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1 Protection of Geographic Indications to Maintain The Quality of Robusta Coffee on The Slopes of MT. Arjuna, Welirang, and Bromo

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Abstract. Robusta coffee is grown on Mount Arjuna, Welirang, and Bromo in East Java can get legal protection as a geographical indication. This study analyzes the need for Robusta coffee to get legal protection as a Geographical Indication to maintain coffee quality. This study employs qualitative approaches, including interviews, observations, and documentation. The researchers selected these respondents according to the categories studied and had coffee plantations on Mount Arjuna, Welirang, and Bromo. The research sample was taken from 10 coffees in different areas, namely Tukur, Kalipucang, Sumberpitu, Tempuran, Dawuhan S, Tambaksari, Jatiarjo, Ledug, Sumberejo and Toyomarto. Method of data gathering that includes both literature research studies and field investigations with informants from the Department of Agriculture, Food Crops, and Horticulture of Malang Regency, as well as coffee producers. The results showed that coffee is grown on Mount Arjuna, Welirang, and Bromo deserves to be registered for Geographical Indications. The average coffee beans produced have a physical quality of Quality 1 and Quality 2. The taste of coffee with the resulting aroma is caramelly and spicy.

Keywords: Robusta Coffee, A Geographical Indication, Coffee Quality

1. Introduction

Coffee is one of Indonesia's mainstay commodities that is sold in national and international markets. Indonesian coffee production is evenly distributed in each region, and each has a different taste. The taste of coffee is not the same as the advantages and brands of each area [1]. Robusta coffee that is widely grown on the slopes of Mount Arjuna, Welirang, and Bromo, East Java, requires a more substantial effort to be better known to the broader community. The stronger the competition in the global market era in recent decades, making it increasingly necessary to improve the quality of coffee. The role of geographical indication protection is essential to protect a product's characteristics and maintain its quality. Significantly robusta coffee mounts Arjuna, Welirang and Bromo should be further strengthened branding because the public is more familiar with the coffee brand in its marketing. Coffee plays an essential role in providing attractiveness to local, national, and international consumers. In its development lately, consumers demand the quality of good quality coffee and healthy coffee (safe for health). The quality of bean coffee can be divided into two types, namely physical quality and flavor quality [3], [4].



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Geographical Indication is a type of Intellectual Property Rights regulation that governs a product's trademark. It becomes evident that the quality or uniqueness of a product is largely determined by its origin. This mark is often comprised of the product's source name, but it may also include a symbol or naming that directly refers to the product's source. Because the area of origin is frequently a guarantee of the product's originality and quality, mentioning the source raises the economic value of the goods as well. [5], [6].

2. Library Review

Until now, the definition of Geographical Indication itself actually varies considerably, both from the definition and scope of protection. One reason is that Geographical Indication is one of the Intellectual Property Rights regimes most influenced by the values of local people or the culture of community groups or nations within a country. Therefore, geographical indications of coffee have no time limit of protection as long as the characteristics and quality can be maintained. Elements and qualities can occur because they are influenced by several factors, including biophysical factors such as the height of the place, soil condition, climate, cultural characteristics of the process, and the way of roasting [1], [6], [7], [8]. In addition, agricultural products are influenced by internal factors and external factors. Internal factors are influenced by genetics such as variety, and external factors are influenced by the environment, such as the biophysical state of the region, that play an essential role in determining the Geographical Indication of coffee [2].

Research conducted [9] on Arjuna's coffee taste test showed that one factor affecting the quality of coffee flavor is the way coffee is processed. Coffee beans processed with the process of excessive roasting will make a strong bitter taste. Further research [3] on Gayo coffee shows that the area of Geographical Indication of Gayo Arabica Coffee cultivated in Bener Meriah Regency, Central Aceh and DTG Gayo Lues has irregularities up to 6.03%, which is an area of 9,705.60 ha. The deviation led to a change in the quality of Gayo coffee. An overview, the region's match for the cultivation of Gayo coffee has a place height of 1,000-1,400 m above sea level). Beyond these heights will cause a decrease in the quality of coffee. Therefore, the Geographical Indication of Gayo Arabica coffee is considered because Gayo Arabica coffee comes from a specific region with a height range here. It grows between 900 - 1,700 m above sea level. Currently, the quality of Gayo coffee is declining, one of which is because the growing environment of coffee is not by the needs of the gayo Arabica coffee environment.

Another factor that causes the importance of protecting geographical indications to maintain the quality of coffee is to be protected legally to avoid fraudulent competition practices in global trade—research conducted by [2] on sideman salak. Hence, the urgency of Salak Sidimpuan getting legal protection as a Geographical Indication of South Tapanuli because economically, salak sideman has a significant influence on the people's economy of South Tapanuli. Moreover, juridically, Salak Sidimpuan, who has different characteristics from another regional salak, has a good reputation and still maintains its existence. Therefore, it requires legal protection as a geographical indication.

Often the attention of local governments is one of the factors that cause geographical indications to be understood by local communities in general. Although according to [5], the government should have more initiatives to develop the natural potential possessed by an area appropriately and wisely. This can be realized if supported by adequate human resources. Thus for this Geographical Indication to provide benefits for a location and community, there needs to be legal protection.

3. Methodology

This research was conducted on Mount Arjuna, Welirang, and Bromo, East Java Province, employing qualitative methods, including interviews, observation, and documentation. Way of data collection through literature research studies, as well as field studies with informants of the Department of Agriculture, Food Crops and Horticulture of Malang Regency, Coffee farmers, are selected by researchers following the categories studied and have coffee plantations on the slopes of Mount Arjuna, Mount Welirang and Mount Bromo. The research sample was taken from 10 coffees in different areas, namely Tuttur, Kalipucang, Sumberpitu, Tempuran, Dawuhan S, Tambaksari, Jatiarjo, Ledug, Sumberejo and Toyomarto. The analysis method starts from data collection, data reduction, data presentation, and conclusions withdrawal.

4. Results and discussion

Robusta coffee beans traded under the Arjuna Robusta Coffee label are good quality and follow the Indonesian National Standard (SNI 01-2907-2008). Recapitulation of the results of physical quality testing of Arjuna Robusta Coffee can be seen in table 1.

Table 1. Recapitulation of The Results of Physical Quality Testing of Arjuna Robusta Coffee

No	Sample Identity	Quality Test Results According to SNI: 01-2907-2008						
	Village, Subdistrict	1	2	3	4	5	6	7
1	Tutur, Tutur	Not	Not	10.4%	0%	Big	4.4	Quality 1
2	Kalipucang, Tutur	Not	Not	11.6%	0%	Small	10.3	Quality 1
3	Sumberpitu, Tutur	Not	Not	8.0%	0%	Small	12.4	Quality 2
4	Tempuran, Pasrepan	Not	Not	7.9%	0%	Small	10.1	Quality 1
5	Dawuhan S, Purwodadi	Not	Not	9.0%	0%	Small	18.6	Quality 2
6	Tambaksari, Purwodadi	Not	Not	8.8%	0%	Small	4.5	Quality 1
7	Jatiarjo, Prigen	Not	Not	10.3%	0%	Small	9.5	Quality 1
8	Ledug, Prigen	Not	Not	9.5%	0%	Big	5.7	Quality 1
9	Sumberejo, Purwosari	Not	Not	7.6%	0%	Small	11.1	Quality 2
10	Toyomarto, Singosari	Not	Not	9.0%	0%	Small	12.4	Quality 2

Test Parameters description

1. Living Insects
2. Foul Smelling Seeds & Kupang
3. Water Content
4. Dirt Content
5. Seed Size
6. Defect Value
7. Quality

From table 1, it is seen that in Arjuna Robusta Coffee in the villages that were sampled, the average physical quality test results of the beans are quality 1. All coffee beans do not contain insects, smell bad, include a flag, or collect dirt. Coffee beans that have a high disability value (above 11.1) enter into quality 2. To get a Geographical Indication, coffee with physical quality Quality 1 and Quality 2 will then be directed to duce coffee with Quality 1.

Table 2. Characteristics of Arjuna Robusta Coffee Flavor

No.	Sample Identity	Characteristics of Taste
	Village, Subdistrict	
1	Tutur, Tutur	Spicy, Caramelly, Sweet
2	Kalipucang, Tutur	Caramelly, Greenish, Medicinal
3	Sumberpitu, Tutur	Caramelly, Rubbery, Astringent
4	Tempuran, Pasrepan	Caramelly, Rubbery, Astringent
5	Dawuhan S, Purwodadi	Spicy, Caramelly
6	Tambaksari, Purwodadi	Spicy, Caramelly, Sweet
7	Jatiarjo, Prigen	Spicy, Caramelly
8	Ledug, Prigen	Spicy, Caramelly
9	Sumberejo, Purwosari	Spicy, Caramelly, Rubbery
10	Toyomarto, Singosari	Spicy, Caramelly, Acidy

From the results of the analysis in table 2, Arjuna Robusta Coffee has a coffee flavor with a distinctive aroma that is caramelly and spicy. The aroma and taste of spices in coffee can be due to the

enzymatic processes resulting from metabolism in the coffee beans themselves, which are influenced by one of the topographic aspects of the coffee plant it is grown. Samples numbered 2, 3, and 4 do not give rise to a spicy aroma. This is suspected because the quality of fruit picking does not meet the requirements. That is what makes the Indication of geographical characteristics, while the aroma and taste of caramel are influenced primarily by the roasting factor. Pyrolysis of sugar compounds into complex compounds resulted in a change in the color of coffee beans to chocolate (Maillard) that took place non-enzymatically due to heating [1]. However, there is an effect of taste (astringent) and kept in the sky of the mouth that characterizes that the coffee beans harvested are directly processed.

Most robusta coffee on the slopes of Arjuna, Welirang, and Bromo is produced by farmers who are members of the organization of peasant groups. Raw materials fresh Robusta coffee is harvested with a percentage of red gelondong about 95%. The growing environment on the slopes of the mountain leads to maximum coffee growth. Plants in absorbing nutrients in the soil are strongly influenced by environmental factors, one of which is the state of groundwater. Water as plants functions as nutrient solvents, playing a role in nutrient translocation and photosynthesis. This is in line with the statement [11] that sufficient water means more nutrients are available in the soil solution. One of the elements absorbed by plants is nitrogen. Nitrogen is absorbed by plants in nitrate ions (NO₃⁻) and ammonium ions (NH₄⁺). Land as one of the factors of production is the factory of agricultural products, which is the place where production runs and from where production comes out.

5. Conclusion

Coffee is grown on Mount Arjuna, Welirang, and Bromo deserves to be registered for Geographical Indication. The average coffee bean produced has a physical quality of Quality 1 and Quality 2. The taste of coffee with the resulting aroma is caramelly and spicy. Spicy in coffee can be due to the enzymatic processes of metabolic results in the coffee beans themselves that are influenced by the topography of the coffee plant it is grown. The taste of caramel is controlled by the process of pyrolysis of sugar compounds into complex compounds. There is a change in the color of coffee beans to chocolate that takes place non-enzymatically due to roasting factors. I hope that further research can be done with more coffee samples.

Acknowledgments

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References

- [1] Elfariyanti, Ernita Silviana and Mela Santika 2020 Analysis of caffeine content in a coffee brewed coffee shop in banda Aceh city Journal of Lathanida p 1-12
- [2] Effida, D. Quthni, Ety Susilowati and Kholis Roisah, 2015 Efforts to protect the geographical Indication of salak sidimpuan as a natural wealth of southern tapanuli Law Reform Journal p 2
- [3] Ellyanti Abubakar Karim and Hairul Basri 2012 Analysis of geographical indications of gayo arabica coffee is reviewed from the spatial plan of the district region Journal of Agrista 16 pp 46-61
- [4] Shah, Hendri; Yusmaniza and Oki Maulana 2013 Physical Characteristics of Arabica Coffee Grounds Resulting from Mechanical Milling with the Addition of Corn and Glutinous Rice Journal of Technology and Agricultural Industry of Indonesia p 1
- [5] Yessiningrum, Winda Risna, 2015 Legal Protection of Geographical Indications as Part of Intellectual Property Rights Journal of IUS-Study of Law and Justice, Vol. 3 p 43
- [6] Aridhayandi, M. Rindi 2018 The role of local government in the implementation of good governance In the field of coaching and supervision of geographical indications. Journal of Law & Development pp 883-902
- [7] Jill McKeough, Andrew Stewart and Philip Griffith, Intellectual Property in Australia 3rd Edition Butterworths Sydney 2004 pp 603-604.

- [8] ⁹ Adisty Frandika, Dwi Oktaviany Baramuli, Ahmadi Miru and Hasbir Paserangi 2013 ¹² Legal Protection of Geographical Indications Against Rice Pulut Mandoti In Enrekang Regency Journal of Analysis p 2
- [9] Ari Wijayani, Sari Virgawati and Ninik Probosari, 2021. Arabica and Robusta coffee production in the environment grows differently on the slopes of Mount Arjuna, Malang. LPPM UPN Veteran Yogyakarta research report
- [10] Vishnu, Abimanyu, Shamsul Hadi and Atok Ainur Ridho 2018 Comparative study of robusta coffee plantation business and Arabica coffee in Panti subdistrict of Jember distric Agribest 2 pp 14-23.
- [11] ¹⁰ Hartatri, D. F. S. and B. de Rosari. 2011 Analysis of agricultural businesses and arabica coffee marketing chains in Manggarai and East Manggarai Regencies Jurnal ⁷ Pelita Perkebunan pp 55-67

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