ABDIMAS

Increasing Farmer Capacity Towards Protecting the Geographical Indication of Mount Ungaran Coffee

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Abstract

Kendal Regency is the 4th largest coffee producing area in Central Java Province with total production reaching 1,806.30 tons in 2021. Coffee production in Kendal Regency in 2021 was produced by Singorojo District amounting to 469 tons, Limbangan District amounting to 450 tons, Patean District amounting to 361 tons and Sukorejo District amounted to 322 tons. One of the coffee producing areas in Limbangan District is Ngesrepbalong Village where the majority of the type of coffee produced is robusta coffee. Based on initial observations of 17 coffee farmers who are members of the Berkah Wana Lestari coffee group in Ngesrepbalong Village, in the 2021 harvest season, the total coffee harvest reached 10.7 tonnes with a productivity level of 0.12 tonnes/ha. On average, each coffee tree in Ngesrepbalong Village produces 2 kilograms of wet coffee fruit (cherry) with a harvest ratio of once a year. The problems experienced by partners are (1) The coffee farming community does not yet know the importance of geographical indications for Mount Ungaran coffee products, there is no coffee farming community institution that focuses on inventory and documentation of geographical indications for Mount Ungaran coffee products, (2) There is no broad information base. land, productivity and detailed characteristics regarding Mount Ungaran coffee, (3) Limited equipment to support the production of organic fertilizer in coffee cultivation activities in Ngesrepbalong Village. Activities carried out by pioneering geographical indications include strengthening group institutions, facilitating facilities and infrastructure to support coffee cultivation, introducing geographical indications, participatory mapping of coffee land and preparing a geographic indication database.

Keywords: Coffee, Geographical Indications, Blessings of Wana Lestari

INTRODUCTION

The development of the coffee industry in Indonesia always increases from year to year, this phenomenon is characterized by increasing coffee consumption figures. Based on the 2020 International Coffee Organization report, domestic coffee consumption figures in Indonesia increased 44% from 2010-2019 with an average total consumption of 258,378 tons/per year (International Coffe Organization, 2020). Furthermore, Indonesian Coffee Statistics (Badan Pusat Statistik, 2021)states that the amount of coffee production in 2018-2020 increased by 1.2% or around 10,000 tons with 93% of the total national coffee production produced by smallholder plantations with land management on a household scale.

Based on the results of research entitled Brewing in Indonesia: Indonesian Prospect Coffeeshop Business, it shows that the value of the coffee business in 2021 will reach 4.21 trillion rupiah with total domestic consumption reaching 370,000 tons. (Toffin, 2020).Quoting the Coffee Plantation Commodity Outlook (Widaningsih, 2020), demand for domestic coffee consumption is predicted to continue to increase to 402,000 tons/ year in 2024. This is supported by Central Java Provincial Government Regulation Number 5 of 2019 concerning the Regional Medium Term Planning Plan (RPJMD) for Central Java Province 2018-2023 which targets coffee plantation production to increase by 2.5% every year(RPJMD Provinsi Jawa Tengah 2018-2023, 2018).

In the 2022 harvest season, among the coffee producing sub-districts in Kendal Regency,

Limbangan District is the area with the highest productivity and produces 0.86 tonnes/ha of coffee (BPS Kabupaten Kendal, 2022). Higher than national coffee productivity (0.7 tonnes/ha) and the largest coffee producer in Kendal Regency, namely Singorojo District (0.6 tonnes/ha).

One of the coffee producing areas in Limbangan District is Ngesrepbalong Village where the majority of the type of coffee produced is robusta coffee. Based on initial observations of 17 coffee farmers who are members of the Berkah Wana Lestari coffee group in Ngesrepbalong Village, in the 2021 harvest season, the total coffee harvest reached 10.7 tonnes with a productivity level of 0.12 tonnes/ha. On average, each coffee tree in Ngesrepbalong Village produces 2 kilograms of wet coffee fruit (cherry) with a harvest ratio of once a year.

Most of the coffee commodities in Ngesrepbalong Village are cultivated in production forest areas and limited production forests in the Mount Ungaran area with an altitude of 400-1300 meters above sea level. The remainder of the coffee plants are cultivated on community-owned land around the Ngesrepbalong Village settlement. Coffee cultivation activities in Ngesrepbalong Village are supported by agro-climatic conditions that are suitable for the cultivation of robusta, arabica and tonto coffee plants which are cultivated organically.

The high level of coffee cultivation activity in Limbangan District, supported by the increasing demand for coffee at the national level, has become a momentum to introduce the unique characteristics of coffee from the slopes of Mount Ungaran, especially Ngesrepbalong Village. Recognition of these distinctive characteristics can be done through preparing a geographical indication (IG) for Mount Ungaran coffee. Through geographical indications, products have legal protection for the brand and have a competitive advantage compared to other similar products (Fuad & Latjeme, 2017). One of the positive impacts of having geographical indications is that the product has a brand image that can be identified by potential consumers in the form of information in the form of product advantages and benefits (Pardono et al., 2022).

Compiling geographical indications for Mount Ungaran coffee still has several challenges. Most of the farming community in Ngesrepbalong Village are not yet aware of the importance of protecting geographical indications for Mount Ungaran coffee and there is no institutional Geographical Indication Protection Society (MPIG). Through this service, outreach will be carried out regarding the introduction of geographical indications as well as awareness regarding the urgency of introducing geographical indications for Mount Ungaran coffee , where the role of the community is needed in realizing the protection of a geographical indication (Yessiningrum, 2015).

Another challenge is that there is no information database regarding coffee potential in Ngesrepbalong Village which contains land area, number of trees, distribution of coffee types and land productivity. Apart from that, documentation regarding the characteristics of Mount Ungaran coffee is still carried out on a limited basis by the community. (Ardana, 2017)stated that this could be done by carrying out participatory mapping with land owners as well as carrying out an inventory of the characteristics and productivity of coffee plantations managed by farmers.

The introduction of geographical indications can then be supported by product quality assurance and sustainable coffee cultivation and processing practices by paying attention to environmental aspects (Nurul Fajria et al., 2022). This can be done by cultivating organically by utilizing the potential of surrounding waste, one of which is coffee husks or weeds that often grow around coffee plants. So far, organic coffee cultivation only uses weeds that are piled up and given EM4 liquid around the coffee plants to speed up the decomposition of the plants.

The solutions being offered include the use of appropriate technology (TTG) in chopping grass and the development of organic fertilizer by utilizing coffee production waste. Organic cultivation aims to maintain the quality of coffee because there is minimal input of chemicals. (Rahayu et al., 2019).This is expected to support sustainable cultivation activities by paying attention to environmental aspects on the slopes of Mount Ungaran as well as strengthening the identity of the coffee commodity produced through the introduction of geographical indications for Mount Ungaran coffee.

METHOD

Location and Time of Activity

Program towards Community Protection of the Geographical Indication of Mount Ungaran will be carried out from April to September 2023 in Ngesrepbalong Village, Limbangan District, Kendal Regency.

 Activity Implementation Method

Based on the problems and solutions offered, the community service method is carried out using the following methodology. In accordance with the objectives of the activity, the methods that will be adopted in this community service activity will be implemented in 5 (five) activity stages, namely; (1) outreach, (2) training and awareness regarding geographical indication communities, (3) facilitating the preparation of a geographic indication database for Mount Ungaran coffee, (4) mentoring and facilitation of TTG equipment to support coffee cultivation, and (5) monitoring and evaluation.

Problem solving is carried out using several approach methods carried out together, namely:

a. Group based , all stages and types of activities that will be carried out for the community use groups. The group will be used as a medium for joint learning and mentoring, planning activities, implementing activities, and monitoring activities.

b. Comprehensive, to increase the knowledge and skills of managers and partner group members in cultivation technique activities, facilitation of grafting knives, polybags and planting media.

c. Based on local potential, improving skills and using raw materials utilizing the natural resource potential around the service location.

With these three methods, it is hoped that they can have an impact on the thematic village management groups who are the development partners, both in terms of social, economic and environmental aspects.

 RESULTS AND DISCUSSION

Community service activities for lecturers began with socialization carried out on June 12 2023 at the KT Berkah Wana Lestari Secretariat involving partners, namely the KT Berkah Wana Lestari management, to prepare a program implementation plan for the service output targets to be achieved. The next stage of service activities is realized through training regarding awareness and understanding of farmer groups regarding Geographical Potential Indications. The training was held on June 25 2023 at Café Pucuke Kendal, Ngesrepbalong Village, Limbangan, Kendal involving 10 members of KT Berkah Wana Lestari. The material presented in this training activity includes: introduction, how to submit and the benefits of geographical indications . The following image shows the outreach and training activities regarding geographical potential indications that have been carried out:

Figure 1. Geographical Indications Socialization and Training Activities

The next stage carried out was training in preparing a geographic indication database which included compiling data regarding land area, number of trees, types of coffee varieties, harvest in 2021 and harvest in 2022. The results of mapping coffee potential began with identifying the coffee harvest season in Gunungsari Hamlet starting in the month of First week of July until the end of August. The previous year's harvest time (2022) was a little late due to the influence of the intensity of rain which continued to fall until July, this also had an impact on the decline in Arabica coffee production reaching 90% from the previous year. The initial identification through an assessment between the companion and group members was that high rainfall caused the flowers of the prospective Arabica coffee fruit to fall. Through assistance, the harvest results of coffee farmers in Gunungsari will be known in 2022. The following image shows the activities for compiling a geographic indication database:

Figure 2. Preparation of Geographical Indication Database

In general, the harvest of coffee farmers in Gunungsari Hamlet has decreased by 30-40%. Apart from weather factors, this is influenced by the condition of the plants being pruned so that the plants are not in a productive condition. Pruning the twigs of this plant aims to tidy up the plant and produce productive shoots with a target of 2-3 years when they will start bearing fruit. The harvest method used is still mixed picking, rather than red picking, this is influenced by location and accessibility to land far from residential areas as well as threats from pests in the form of long-tailed monkeys and langurs. Apart from that, some of the harvest is directly sold by farmers in the form of cherries at the Limbangan Market at a price of 5000/kg or to mobile middlemen for 4500/kg. The following table shows the following database identification results:

Table 1. Table of Area, Number of Trees, Varieties and Coffee Harvest Results in Ngesrepbalong Village

No	Farmer's Name	Land area (m2)	Number of Trees	Block	Type of Coffee/Varieties	Harvest 2021 (kg)	Harvest 2022 (kg)
1	ADF	1000	±700	Watuondo / Ger Middle / Baon / Waterfall	Robusta	1000	500
2	SS	2500	±300	Middle Ger	Robusta	600	400
3	WA	±800	-	Promotion	Arabic	600	23
					Robusta	250	(not yet harvest)
4	PP	-	-	Crinkle	Robusta	600-700	1000
5	BD	5000	-	Central Ger	Robusta	350	400
6	KH	4000		Watuondo	Robusta	270	240
7	KP			Sebatur	Robusta	100	(not yet harvested)
				Mountain Little			
8	L	100	± 100	Watuondo	Robusta	260	± 300
9	US	2000	1500	Watuondo	Robusta	250	300
				Baon	Arabica	50	-
10	S.N	600	1500	Gertengah	Arabica	150	Haven't harvested yet
				Watuondo	Robusta	-	
11	elementary school	7500	350	Central Ger	Robusta	700	300
				Watuondo	Arabica	-	-
12	SS	6000	± 700	Medini	Robusta	300	300
13	IT	1200	± 2000	Medini	Robusta	300	300

Source: Field data, 2023

Apart from carrying out training in preparing the geographical indication database above,

identification of coffee clones was also carried out using indicators of fruit quality, harvest quantity and resistance to pests. The compilation was carried out in Gunungsari Hamlet, Ngesrepbalong Village, Kendal Regency on 2 September 2023 - 7 September 2023. Data collection was carried out using purposive sampling where the coffee samples taken were superior coffee plants from 5 coffee farmer respondents in Gunungsari Hamlet, namely Paimin, Amin, Bardi, Sisdarno, and Rintono. The number of samples taken was 25 Robusta coffee plants, with details of 3 coffee plants belonging to Paimin, 7 coffee plants belonging to Amin, 3 coffee plants belonging to Bardi, 7 coffee plants belonging to Sisdarno, and 5 coffee plants belonging to Rintono.

Figure 3. Geographical Indication Database Compilation Process

Based on field identification, it is known that the planting distance for coffee trees ranges from 1.5 – 2.5 m. The role of plant spacing in plant growth is to maintain competition for the food (nutrients) needed by individual plants (Kusumawardani & Kusnayadi, 2023). In addition, plant spacing affects plant growth because the absorption of solar energy by the leaf surface greatly determines plant growth. The denser a plant population is, the less intensity of sunlight the plants get and the higher the level of competition between plants to get that sunlight (Erwin, 2015). The spacing for coffee plants is good because the coffee trees get even intensity of sunlight.

Figure 4. Identification of Coffee Plants in Ngesrepbalong Village

The intensity of sunlight received by plants is also influenced by the shade of the coffee tree. The shade of Paimin coffee trees consists of avocado, puspa and orange trees. Amin's coffee tree shade consists of banana, avocado, banyan and clove trees. The shade of Bardi's coffee trees consists of pomegranate, hibiscus and ficus trees. The shade of Sisdarno's coffee trees consists of avocado trees. The shade of Rintono's coffee trees consists of ficus trees. The type of shade tree influences the amount of sunlight intensity that the coffee plant can absorb. The amount and quality of sunlight will influence plant physiological processes. Therefore, the use of various types of shade trees for coffee plants and their management practices will influence the growth, production and quality of the coffee that will be produced.

Soil conditions at each sampling location have different acidity levels (pH), namely in the range

6.6 – 7. The best pH level for coffee trees is 5 – 6.5, which means the pH level at the sampling location exceeds the optimal pH level but it can still be said to be normal/neutral. The acidity of soil pH greatly influences plant growth both directly and indirectly. If the soil or planting medium has a high level of acidity, the elements magnesium, calcium and phosphorus will be chemically bound so that they cannot be absorbed by plants. In such conditions the elements aluminum and manganese will be toxic and detrimental to plants.

Figure 5. Facilitation of Organic Fertilizer Development and Facilitation of Cultivation Equipment

Apart from increasing the group's institutional capacity, cultivation development to support geographical indications of coffee is also carried out through training in making organic fertilizer using dried coffee skin waste and providing cultivation support facilities in the form of plant care tools. The tools provided include 15 grafting knives, 15 twig scissors and 15 branch saws. The equipment was given on September 9 2023 at Café Pucuke Kendal and received by Indra, as a representative of the Berkah Wana Lestari coffee farmer group. All the tools provided will become inventory for the coffee farmer group and will be used to support the cultivation of coffee plants belonging to members of the Berkah Wana Lestari coffee farmer group in supporting the community in protecting the geographical indication of Mount Ungaran coffee.

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CONCLUSION

Program towards Community Protection of Geographical Indications of Mount Ungaran is carried out through training in introducing geographical potential indications, preparing a coffee geographical indication database including data regarding land area, number of trees, types of coffee varieties, fruit quality indicators, harvest quantity and resistance to pests and year's harvest. 2021 and harvest in 2022. A total of 13 farmers have been identified in the geographic indication database. Strengthening the institutions of coffee farmer groups is an important instrument in preparing the community to protect the geographical indications of Mount Ungaran.

REFERENCES

Ardana, I. K. (2017). Kinerja Kelembagaan Perlindungan Indikasi Geografis Kopi Kintamani. *Agribisnis Dan Sosial Ekonomi Pertanian*, *2*(1), 205–290.

Badan Pusat Statistik. (2021). *Statistik Kopi Indonesia 2021*.

Bps Kabupaten Kendal. (2022). *Kecamatan Limbangan Dalam Angka 2022*.

Erwin, S. (2015). *Pengaruh Berbagai Jarak Tanam Pada Pertumbuhan Dan Produksi Kubis (Brassica Oleracea L.) Di Dataran Menengah Desa Bobo Kecamatan Palolo Kabupaten Sigi Effect Of Different Planting Distance On Growth Andproduction Of Cabbage (Brassica Oleracea L.) In The Middle Plain Bobovillage Palolo District Sigi District*. *3*(4), 491–497.

Fuad, F., & Latjeme, A. A. (2017). Perlindungan Indikasi Geografis Aset Nasional Pada Kasus Kopi Toraja. *Jurnal Magister Ilmu Hukum*, *2*(2), 10–15. Http://Www.Hukumonline.Com/Klinik/Detail/Lt4fd1b

International Coffe Organization. (2020). The Value Of Coffee: Sustainability, Inclusiveness And Resilience Of The Coffee Global Value Chain. *International Coffee Organization*, 108.

Kusumawardani, W., & Kusnayadi, H. (2023). Identifikasi Jarak Tanam Dan Pemangkasan Terhadap Hasil Kopi Robusta Di Desa Batu Rotok. *Jurnal Agroteknologi Universitas Samawa*, *3*.

Nurul Fajria, R., Widowati, M., Windawati Jurusan Akuntansi, A., & Negeri Semarang Kata Kunci, P. (2022). Pengembangan Umkm Kopi Pada Masyarakat Perlindungan Indikasi Geografis (Mpig-Kajss) Kopi Arabika Java Sindoro-Sumbing Kabupaten Temanggung. *Jurnal Hilirisasi Technology Pengabdian Masyarakat Sitechmas*, *3*(1). Https://Jurnal.Polines.Ac.Id/Index.Php/Sitechmas

Pardono, Muhammad; Dimas Rahadian Aji, Khomah; Isti, Ihsaniyati; Hanifah, & Setyowati; Nuning. (2022). Peningkatan Brand Image Kopi Robusta Temanggung Berbasis Indikasi Geografi. *Jurnal Warta Lpm*, *1*(25), 101–111.

Rpjmd Provinsi Jawa Tengah 2018-2023, 308 (2018).

Rahayu, A. Y., Herliana, O., Dewi, E. M., & Rostaman, R. (2019). Pengembangan Budidaya Kopi Robusta Organik Pada Kelompok Tani Sido Makmur Desa Pesangkalan Kabupaten Banjarnegara. *Jurnal Ilmiah Pangabdhi*, *5*(2), 103–109. Https://Doi.Org/10.21107/Pangabdhi.V5i2.6112

Toffin. (2020). 2020 Brewing In Indonesia: Insights For Successful Coffe Shop Business. In *Toffin*. Https://Doi.Org/10.1162/99608f92.34d1d59e

Widaningsih, R. (2020). Buku Outlook Komoditas Perkebunan Kopi 2021 - 2024. In A. A. Susanti & R. K. Putra (Eds.), *Pusat Data Dan Sistem Informasi Pertanian Sekretariat Jenderal - Kementerian Pertanian* (1st Ed., Vol. 01, Issue 01). Pusat Data Dan Sistem Informasi Pertanian Kementerian Pertanian.

Yessiningrum, W. R. (2015). Perlindungan Hukum Indikasi Geografis Sebagai Bagian Dari Hak Kekayaan Intelektual Legal. *Kajian Hukum Dan Keadilan*, 48–58.