

Community Service Supports Coffee Cultivation and Post-Harvest in Hutabaringin Village, Sorik Marapi District, Madina

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ABSTRACT

Hutabaringin Village Community, District. Sorik Merapi, Kab. Madina h sources of livelihood in the agricultural sector, namely: rice, vegetable crops, fruigelugor acid, and plantation crops, especially coffee. The problems identified arlimited capital, seeds, tools and agricultural machinery (alsintan) as well as farmer knowledge in managing coffee to obtain high productivity. Therefore, the Marsipatur Hutanabe Mono Year Service Team carries out outreach activities, training an provides donations in the form of coffee seeds and machinery in the form of mi drying houses and coffee roasting machines to support cultivation and post-harve to increase coffee productivity. This activity uses field survey methods, outrea training on controlling coffee plant pests, training on post-harvest processing coffee and focus group discussions (FGD). Next, the handover of coffee seeds, coffe drying house, coffee roasting machine and yellow trap was carried out. The activit went well and received a positive response from farmer groups in Hutabaringi Village, Puncak Sorik Marapi, Madina.

Keywords. coffee, community service, Hutabaringin village

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ABSTRAK

Masyarakat Desa Hutabaringin, Kec. Sorik Merapi, Kab. Madina memiliki sumber pencaharian bidang pertanian, yaitu: padi, tanaman sayuran, buah-buahan, asam gelugor, dan tanaman perkebunan terutama kopi. Permasalahan yang teridentifikasi adalah keterbatasan modal, benih, alat dan mesin pertanian (alsintan) serta pengetahuan petani dalam mengelola kopi untuk memperoleh produktifitas yang tinggi. Oleh karena itu, Tim Pengabdian Mono Tahun Marsipature Hutanabe melakukan kegiatan sosialisasi, pelatihan dan memberikan sumbangan berupa bibit kopi serta alsintan berupa rumah penjemuran mini dan mesin sangrai kopi guna mendukung budidaya dan pascapanen guna meningkatkan produktivitas kopi. Kegiatan ini menggunakan metode survey ke lapangan, sosialisasi, pelatihan pengendalian hama penyakit tanaman kopi, pelatihan pengolahan pascapanen kopi dan focus group discussion (FGD). Selanjutnya, dilakukan serah terima bibit kopi, rumah jemur kopi, mesin sangrai kopi dan yellow trap. Kegiatan berlangsung dengan baik dan mendapat respon positif dari kelompok tani di Desa Hutabaringin, Puncak Sorik Marapi, Madina.

Keywords: Desa Hutabaringin, kopi, pengabdian masyarakat



INTRODUCTION

Currently, Hutabaringin Village, Puncak Sorik Marapi, Kab. Madina has once again become one of the centers for producing Arabica coffee in Mandailing. In this village, cultivation and post-harvest and distribution of coffee have started to be carried out again in the last 5 years and of course it is able to provide foreign exchange from the plantation sector, opening up employment opportunities for the local community (coffee cultivators, coffee harvesters, coffee processors and coffee distributors). Coffee plantations are able to provide employment for 2 million coffee farmers in Indonesia or around 1.7 percent of the total workforce in 2011. The majority of coffee farmers depend on coffee as their main source of income. In general, Mandailing coffee has the characteristics of a medium sour taste, full body, fruity aroma and also a sweet taste. This is caused by the environment in which the coffee is cultivated, which of course differentiates it from coffee from other regions. Basically, the taste of coffee is greatly influenced by many things starting from cultivation including the growing location (Budiastra, et al., 2022; Siregar, 2020) to the coffee harvest and post-harvest process. Nowadays, foreign countries such as Singapore, Korea and Japan have begun to be interested in Mandailing coffee (Siregar, 2013).

The type of coffee cultivated in this area is the Arabica variety. Mandailing Arabica coffee is one of the best coffees in Sumatra and is a coffee that was first introduced by the Dutch in 1833 and was first planted in the Madina area at an altitude of 900 – 1400 m above sea level. This variety of coffee was once named the best coffee in the world and has the highest price on the international market (Ralie, 2017). Mandailing coffee cultivation is of course inseparable from pests and diseases of coffee plants, this is one of the natural enemies of coffee farmers which can reduce the productivity of coffee plants. Coffee farmers generally overcome this by using chemicals which of course, if the dosage is not correct, will damage nature and it will be difficult to penetrate the export market. Likewise with the post-harvest processing of coffee, which must be done well so that the quality of the coffee is maintained and increased. Generally, post-harvest activities are carried out manually, starting from drying in the sun using tarpaulin, peeling to roasting and packaging coffee grounds.

Apart from that, special personnel are needed to complete this work so it is less efficient. Post-harvest processing can be made easier with the help of machine tools, but price and access to it are always obstacles for coffee farmers in partner areas. Apart from that, limited knowledge about organic coffee cultivation and the use of machinery for post-harvest coffee is the basis for carrying out community service activities at partner locations. This can be overcome by providing technical guidance using yellow sticky traps, making vegetable pesticides, semi-mechanized coffee drying using mini drying houses, roasting using coffee roasting machines to open up the insight of partner coffee farmers. Furthermore, this activity also aims to provide

motivation to farmers to produce the best quality coffee beans with a variety of post-harvest processing and roasting profiles in large quantities.

METHODE

This activity was carried out in two locations, namely the Hutabaringin Village coffee plantation and the Dolok Martimbus coffee processing plant, Hutanamale Village, Puncak Sorik Marapi District, Kab. Mandailing Natal starts from August to September 2023 and will continue until December 2023. The approach used during the implementation of the service program is through a potential/problem survey in Hutanamale Village, Kec. Sorik Marapi, Madina District, North Sumatra. Then continued with the Focus Group Discussion (FGD), Training, Action/Activity and Mentoring program. The USU LPPM LPPM Forestabe Forest Regular Mono Service Team carries out program outreach through counseling and discussions with partner communities in the District. Sorik Merapi, Kab. Madina. Socialization includes introducing knowledge of cultivation and integrated pest management of coffee plants and post-harvest coffee methods. The activity continued with training and practice in the field. The USU LPPM LPPM Regular Mono Regular Community Service Team will continue to guide and assist until the expected outcomes are achieved by the Partner Group.

RESULT AND DISCUSSION

Mandailing Arabica coffee, which comes from the Hutabaringin plantation, was previously known as Rodi coffee, this term has been known since the Dutch colonial era. Hutabaringin Village coffee plantations are generally carried out by residents of Hutanamale Village, then post-harvest is still carried out in Hutanamale Village at the coffee processing location. Previously, the partner farmer group did not yet have a market name for this Mandailing coffee, but when they visited on September 16 2023, this coffee already had a selling name, namely Dolok Martimbus coffee, which means coffee that comes from above (dolok, Mandailing language) and is smoky (martimbus). from the top of Mount Merapi Puncak Sorik Marapi. In 2022, through LPPM USU community service activities with the same team, during the socialization the marketing team invited the people of Hutanamale Village to create an organic farming demonstration plot.

Furthermore, during the selection of demonstration plots, representatives of Hutabaringin coffee farmers were enthusiastic about volunteering and as a result, in 2023, the marketing team saw the results that this farmer group had carried out organic coffee cultivation (Figure 1). The partner farms in the Hutabaringin coffee plantation have 18 ha of land, and all of them have adopted organic coffee cultivation. To make pesticides, partners use ingredients from soursop leaves, while for fertilizer partners use waste from coffee processing (Harahap, et al, 2018).



Figure 1. Community Service Team together with Hutanamale Village farmers in the Hutabaringin Village Coffee Plantation, >1000 meters above sea level

Furthermore, during the socialization of coffee plant pests, the marketing team suggested that apart from using vegetable pesticides, partners could also control coffee pests physically, one of which was by using yellow sticky traps that had been given to partners. Apart from that, the marketing team also provided suggestions for creating appropriate protective plants for coffee plantations, such as planting durian and sugar palm trees, for plants such as chilies seen in partner gardens (Figure 2), which must be avoided considering that chili plants have lots of plant pests. which is dangerous. Apart from cultivation, the number of coffee trees in partner locations is still insufficient due to lack of capital. In this activity, the LPPM USU marketing team also provided a grant of 1000 Arabica coffee seeds to be cultivated in the Hutabaringin coffee plantation. Furthermore, post-harvest processing is generally carried out in Hutanamale Village, namely at the partner processing location. However, the difficulty of mobilizing from the plantation to the processing location is one of the reasons why the LPPM USU marketing team is calling for processing, especially drying, using a coffee drying box or mini coffee drying house (Figure 2) which is placed at the plantation location to make control easier.



Figure 2. USU LPPM marketing team together with coffee farmers jointly inspect mini drying houses and their use

This mini drying house (Figure 3) is made like a para-para but is equipped with a plastic cover on top to protect the coffee beans being dried in the sun from rain and the materials used are also iron-free to avoid contamination of the coffee beans. Furthermore, the LPPM USU marketing team appealed to partner farmers, since

drying houses already exist, at least the coffee that comes out of this plantation must be in the form of rice coffee. Therefore, it is hoped that the processing, especially starting from peeling the skin of the fruit, fermentation and stripping the horn skin can be done in the Hutabaringin garden.



Figure 3. Process of making a mini drying house

Apart from that, in this community service activity, a set of coffee roasting machines were also handed over to the farmer's group in the partner village (Figure 4) to support post-harvest coffee activities and production of downstream coffee products in the partner village. Next, there is socialization regarding various post-harvest processing, especially Arabica coffee, such as natural, full washed, wine processing as well as socialization regarding roasting profiles and technical guidance on the use of roasting machines which were given to the community and partner village farmers. This is done because although technology such as post-harvest handling, such as machines for peeling fruit skin and epidermis, is widely available, its application at the farmer level is still not optimal.

Where as, the main obstacle is farmers' and village communities' ignorance of this technology, which can be caused by a lack of promotion to villages, the absence of post-harvest agricultural equipment and machinery rental services around farmers and the inability of farmers and villages to procure agricultural tools and machinery (Swastika , 2012). However, in Dolok Martimbus coffee processing, the partner farmer has implemented simple machinery related to post-harvest coffee, such as a pulper machine, a huller machine, which was donated by the marketing team in 2020 to Hutanamale Village (Siregar, 2022), The roasting machine (coffee roaster) has a capacity of 1 kg and packaging has also been done at this poktan. At the end of the event, the USU LPPM service team suggested that the packaging should be made for a smaller capacity and the packaging form should also be provided with a valve, to make it more attractive to consumers. Apart from that, during this activity the marketing team also took several samples to examine their chemical content, so that they could be embedded in the packaging as information to consumers of Dolok Martimbus coffee.



Figure 4. Donationn of 5 kg capacity coffee roasting machine

In this activity, there were many supporting factors that helped make this activity a reality, namely the positive response from farmers and the community in Hutanamaleand Hutabaringin Villages, starting from the location survey, making service proposals, until the socialization and FGD activities and mentoring took place. This positive response was shown by the good welcome when the team arrived at the location and the enthusiasm of the farmers during the activity.

However, in this implementation there are also several inhibiting factors and this will of course be a problem when realizing the creation of a coffee processing station to rice coffee beans at the partner plantation location, namely road access which makes it difficult to mobilize to the coffee plantation (Figure 5). The access road to Hutabaringin Village still needs more attention because it is still very narrow, damaged and a mixture of stone and clay. Apart from that, after arriving in Hutabaringin Village, getting to the coffee plantation which will later be made into a green bean processing station is very difficult. The only vehicles that can enter are motorbikes, even pedicabs carrying goods cannot enter and the road is also steep so it poses a high risk for drivers who are not used to it. Apart from that, this road access does not reach the coffee plantations, considering that Arabica coffee must be cultivated at least above 800 m above sea level, so it must be done on foot. The location of this coffee plantation is in Hutabaringin Village, 800 m above from residential areas.



Figure 5. Road to the Hutabaringin Village coffee plantation

CONCLUSION

Community service activities ranging from surveys, outreach, discussions to technical guidance in the field have been carried out well and received a positive response from the Dolok Martimbus Coffee farmer group.

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