none"> ✓ Maintenance ✓ Harvest 	Small size				
Risks	<ul style="list-style-type: none"> ✓ Rainfall ✓ Marketing ✓ Price 		Marketing	Marketing	High cost input	
Benefit	Main income	Food security	Additional income	Additional income	Savings	Additional income
Problems	<ul style="list-style-type: none"> ✓ Mountainous area ✓ Small land size ✓ Long distance ✓ Bad roads ✓ No transportation ✓ Limited labors 	Small land size				

Source: Results of PRA by authors

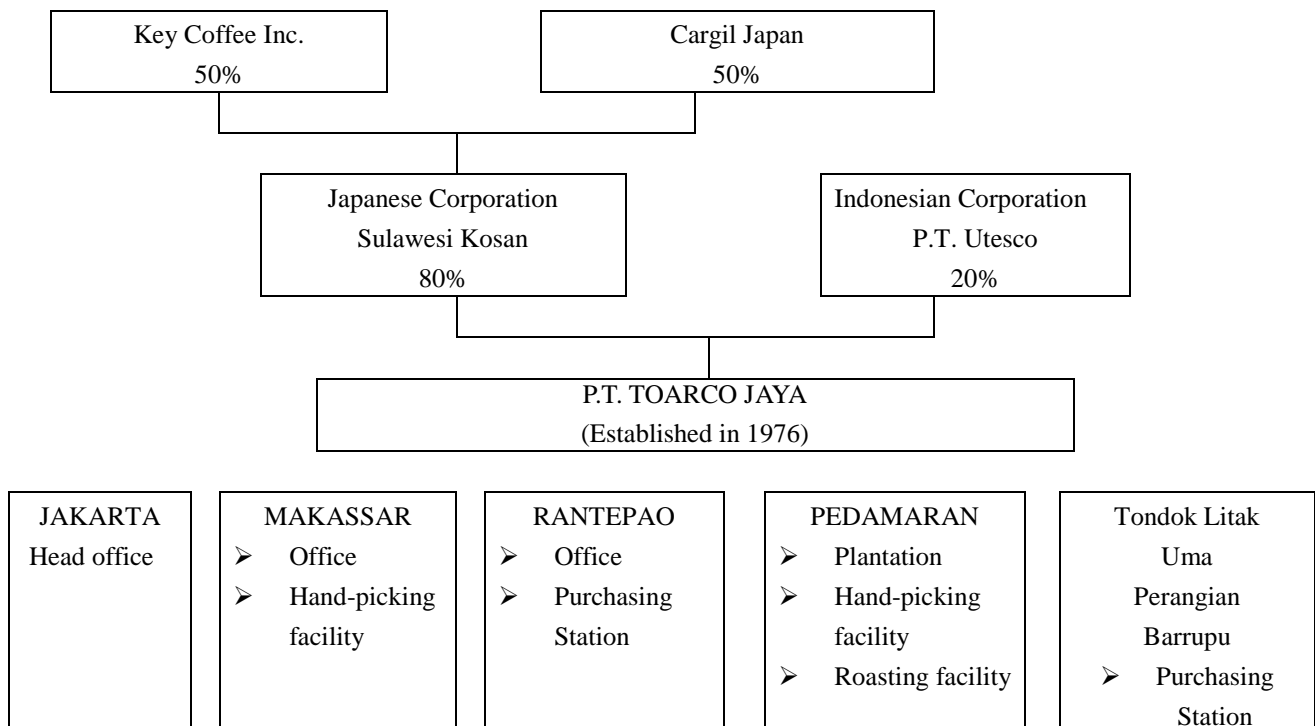


Annex 2: Timeline of coffee planting viewed by farmers

Year	Event
1976	Establishment of Toarco
1980	Village people realized that coffee was cash crop, people tried to plant coffee to earn more income because Toarco started buying in cherry form.
1985	More village people started cultivating coffee and learned about wet processing through Toarco seminar, they started selling coffee beans to Toarco. Production was increasing as new trees entered generative stage
1990	Coffee production was increasing rapidly as coffee growers increasing
1995	The highest production in Toraja
2000	Coffee trees became old, production was gradually decreasing
2005	Production was decreasing
2010	Too many rainfall, production became lower
2011	The worst production in history, production only about 20-30% compared to the year before

Source: Results of PRA by authors

Annex 3: PT. TOARCO JAYA Structure



Source: Authors



Annex 4: Photos

CULTIVATION OF COFFEE

Plant seeds in a hole



Plant each seed at interval of 2 cm.

Seedlings



3 months seedlings. 90% of them can grow with straight roots.

Seedlings



6 months seedlings.

Coffee tree



7 years tree. 2-3 years tree start to bear fruits.

Coffee tree



10 years trees must be cut to revive. The tree is 2.5 years old after cutting.

Coffee tree



Organic coffee trees are good for bird nests, too.

Padamaran Plantation



Shading trees are planted together.

Flower



Coffee blooms once a year during raining season. From blooming to ripening, it takes 9 months.

Coffee cherries



Harvest season is from May to August. Only ripe and red cherries can be harvested. One tree needs harvest once a week.



POST HARVEST PROCESSING

Pulping



Pulping by machines from Colombia. This process must be done within half a day after harvest.

Removing residue



Fermentation for 13 hours then wash away the residue.

Drying in the sunshine



Parchments are dried up to 10% of water contains.

Drying by machines



The machines are dryers developed for soy beans and imported from Japan. Toraja has heavy rain falls. To dry a volume of coffee beans evenly, dryers are necessary. Dry at 40-50C for 72 hours.

Storing



Parchments are kept in the store house.

Husking



Husk just before shipment.

Selection by machines



Select by weight and size.

Hand picking



Faulty beans are sorted out.

Green beans



60 kg are put in a jute bag.



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The information presented in this case study has been reviewed by the company to ensure its accuracy. The views expressed in the case study are the ones of the author and do not necessarily reflect those of the UN, UNDP or their Member States.

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