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Strengthening the Icon Management of *Kampung Kopi* Village in Malang of Indonesia by Improving the Quality of Production and Marketing for Farmers

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Abstract. Malang regency of East Java is well-known for its numerous agricultural crops. One of them is coffee, which is grown in Benjor Village, Tumpang District. The area is one of the coffee bean growers in the Malang Regency. Typically, farmers sell their coffee in the form of logs, unprocessed. Numerous coffee harvests are lost, and the quality of the crop is deteriorating. As a result, farmers earn a pitiful amount of money. This project aims to empower the Benjor Village, Tumpang District, Malang Regency community of coffee grower groups. The activities began with the process of identifying and executing methods for optimizing coffee yields through the use of post-harvest processing technology to improve the quality of coffee beans and hence boost the selling price. Program planning, execution, monitoring, and evaluation are the strategies employed. The findings indicate that not all groups of coffee farmers in Benjor Village, Tumpang District, Malang Regency have the knowledge and abilities necessary to research and apply technology to maximize their postharvest coffee yields. Even though this can result in a higher selling price for coffee. Therefore, the public's attention is opened to the potential for greater diversification of post-harvest coffee products.

Keywords. Kampung Kopi, Coffee, Production Quality, Village Icon

Introduction

Coffees are currently a popular trend among people of all ages. Additionally, coffee is a significant commodity in international trade because it involves a large number of producing and consuming countries (Mayrowani, 2013). It is anticipated that the number of people who want to buy coffee beans will increase as a result of these two developments, creating opportunities for coffee farmers in Indonesia, including those in Benjor Village, Tumpang District, Malang Regency, East Java. Benjor Village, Tumpang District, Malang Regency, which is well-known for being one of the largest coffee producers in the region. Others are coffee farmers who sell their agricultural products to collectors in the form of coffee logs, which they harvest from their fields.

Despite the fact that coffee is not indigenous to Indonesia, its presence plays an important role in the country's coffee plantation industry. According to data released by the Central Statistics Agency (2018), there were more than 1,266 million hectares of coffee plantation land in 2019, with a total production of 682,591 tons, with 99 percent of the

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plantations seeming to be small-scale operations. Annually, the area of coffee in Indonesia's territory approaches the number at the rate of development, which averages 2.11 percent on a yearly basis (Abbas & Suhaeti, 2016). Unfortunately, there has been no successful post-harvest coffee processing technique developed to date that can be managed properly. The existence of this postharvest technology, on the other hand, is extremely important because it contributes to the increase in the value of agricultural commodities through the processing of agricultural commodities.

Post-harvest technology improves agriculture's micro efficiency and provides potential to boost production, as it reduces crop loss and low crop quality (Haile & Kang, 2019). The existence of a coffee drink trend that is consistent with the existing state of coffee production requires the preparedness of technology and post-harvest facilities that are compatible with farmer conditions. It is envisaged that the farmers would be able to produce high-quality coffee beans that meet the requirements of the Indonesian National Standard (SNI), resulting in a competitive selling price and financial benefits for the community. As one of Malang Regency's coffee producers, Benjor Village, Tumpang District, must be able to supply post-harvest processing technology for coffee, from upstream to downstream. The phases of processing including this technology must also be documented as standard operating procedures (SOP), beginning with harvesting, sorting, processing, and storage, and ending with manufacturing or employing technical tools and post-harvest coffee machines. However, the reality on the field is different, as coffee farmers in Benjor Village, Tumpang District continue to face challenges. These constraints are in the context of development, specifically the institutional empowerment of farmer groups that lack post-harvest coffee processing technology, a lack of knowledge and skills for using post-harvest coffee processing technology, a scarcity of capital, the high cost of post-harvest coffee processing technology, and the absence of incentives prices for post-harvest coffee products that have been handled.

Given the conditions mentioned, it is necessary to disseminate technology in order to develop tools and post-harvest machinery that are inexpensive but nevertheless of high quality. Additionally, creation of partnerships between coffee farmers as producers and managers and merchants as exporters is necessary to ensure market access. This Community Service project aims to empower the Benjor Village coffee farmer organizations in Tumpang District. This activity is designed to encourage partners to identify and implement methods for optimizing coffee yields through the use of post-harvest coffee processing technology in order to increase the selling price of coffee beans and to add value to coffee processing products that can later be relied on as the superior product of Malang Regency and have an impact. The demand for high-quality coffee products that have undergone proper postharvest processing is fairly considerable at the moment, not just in the Malang Regency region, but also nationally and even internationally. As a result, the community requires not only post-harvest skills, but also managerial capabilities of coffee business groups, and must be prepared to assist in the development of sustainable coffee business groups. The main requirement for coffee from Benjor Village, Tumpang Subdistrict, which was later named "Benjor" coffee, can be marketed at a higher price, which is that there must be a definite quality guarantee, the availability of sufficient quantities of coffee and on time delivery in a sustainable manner.

Post-harvest management of coffee agricultural goods is inexorably connected to initiatives to boost the competitiveness of higher-quality agricultural products, which have the potential to bolster rural communities' economic strength and wellbeing. Post-harvest development objectives are mainly focused on three areas: (a) lowering harvest losses during the post-harvest period; (b) improving the yield quality and competitiveness of the coffee products produced; and (c) increasing farmer income and welfare.

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In general, post-harvest farming can be divided into two major stages: (a) primary post-harvest operations (maintenance); and (b) post-harvest operations (production/ processing). The basic post-harvest stage is intended to reduce yield loss and prevent quality loss, as well as to prepare goods for sale. It is divided into three stages. The second step is the transformation of harvests into processed products in order to increase the selling value, which includes product diversification and the most efficient use of agricultural products. Processing agricultural products, through the use of post-harvest technology, both primary and secondary, contributes significantly to the enhancement of the value of agricultural commodities. Agronomic post-harvest technology makes agriculture more micro-efficient and can provide opportunities to increase production by reducing crop loss during harvest and crop quality while also increasing crop yield (Novita et al., 2010). Due to the close relationship between the use of post-harvest technology and regional socio-cultural conditions, the policies developed should not distort the socio-economic conditions of the region while still achieving the national goal of increasing production and improving the quality of results. It is necessary to have active community participation, as well as rural community institutions and an independent rural government, in order to achieve all of this.

Method

The method used to optimize post-harvest coffee management technology was divided into two main operating groups, they are primary transhipment which includes transshipment of goods into half-finished or ready-to-process products, where product changes occur only physically, whereas at this stage usually nothing happens. chemical changes that occur. The next stage was secondary processing, which is a continuation of primary processing which will change the physical product and chemical composition of the final product from the post-harvest coffee management process which is relevant to the opinion of Bautista (1990). The detail illustration is provided in Figure 1. The implementation of this system is carried out in several stages between the two groups that are in charge of optimizing post-harvest coffee processing technology. This makes it easier for farmers to understand the service's implementation. The steps that were taken including program planning, implementation, and evaluation.

Program Planning

This program will begin with the formation of a group of coffee farmers, that is "Benjor" coffee, Malang Regency, in the community of Benjor Village, Tumpang District, for the purpose of planning the implementation of the program. This step is significantly vital, especially in light of the fact that farmers frequently encounter difficulties in the administrative aspects of processing high-quality coffee. There are nearly all of the residents who own land in a coffee plantation, but there is no community that can serve as a forum for discussions about efforts to optimize the processing of coffee harvests. As a result, the formation of a Coffee Producer Group "Benjor" prior to the implementation of the post-harvest technology program is highly recommended. A further benefit is the ability to support activities, as well as the use of facilities and infrastructure, that will be used in conjunction with this Community Service activity.

Program Implementation

The program's implementation stages include educating the public about the discovery and application of coffee post-harvest processing technology, as well as providing assistance to farmers after the socialization activities have concluded. This stage is carried out during the

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coffee harvest period by coffee farmers in Benjor Village, Tumpang District, because at this time they can directly implement the information obtained to process the coffee harvest into a higher quality product with a high selling value. This stage is carried out during the coffee harvest period by coffee farmers in Benjor Village, Tumpang District.

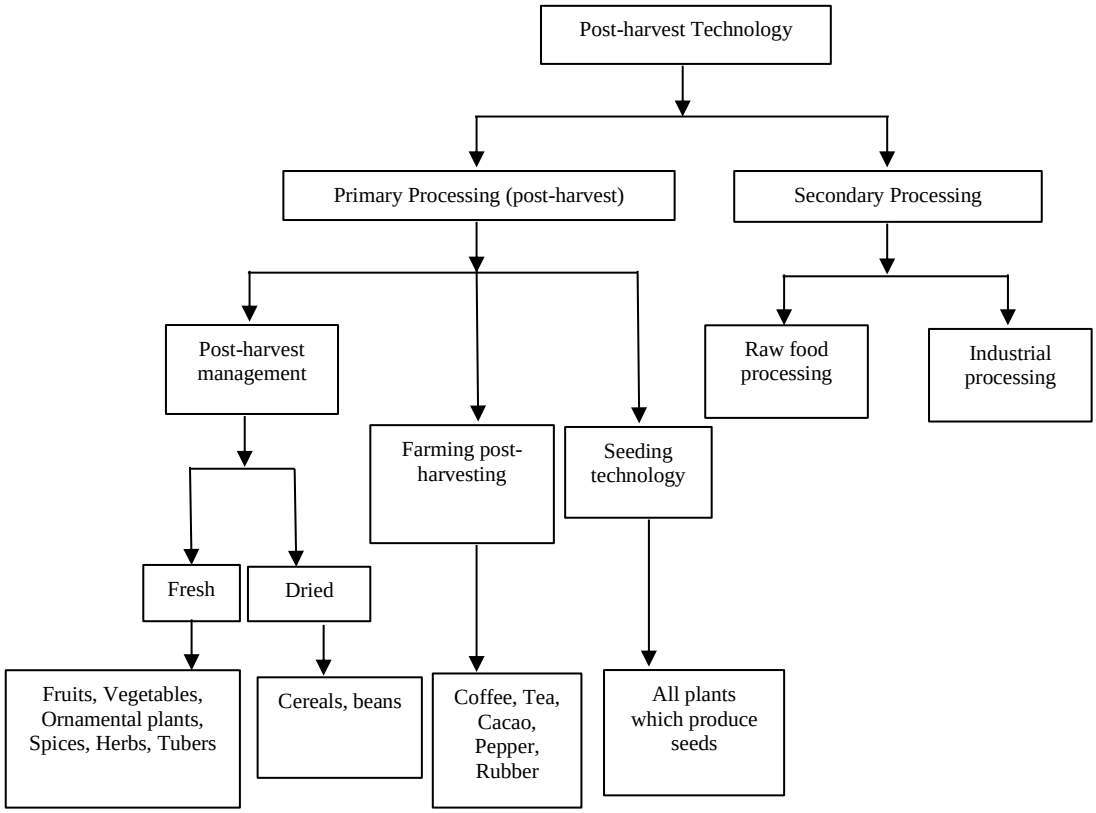

Figure 1. Post-harvesting Technology (Bautista, 1990)

Program Monitoring and Evaluation

The implementation of this Community Service does not stop at the stage of practicing post-harvest technology, but also includes the monitoring and evaluation of the program. In order to ensure that the community can take full advantage of the technology that has been introduced, monitoring is carried out on a regular basis. This allows the community to improve the quality of coffee products and increase their market value. In contrast, program evaluation is carried out by examining the results of product quality after farmers have been educated on how to maximize the use of post-harvest processing technology for coffee. This is accomplished through direct observation as well as discussions with local farmers and producers.

Results and discussion

Post-harvest agricultural products include all activities that are carried out after harvest, from the processing of agricultural products to the stage of producing semi-finished products. Following harvest, the goal of post-harvest management is to reduce crop loss and damage while also increasing the durability and usefulness of agricultural products in order to increase their selling value and quality, among other things (Mahajan, Caleb, Singh, Watkins, & Geyer, 2014; Nugraha, 2016). Reduced yields, both in terms of quantity and quality, will result from improper postharvest management, which is especially true during harvesting during the rainy season (Darwis & Rusastra, 2016; Kiaya, 2014). Because of a lack of active socialization of

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post-harvest technology in coffee farming, optimizing the use of post-harvest technology for coffee farming is currently not evenly distributed. At least so far, the government has not placed a strong emphasis on increasing the value of agricultural products produced in rural areas, preferring instead to concentrate on increasing the amount of agricultural production produced through the process of plant cultivation. As a result, the development of post-harvest agricultural management is still moving at a snail's pace and has not progressed in the direction that the government had anticipated (Nugraha, 2016).

Because the majority of their products are used as raw materials for the coffee processing industry, coffee raw materials are extremely dependent on the coffee processing industry. The rate of growth in the coffee business will therefore be significantly influenced by the rate of growth in the coffee processing industry (Rachman et al., 2002). There are numerous coffee-producing countries that are competing to produce the same coffee commodity at a higher level of efficiency than their competitors. However, it is critical to note that, in addition to increasing the efficiency of coffee plantation activities, it is also critical to improve the quality of the products produced as a result of the advancement of post-harvest technology. In today's market, Vietnam has displaced Indonesia as the world's largest robusta coffee producer because the price is less expensive when compared to the quality, which is almost identical to that of Indonesian production (Atmadji, Priyadi, & Achiria, 2019). The following are some of Indonesia's coffee export challenges: (a) increasing export requirements through various forms of certification, such as OTA (Ochratoxin A) free certificates; and (b) requiring a history of environmentally friendly coffee starting at the plant level.

Maintaining quality is an important factor in determining the competitiveness of coffee export prices; therefore, farmers and the coffee processing industry must work together to ensure that quality is maintained at all times (Lewin, Giovannucci, & Varangis, 2004). The low quality of coffee beans produced by farmers is a problem that is frequently encountered in the production of coffee products (Mayrowani, 2013). Farmers harvest coffee beans that are still in their immature state due to the pressing needs of their businesses (green harvest). This occurs because traders (exporters) do not provide price incentives to farmers for ripe coffee beans, causing farmers to be hesitant to harvest and sort the coffee at the appropriate times. Coffee quality is influenced not only by pre-harvest factors, but also by factors that occur after harvest. In order to obtain coffee beans that are guaranteed to be in good condition, an agreement between related parties is required, namely producers (in this case farmers), traders (in this case exporters and importers), and processors (in general) (Borrella, Mataix, & Carrasco-Gallego, 2015). The Ministry of Agriculture, Republic of Indonesia, seeks to add value and competitive power to the export of plantation raw materials in Indonesia, including coffee, which is still dominated by raw materials and thus does not benefit from the added value in the domestic market, which is a major source of income for the government.

Indonesia has many different types of technology in the areas of postharvest processing and processing, but postharvest processing is still dominated by traditional processing methods, which are still considered part of local cultural wisdom in many parts of the country. In response to changes in consumer demand as well as the pulse of the market, traditional-based processed products are beginning to be phased out and are coming under increasing pressure from modern-based processed products. In each region, the variety of agricultural product processing technology that is rapidly developing in the community is a fundamental wealth/resource that, if properly utilized and adapted to global conditions, will serve as a source of strength in the development of competitive processed products.

In the short term, the development program launched by the government has received little support from coffee farmers. This is due to low prices that discourage farmers from doing

the right thing after harvesting their crops. In addition, middlemen withdraw products from farmers based on arbitrary quality criteria, including plantation yields, according to the middlemen. While there have been improvements in post-harvest processing technology and product processing, there is still room for improvement in the development of competitive processed foods. The cost of capital is the most significant economic constraint in post-harvest coffee processing. As previously stated, the cost of tools and machines for post-harvest coffee processing is still prohibitively expensive for farmers, and only a small number of farmer groups can afford to purchase these tools and machines, which have a limited capacity. In addition, a small number of farmers are sorting coffee in order to improve the quality of the crop in order to meet current market demand.

The quality of coffee sold by farmers is typically unsorted coffee, and it does not meet certain quality standards, such as those governing water content and other factors, as do commercial coffee. Price fluctuations at the farm level are more closely tied to the range of humidity and defects present in each cup of coffee produced by farmers. The moisture content of random quality coffee ranges from 17 percent to 25 percent, and the defect value exceeds 150 points (Ramanda & Lestari, 2017). According to research conducted by Agustian (2005) in Lampung, buyers or traders do not differentiate between price and quality, and as a result, farmers are not motivated to improve the quality of their coffee. According to farmers, exporters who purchase from traffickers are not interested in receiving a good selling price. This is allegedly due to the fact that the farmers own their own processing facility. They are looking to purchase a large quantity of coffee at a low price and sort and process it themselves. Traders/exporters are expected to recognize the importance of maintaining the quality of the coffee they produce by offering better price incentives than would otherwise be available if they only sold unprocessed coffee. Another factor that is impeding the adoption of post-harvest technology is a lack of incentives to improve the quality of agricultural products, which is another source of resistance. For example, there is no difference in price between fermented and unfermented coffee beans, which makes it impossible for farmers to ferment their own coffee. In addition, the urgent need for cash to pay off debts and meet household expenses encourages farmers to sell their produce as soon as it is harvested, rather than allowing it to be properly stored and handled after harvest.

Farmers and other agricultural actors must be encouraged to do the right thing after harvest in order to reduce crop loss and improve the quality and competitiveness of agricultural products. Different policies are required to achieve this goal. In addition, institutional management issues within farmer groups arise, particularly in the area of developing or utilizing post-harvest technology, among other things. Farmers are expected to comprehend post-harvest technology and to accept new innovations that will increase the effectiveness and efficiency of their operations. Despite this, the reality is that there are still many farmers who are “ignorant” of the technology that is already available and the mismatch between tools and machines that are available and the needs of farmers in relation to their local environments. Farmers are unable to comprehend the post-harvest development system because of the complexity of the level of technology at their disposal. Individual farmers and farmers in groups are still lacking in guidelines for the application of post-harvest technology, which has an impact on some of the existing technologies that have not been sufficiently mastered. As a result, coffee farmers require intensive and ongoing guidance. This community service activity makes use of a variety of methods, including:

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Developing Postharvest Technology Optimization Programs for the Malang Coffee Farmer Group "Benjor"

The agriculture sector, particularly the plantation subsector, earns the majority of its foreign exchange revenue from primary/fresh products, as opposed to processed products (Supriyati & Suryani, 2016). Currently, most products produced on plantations are sold raw or primary, which results in a low selling price that is highly susceptible to price changes. Currently, there is a trend toward periodic decreases in the price of raw materials, while the price of processed plantation products continues to rise. As a result, diversification of crop product processing is critical presently. Recognizing this, the strategy to growth of the plantation sector is more product-oriented and focuses on improving coffee quality so that farmers/farmer groups can adopt a quality assurance system in coffee production and promote product certification. To achieve certification, the following procedures are required: (a) formation of a community/group; (b) implementation of a quality assurance system that is maintained consistently for three years; and (c) application for certification.

A program plan was developed as part of this community service activity, specifically through the development of a coffee growing organization called "Benjor" in Malang Regency. This is significant because the "Benjor" coffee producers had previously lacked a gathering space for farmers to learn more about coffee. Additionally, a consistent contribution in the form of tools and machinery, as well as the adoption of a quality assurance system and development funding, is a focus point in planning the development of quality and standardization of plantation goods. Currently, the impediment to quality development at the farmer, farmer group, and farmer group association (Gapoktan) level is the lack of developed processing tools and machines, as well as the use of a quality assurance system as part of certification, due to the high cost of tools and machines, the complexity of technology application, and farmers' lack of understanding of quality assurance. Another issue is that post-harvest facilities and advice to farmers, both individually and in groups, are still extremely limited, leaving some technologies unmastered. As a result, it is critical to provide suitable infrastructure, intense and long-term assistance to coffee farmers.

Program Implementation of Post-harvest Technology Optimization for the Malang Coffee Farmer Group "Benjor"

Processing coffee beans becomes critical if farmers are capable of doing so. In general, the selling price of coffee that has been processed properly from selected beans will be greater than the selling price of coffee that is still raw or that farmers typically sell straight to middlemen. The freshly picked coffee beans must be treated quickly to prevent rot and to maintain their quality. Additionally, treatment of coffee tree fruit is aimed to remove seeds from the flesh, as well as the bark and epidermis. As previously stated, there are two techniques of processing coffee beans: (a) dry treatment without fermentation, which results in neutral coffee beans; and (b) wet processing, which results in distinctive wet processed coffee beans.

Dry processing is typically used with Robusta coffee, which is in high demand in a variety of coffee industries since it lacks a strong taste and instead has a "neutral coffee" flavor. Dry processing is utilized by farmers in coffee plantations to produce up to 90% of Indonesia's coffee (Sulistyaningtyas, 2017). Even farmers in some areas produce solely log coffee, that is, coffee logs that are promptly dried and rushed to market. In the processing of human-grown coffee, the primary cause of quality degradation is insufficient drying procedures and equipment. Generally, coffee farmers dry their crops in the sun, even if they have a dryer. The reason for this is that sun-dried coffee ensures superior quality (Mayrowani, 2013). Robusta coffee is primarily dried on an uncovered floor.

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The drying procedure, which is entirely dependent on the sun's heat, impedes quality improvement attempts due to its weather-dependent nature. When it rains, the drying process will come to a halt. When the drying process is halted while the water content remains high, the chemical processes induced by microorganisms are reduced. The coffee fragrance has been irreversibly harmed. This damage results in a bad quality rating and a decrease in the selling price (Novita et al., 2010). Arabica coffee is wet processed in accordance with standard operating procedures (SOP). Farmers in Bali process Arabica coffee in the following stages: selecting the red fruit, sorting (sequentially), grinding (peeling the outer skin) and separating the seeds that remain skinless, fermenting for 12–36 hours, washing, draining, drying, and sorting. coffee beans, sack packaging, and storage (prepared 1-2 months before to sale) (Mayrowani, 2013).

By and large, the fermentation process is problematic in post-harvest coffee processing since the pull factor is not a price incentive. Numerous coffee farmers continue to sell coffee in the form of wet logs. Farmers prepare dry coffee in the majority of cases, and post-harvest technology is still fairly traditional. Coffee processing begins with the gathering of ripe fruit. The size of the fruit is determined by the color of the fruit skin, which is dark green when young, yellow in the middle, and red when fully mature. Because coffee pieces do not bloom continuously throughout the year, the following methods are used to collect them: (1) selective ripe fruit harvesting; (2) semi-selective group harvesting of ripe fruit; (3) the result of dropped coffee cherries due to late picking; and (4) mixed / spoil at harvest of green coffee cherries, typically at the final harvest.

After coffee beans are collected, they must immediately be processed into a more stable secondary product that can be securely stored for an extended length of time. Following harvest, the fruit is sorted to distinguish the superior fruit (ripe, evenly distributed, and uniform) from the inferior fruit (black, damaged, broken, perforated and the presence of pests). Dirt such as leaves, twigs, soil, and gravel should be removed to prevent the peeler from being damaged. Red beans, also known as superior wet or semi-wet beans, are processed to produce dry HS coffee beans with an attractive look. Meanwhile, a mixture of green, yellow, and red fruits is dried. For more than 12 hours, do not store coffee cherries in plastic bags or sacks, as this will ferment the beans, causing them to taste and smell unpleasant (fermented).

The dryness of the coffee can be determined by the rustling sound that occurs when the coffee is stirred. With a peeler, dry peeling is used to separate coffee beans from their skin, horn skin, and husks (Choiron, 2010). Wet coffee is prepared using stages on high-quality Arabica coffee beans, resulting in coffee beans with a distinct flavor. Peel the fruit’s peel using a tool and a wood or metal pulper. Along with the peeled fruit, water goes into the cylinder. Prior to peeling, coffee beans are segregated by size. In Arabica coffee, fermentation is used to eliminate the layer of loneliness, reduce bitterness, and promote the production of a “light” impression on the coffee scent. Wet fermentation is accomplished by soaking coffee beans in a puddle. Dry fermentation is accomplished by putting wet HS coffee beans (husk) in clean plastic containers with bottom openings or by storing HS coffee beans in cement barrels and covering them with burlap sacks. The fermentation process is completed when a layer of mucus covering the horn skin is shed, and the horn skin is subsequently washed to remove any leftover fermented mucus connected to the horn skin via mechanical drying or a combination of both. On the sun terrace or on the floor, drying is simple. Mechanical drying is used if the weather does not permit natural drying. Peeling the coffee beans to remove them from the rice coffee bean using a peeling machine, followed by cooling (hardening) for at least one full day.

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(1) Coffee beans selection (2) Sorting process (3) Seed extraction

(4) Seed yield that has been separated from the fruit (5) Washing process (6) Soaking coffee beans for a day

(7) Sun-drying Coffee (8) Dried Coffee Beans (9) Coffee Brewing Process

(10) Sorting coffee

(11) Coffee storage in airtight plastic

Figure 2. Process (1) to (11) Post Harvest Technology of "Benjor" Coffee

Monitoring and Evaluation of Postharvest Technology Optimization Programs for the Malang Coffee Farmer Group "Benjor"

This community service activity is also carried out at the stage of supervision, monitoring, and guidance about the use of tools and machines given sustainably to farmers. Monitoring and evaluation of programs are conducted in a variety of methods. One of these is a biweekly joint discussion forum that meets to assess the progress made by the "Benjor" Coffee Farmers Group. This forum contains a wealth of information. Apart from fostering self-sufficiency, the coffee growing organization "Benjor" addressed how to sell more successfully at a higher price. The reason for this is that the harvest of "Benjor" coffee has been optimized using post-harvest technologies. After harvesting their unique harvests, each coffee farmer begins processing the technology through this monitoring and assessment method. This also increases the willingness of additional coffee producers who are not members of the "Benjor" coffee producing cooperative to join. This is also the primary objective of this community

service activity: to increase the number of coffee farmers, who belong to the members of the "Benjor" coffee producers organization, and are capable of optimizing post-harvest technology through learning methods.

Conclusion

Optimizing postharvest technology utilization for agricultural goods in Indonesia is currently inconsistent, owing to the absence of active postharvest technology socialization. This community service is intended to empower "Benjor" coffee producers group community in Malang Regency to identify and implement technology that will increase coffee harvesting by enhancing coffee quality and selling price through post-harvest processing. Post-harvest technology that is adequate and proper will boost the efficiency of the coffee producer group on a micro level and may provide a chance to increase production by reducing yield loss at harvest and lowering the quality of the yield. This Community Service is carried out through the planning, implementation, monitoring, and evaluation of a post-harvest coffee processing technology optimization program. The program's objective is to increase farmer awareness of how to conduct post-harvest coffee processing technology independently. The knowledge and abilities of farmer groups about post-harvest coffee processing technologies were found to rise in lockstep with their acquisition, as well as their ability to increase the selling value and quality of coffee harvests, as well as their economic income and welfare. Additionally, with the establishment of the "Benjor" coffee farmer group, it is expected that it will serve as a conduit for coffee growers in Benjor Village, Tumpang District to exchange information and motivate one another in determining the ease with which post-harvest coffee technology can be used to improve quality and selling prices.

References

[1] Abbas, A., & Suhaeti, R. N. (2016). Pemanfaatan Teknologi Pascapanen untuk Pengembangan Agroindustri Perdesaan di Indonesia. *Forum penelitian Agro Ekonomi*, *34*(1), 21–34. doi: 10.21082/fae.v34n1.2016.21-34

[2] Agustian, A. (2005). Daya Saing dan Profil Produk Agroindustri Kopi Skala Kecil (Kajian di Propinsi Lampung). *Prosiding Seminar Nasional Teknologi Inovatif Pascapanen Untuk Pengembangan Industri Berbasis Pertanian*. Diambil dari http://repository.ipb.ac.id/handle/123456789/42203

[3] Atmadji, E., Priyadi, U., & Achiria, S. (2019). Perdagangan Kopi Vietnam dan Indonesia di Empat Negara Tujuan Ekspor Kopi Utama: Penerapan Model Constant Market Share. *Jurnal Ilmu Ekonomi dan Pembangunan*, *19*(1), 37–46. doi: 10.20961/jiep.v19i1.25224

[4] Badan Pusat Statistik. (2018). *Statistik Kopi Indonesia 2018*. Jakarta: Badan Pusat Statistik, Indonesia. retrieved from https://www.bps.go.id/

[5] Bautista, O. K. (1990). *Postharvest Technology for Southeast Asian Perishable Crops: A Simplified Guide*. Technology and Livelihood Resource Center.

[6] Borrella, I., Mataix, C., & Carrasco-Gallego, R. (2015). Smallholder Farmers in the Speciality Coffee Industry: Opportunities, Constraints and the Businesses that are Making it Possible. *IDS Bulletin*, *46*(3), 29–44. doi: 10.1111/1759-5436.12142

[7] Choiron, M. (2010). Penerapan GMP Pada Penanganan Pasca Panen Kopi Rakyat Untuk Menurunkan Okratoksin Produk Kopi (Studi Kasus di Sidomulyo, Jember). *Agrointek*, *4*(2), 114–120. doi: 10.21107/agrointek.v4i2.1363

[8] Darwis, V., & Rusastra, I. W. (2016). Optimalisasi Pemberdayaan Masyarakat Desa Melalui Sinergi Program PUAP dengan Desa Mandiri Pangan. *Analisis Kebijakan Pertanian*, *9*(2), 125–142. doi: 10.21082/akp.v9n2.2011.125-142

[9] Haile, M., & Kang, W. (2019). *The Harvest and Post-Harvest Management Practices' Impact on Coffee Quality*. doi: 10.5772/intechopen.89224

[10] Kiaya, V. (2014). Post-Harvest Losses and Strategies to Reduce Them. Retrieved from https://www.actioncontrelafaim.org/en/publication/post-harvest-losses-and-strategies-to-reduce-them/

[11] Lewin, B., Giovannucci, D., & Varangis, P. (2004). *Coffee Markets New Paradigms in Global Supply and Demand*. Washington (DC): The International Bank for Reconstruction and Development/The World Bank.

[12] Mahajan, P. V., Caleb, O. J., Singh, Z., Watkins, C. B., & Geyer, M. (2014). Postharvest treatments of fresh produce. *Philosophical transactions. Series A, Mathematical, physical, and engineering sciences*, *372*(2017). doi: 10.1098/rsta.2013.0309

[13] Mayrowani, H. (2013). Kebijakan Penyediaan Teknologi Pascapanen Kopi dan Masalah Pengembangannya. *Forum penelitian Agro Ekonomi*, *31*(1), 31–49. doi: 10.21082/fae.v31n1.2013.31-49

[14] Novita, E., Syarief, R., Noor, E., & Mulato, S. (2010). Peningkatan mutu biji kopi rakyat dengan pengolahan semi basah berbasis produksi bersih. *Jurnal Agroteknologi*, *4*(01), 76-90.

[15] Nugraha, S. (2016). Inovasi Teknologi Pascapanen Untuk Mengurangi Susut Hasil dan Mempertahankan Mutu Gabah/Beras di Tingkat Petani. *Buletin Teknologi Pasca Panen*, *8*(1), 48–61.

[16] Rachman, B. T., Nurasa, F., Sulaiman, J., Situmorang, A. D., & Malian, A. H. (2002). *Studi pengembangan sistem agribisnis perkebunan rakyat dalam perspektif globalisasi ekonomi: Laporan hasil penelitian*. Pusat Penelitian dan Pengembangan Sosial Ekonomi Pertanian, Badan Penelitian dan Pengembangan Pertanian, Departemen Pertanian.

[17] Ramanda, E., & Lestari, D. A. H. (2017). Analisis Daya Saing Dan Mutu Kopi di Kecamatan Sumberjaya Kabupaten Lampung Barat. *Jurnal Ilmu Ilmu Agribisnis: Journal of Agribusiness Science*, *4*(3).

[18] Sulistyaningtyas, A. R. (2017). Pentingnya Pengolahan Basah (Wet Processing) Buah Kopi Robusta (Coffea Robusta Lindl.Ex.De.Will) Untuk Menurunkan Resiko Kecacatan Biji Hijau Saat Coffee Grading. *Prosiding Seminar Nasional & Internasional*, *1*(1).

[19] Supriyati, F. N, & Suryani, E. (2016). Peranan, Peluang dan Kendala Pengembangan Agroindustri di Indonesia. *Forum penelitian Agro Ekonomi*, *24*(2), 92–106. doi: 10.21082/fae.v24n2.2006.92-106