HARMONIZATION OF GEOGRAPHICAL INDICATION (GI) REGISTRATION: A CASE STUDY OF DOI TUNG COFFEE

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Abstract

Coffee is one of the world's most valuable commodities. However, both the refining procedure and the growing environment make each source of coffee unique. Recognizing this, the concept of geographical indication has emerged as a vital legal instrument to safeguard the intellectual property rights associated with specific products. Since this protection is jurisdiction-based, each nation can customize its own safeguarding measures and registration procedures to its internal policies and preferences, resulting in differing costs to producers. Multiple registrations in different jurisdictions are required for obtaining protection under the geographical indication realm, consequently creating a complex landscape to certain producers. This article aims to delve into the issues surrounding multiple registrations by examining the experiences of Doi Tung Coffee's registrations in Thailand, the European Union, and Japan. Furthermore, harmonization of registration is proposed as a potential solution. By streamlining the registration process across territories, the harmonization approach seeks to minimize the costs associated with multiple registrations and ultimately bolster the competitive edge of producers in the global market. It also underscores the significance of providing adequate protection to promote the growth and success of coffee producers worldwide.

Keywords: Geographical Indication, Harmonization, Coffee, Registration Procedures

INTRODUCTION

Geographical indication, also notably known in short as *GI*, is a distinct expression of the local cultural and agro-ecological characteristics that are valuable and which provide a competitive advantage for the associated business in the current market (Barjolle et al., 2017). Geographical indication is a concept having roots within intellectual property rights (World Intellectual Property Organization, 2021a). Humans have been expected to obtain the benefits of their physical labors since the beginning of time. Intellectual contributions surpassed physical labors in significance as society advanced.

Accordingly, it became necessary for the intellectual work of each individual to be appropriately compensated in order to maintain the creator's motivation to contribute a particular invention to the greater good of society. At the end of the twentieth century, products and other human inventions were acknowledged as the intellectual property of their inventors. The owner's right over these properties was accepted and referred to as intellectual property rights. Consequently, a new set of laws known as intellectual property rights laws have been enacted to protect these property rights (Marie-Vivien & Bienabe, 2017).

These intellectual property rights laws

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provided a certain protection to the owners under particular categories and names, i.e., copyrights, patents, trademarks, trade secrets and geographical indications (Shukla, 2016). Particularly, copyrights enable creators to reproduce their works for a limited time. This form of protection would commence automatically upon the creation of a tangible work. Patents are designed to protect inventions and grant the inventor the exclusive right to create, use, and sell the invention for a specified period of time. Trademarks are intended to distinguish the products or services of one entity from those of another, while a trade secret is the right to confidential information being known only to a limited group of persons, which might be sold or licensed. Geographical indications are intended to designate the exclusivity and quality of particular regional products. Geographical indication protection is comparable to trademark protection. However, the product protected by the geographical indication must correspond to a specific geographical region. In exchange, the owner of the product would receive a mark that signifies the quality and origin of the product from a specific region, whereas the trademark holder is not required to demonstrate such involvement in order to be granted such protection (Ram, 2017).

Despite the fact that there is a confirmative legal framework associated with geographical indications as a result of various multilateral agreements or cooperation, the procedures that the owner of particular products shall be entitled to in order to obtain certain protection under the realm of geographical indication are still governed by the relevant legislation of the particular jurisdiction. This results in a number of obstacles relating to the rights of the product's owner in a variety of areas, not only in terms of suitable protection under the applicable laws, but also an increase in business costs associated with the application for protection in each jurisdiction.

Doi Tung Coffee, which is produced by the Mae Fah Luang Foundation in the province of Chiang Rai, is the first coffee in Thailand to obtain protection under the realm of Thai geographical indication and is regarded as one of the most promising coffee producers in Thailand. After the official receipt of geographical indication in Thailand on 2 May 2006, the company submitted an application to the European Union (EU) for the registration of their own coffee product under the name "Doi Tung Coffee" (Kafae Doi Tung) in order to be protected under EU geographical indication law. In doing so, they encountered obstacles relating to the diverse legal framework of EU law, i.e., the preparation of multiple sets of documents and multiple registration fee-related expenses, but the application was ultimately approved on July 14, 2015, with the designation of Protected Designation of Origin (PDO) and Protected Geographical Indications (PGI) being assigned accordingly (Wongburanavart, 2021). As the company intended to expand their business to Japan, it was expected for the company to encounter similar legal framework-related challenges.

This research aims to examine the registration procedures in each specific jurisdiction, namely the EU, Japan, and Thailand, which are the primary targeted markets for Doi Tung Coffee, and to highlight the differences in registration procedures between these three jurisdictions. Consequently, the harmonization of registration procedures is brought up for discussion and elaboration as a potential solution for resolving the extant issues and minimizing the potential costs of registration.

LITERATURE REVIEW

In general, a geographical indication allows those who have the right to use the registration to prevent its use by a third party whose product does not meet the applicable standards. Despite this, numerous elements of geographical indications are intricately intertwined in the numerous legal and administrative frameworks that support geographical indication protection. During the World Trade Organization (WTO) negotiations for the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), there

was an intense debate over the type and scope of protection that should be accorded to geographical indication. According to this opposing rhetorical discourse, companies would be safeguarded in two essentially distinct methods. The first alternative is pursued using existing intellectual property and unfair competition laws. Several countries, including the United States, have argued that geographical indications are adequately protected under this system. The second method of protecting geographical indication entails enacting specialized legislation for that purpose. The EU, for instance, has stated that they are not adequately protected under the current trademark regulations and has therefore requested sui generis protection and the formation of a multilateral registration of marks (Bramley et al., 2006).

The TRIPS Agreement is not prescriptive in its approach to geographical indication protection. It merely requires that member countries shall provide the "legal means" by which to prevent "(a) [...] the use of any means [...] which misleads the public as to the geographical origin of the good [...] or (b) any use which constitutes an act of unfair competition [...]". Consequently, countries are permitted to specifically regulate the protection of geographical indications at the national level so long as their regulations continue to meet the minimum requirements or standard established by the TRIPS Agreement. Numerous nations have opted to either adopt the EU's approach and enact sui generis legislation or adopt the United States' concept of trademark protection under the domain of trademark, incorporating it into their existing trademark legislation. Diverse developing nations have taken measures to preserve geographical indication using a variety of legislative strategies. India, for instance, has enacted legislation that permits the registration of a geographical indication as a stand-alone designation. Other developing nations, such as South Africa, have decided to protect geographical indication under trademark regulations. The level of government involvement, the monitoring of use, and the enforcement of policies differ among the various approaches

(World Intellectual Property Organization, 2009).

Due to the fact that intellectual property is a matter of national sovereignty, the concept of territoriality is inherently applied to this subject. Due to the fact that geographical indication is one of the intellectual property rights, the territoriality principle must be applied. Consequently, geographical indication is developed and protected in accordance with the laws of a particular region. Despite this geographical advantage, numerous international conflict scenarios may occur due to the territory's existence. For instance, identical geographical indications, also known as homonyms, may simultaneously occur in two or more jurisdictions. It is also possible that one or more jurisdictions would protect the geographical indication of a particular product, but that the same geographically significant term (or its linguistic equivalent) would be considered in another country as a generic expression for such a product or as having acquired a secondary meaning under the trademark protection law of that jurisdiction (World Intellectual Property Organization, 2009).

In contrast, a unique trademark developed in one jurisdiction may have value as a geographical indicator in another. Since the nineteenth century, when the first legal protections for intellectual property were established, the territoriality principle has resulted in circumstances that have given rise to commercial disputes. In addition, conflicts over intellectual property rights stemming from the territoriality principle have become more severe in recent years due to the rapid expansion and globalization of international trade and communications, most notably evidenced by the non-territorial Internet. Harmonizing national legislation and constructing international registration systems are examples of transnational efforts to overcome the territoriality principle in geographic indications (WIPO, 2002).

Unless otherwise specified, intellectual property rights are particularly applicable within the borders of the jurisdiction that issued the rights (Lundstedt, 2016). The

territoriality principle permits governments to adapt their domestic laws to their respective levels of technical and economic development. Consequently, each government may design its intellectual property laws and regulations in a manner that promotes the achievement of particular social objectives, such as nurturing the growth of domestic enterprises or preserving public health. Despite increasing globalization and the proliferation of international agreements dealing with intellectual property rights, the International Intellectual Property Organization (IIPO) continues to view the territoriality principle as a central pillar (Bowen, 2010). The legislation would continue to be one of the concerns expressed as a potential impediment to the business operations of product owners, particularly in the case of intellectual property-related products such as coffee. While this research provides rudimentary evidence of specific geographical indication registration procedures in the EU, Japan, and Thailand, it is particularly based upon the perspective of the coffee industry. The case of coffee may not be generalizable to other agricultural products and additional research may be required.

RESEARCH METHODOLOGY

Based on the case of Doi Tung Coffee, this study explores and analyzes the respective registration procedures of geographical indication in each jurisdiction using qualitative research methods. These jurisdictions include the EU, Japan, and Thailand, which are all extant or potential markets for Doi Tung Coffee's business expansion.

Information was obtained from both primary and secondary sources. Interviews were conducted with eight key informants to obtain primary data. The informants were chosen based on their academic backgrounds and extensive knowledge of geographical indication law and the coffee industry. The informants included the director of sales from Doi Tung Royal Project and the owner of Aka Ama, three practitioners from the Department of Intellectual Property as representatives of

Thailand's competent authority, and three academic experts in geographical indication. The purpose of the interviews was to collect information, perspectives, and pertinent issues pertaining to the harmonization of geographical indications for coffee, from each informant. Secondary data were collected from government departments, businesses, non-government organizations, and online and offline sources of published reports and publications.

RESULTS

The findings from the study are based on the registration cases of Doi Tung Coffee in the EU, Japan, and Thailand, and are divided into three sections. The first section demonstrates the specific registration procedures for geographical indications in the EU, Japan, and Thailand. The second section discusses the prospective implementation of harmonizing registration procedures for geographical indications. The third section discusses the potential standardization of coffee involving the harmonization of registration procedures on geographical indications, which would include the potential criteria that should be implemented to control coffee quality, its uniqueness, and its connection to a particular geographical region.

Registration Procedures for Geographical Indication in the EU, Japan, and Thailand

a) EU

Since the end of World War II, numerous European nations have banded together to establish a lasting peace on the continent by forming the European Union, or the EU. Each nation has consented to cede some of its political and economic authority in order to join the EU. In exchange, members receive a single European market (i.e., a free-trade zone), the free movement of people, products, services, and money throughout the EU bloc, and regional development funds that help underdeveloped regions develop infrastructure and technologies to compete in the global economy. This distinguishes the EU as the

first supranational organization and unique governing body in the world. Legally, the EU, as a supranational organization, shall be permitted to enact its own union laws for the community's advantage, and all member states shall be required to take all necessary steps to conform their national law to such union laws.

With respect to registration under national legislations in each member country, the EU introduced its own union law on geographical indications and designations of origin in an attempt to harmonize this protection at the community level in 1992 (EC Regulation No. 2081/92). These were later updated in March 2006 (EC Regulation No. 510/2006) (Buckwell, 1997). This means that all member states are required to ratify the aforementioned regulation or amend their national laws to conform to it.

The current European Community (EC) system is based on two main categories of protection for geographical indications, namely the Protected Designations of Origin (PDO) and the Protected Geographical

indications (PGI) (Berard & Marchenay, 2007). The registration of a PDO stipulates that the entire production and processing of the product must take place within a specific geographical area. This indicates that the product possesses attributes or characteristics that are closely associated with its place of origin. For PGI, on the other hand, the product must undergo at least one stage of production or processing within the geographical area, signifying that it possesses quality, reputation, or other characteristics attributable to the location. Consequently, PGI registration allows for greater flexibility based mainly on reputation and less directly on the qualities of a geographic region. Despite their distinct criteria or product requirements, PGI and PDO are remarkably similar in all other respects. This includes the application and approval procedure, control systems, and consumer protections (Arfini & Bellassen, 2019). Table 1 demonstrates terminology used in various member states of the EU that can be translated as PDO and PGI (Giovannucci et al., 2009).

Table 1 Terminology Used in Various EU Countries Translated as PDO or PGI

Country	Terminology	Symbol		
Protected Designation of Origin (PDO)				
Spain	Denominación de Origen Protegida	DOP		
Germany	geschützte Ursprungsbezeichnung	G.U.		
France	Appellation d'origine protégée	AOP		
Italy	Denominazione d'Origine Protetta	DOP		
Poland	Chroniona Nazwa Pochodzenia	CHNP		
Sweden	Skyddad Ursprungsbeteckning	SUB		
Protected Geographical Indication (PGI)				
Spain	Indicación Geográfica Protegida	IGP		
Germany	geschützte geografische Angabe	g.g.A.		
France	Indication géographique protégée	IGP		
Italy	Indicazione Geografica Protetta	IGP		
Hungary	Oltalom alatt álló Földrajzi Jelzés	OFJ		
Poland	Chronione Oznaczenie Geograficzne	CHOG		
Sweden	Skyddad Geografisk Betecking	SGB		

Note. From "Guide to Geographical Indications Linking Products and their Origins" (Giovannucci et al., 2009)

Requirements of Foreign Applicants for Obtaining Geographical Indication in the EU: The requirements would be as follows: any geographical indication that has been registered outside of EU territory and which can demonstrate a connection between the product and its place of origin as well as the existence of a control mechanism would be eligible for registration in the EU market. Foreign applicants are also required to procure their geographical indication from their home country. The application should be registered at the office of the EU by a person or group of persons entitled to submit requests for registration of geographical indication in accordance with the relevant EC regulation (European Commission, 2021).

Producers can apply for EU market registration directly to the European Commission or through their state authorities. The European Commission reviews alcoholic beverage applications in 12 months and agricultural and culinary items in 6 months. If the product and its origin are linked and a regulatory mechanism is in place, the foreign geographical indicator can be registered on the EU market (European Commission, 2021).

Applications from third countries must contain all required elements requested for EU applications (European Commission, 2021). Furthermore, any materials submitted to the commission must be written in, or accompanied by a certified translation into, one of the EU's official languages (European Commission, 2021). On July 14, 2015, Doi Tung Coffee had complied with these procedures and concluded its registration. It is currently completely protected under the PDO and PGI designations in accordance with EU law on geographical indications.

b) Japan

The Diet, the Japanese parliament, has adopted the "Tokutei Norin Suisan Butsu to no Meisho no Hogo ni Kansuru Horitsu" in 2014, which can be translated into the English as "the Act for the Protection of the Names of Designated Agricultural, Forestry and Fishery Products and Foodstuffs (Act No. 84)" (Ministry of Agriculture, 2014). Although the

"chiriteki hyouji" or geographical indications, it is generally considered as the Geographical Indication Act of Japan (Ministry of Agriculture, 2015). It can be concluded that Japan adopted the *sui generis* protection proposed by the EU. The Japanese government recognizes the value of protecting geographical indications for the many regional brands that have achieved national and international renown, and which have resulted from the special production techniques and environmental factors of their specific producing regions such as climate and soil.

The Japan Geographical Indication Act protects agricultural, forestry, and fishing-related products as well as dietary products. This definition falls short of the minimum requirements for geographical indication outlined in Article 22(1) of the TRIPS Agreement, which is widely regarded as the baseline standard.

In accordance with Article 3 and Article 2(1) of the Geographical Indication Act of Japan, in order for agricultural, forestry, and fishery products and foodstuffs to be eligible for geographical indication registration, they must be identifiable based on place and have some association with the area, such as through reputation or quality. Article 2(5) of the Act stipulates that producers or processors of agricultural, forestry, and fishery products may form an association of producers if they believe these products meet the criterion of location-based identity connected to quality or reputation. Members of a producer's association can include, but are not limited to, direct agricultural, forest, and fishery product producers. If the association of producers is structured as a legal entity, a representative or manager must be appointed, and the association has multiple responsibilities. The initial stage is for the association to submit an application to the Ministry of Agriculture, Forestry, and Fisheries (MAFF) for the geographical indication. The Ministry of Agriculture, Forestry, and Fisheries (MAFF) would consult with various experts to determine whether the application should be denied based on the conditions outlined in Article 11

of the Japan Geographical Indication Act. Assuming that no grounds for rejection of registration are identified during this particular procedure with the experts, MAFF would register such a geographical indicator, notify the applicant of its successful registration, and inform the public via a website posting.

Requirements of Foreign Applicants for Obtaining Geographical Indication in Japan: The foreign applicant must satisfy not only the requirements applicable to domestic producers, but also the additional requirement that registration of the geographical indication must exist in their home country. To be eligible for protection under Japanese law governing geographical indications, Doi Tung Coffee must also meet the aforementioned requirements. Doi Tung Coffee would be responsible for any costs associated with legal compliance and framework-specific complications that could arise as a result of this registration.

c) Thailand

By enforcing the Geographical Indication Protection Act B.E. 2546 (2003) which is regarded as sui generis protection as proposed by the EU and also adopted by Japan, Thailand guarantees the protection of geographical indications. This effective protection would have significant effects on Thai households, as many of these households are involved in the production of geographical indications. Potential benefits may be derived from easier market entry and possible price premiums. Consequently, the implementation of Thai geographical indication could also potentially reduce the economic vulnerability of Thailand's rural impoverished (C. M. Correa, 2002).

In order for a certain product to receive protection under geographical indication, the producer must register their product in accordance with predetermined requirements. Pursuant to section 7 of the Geographical Indication Act of Thailand, three groups of stakeholders are eligible to apply for registration, i.e., (1) a governmental body or stateowned enterprise; (2) a natural or juristic

person; and (3) a group or organization of consumers (Nakakorn, 2003).

Requirements of Foreign Applicants for Obtaining Geographical Indication in Thailand: In addition to the aforementioned general requirements, a foreign applicant is also permitted to comply with the additional requirements outlined in section 6 of the Geographical Indication Act of Thailand. In particular, foreign producers who intend to register their products for protection under the realm of Thai geographical indication must provide evidence that the product is protected under the law of their home country and that it has been used continuously up to the date of application filing in Thailand (Ngokkuen & Grote, 2012).

Implementation Concerning the Harmonization of Registration Procedures on Geographical Indication in Different Jurisdictions

As demonstrated in the preceding section regarding the various legal frameworks governing registration procedures for geographical indications, these procedures may pose an impediment to the ability of some producers to obtain appropriate legal protection and conduct business in the global market. The harmonization of registration procedures has been suggested as a possible means of overcoming these obstacles. Interviews were conducted with specific informants in order to acquire their professional perspectives on the harmonization of geographical indications. According to the interviews conducted, the following concise summary of significant concerns regarding the implementation of such harmonization was generated (see Table 2).

Given the support for the harmonization of registration procedures from a variety of informants, a number of pertinent concerns would be brought to light.

Most of the informants supported the establishment of the harmonization of registration procedures, which would provide certain benefits to the coffee producers as it would help lower the registration fee from

multiple registration and it would facilitate Thai products to enter into new potential markets. However, informants from the Department of Intellectual Property of Thailand raised particular concerns about the difficulty of establishing a universal standard for geographical indication registration. This is due to the fact that geographical indication is derived from the territoriality principle, which is a fundamental tenet of intellectual property law. As a result, each jurisdiction shall be permitted to enact its own laws based on its own internal policies and preferences. This results in varying legal frameworks, which would be cited as an impediment to harmonizing registration procedures.

Moreover, an academic expert raised particular concerns that the control of quality in coffee products would vary across jurisdictions, and there is no minimum control of quality mandated by particular relevant laws resulting in the difficulty of establishing harmonization. Nonetheless, the informant from Ahka Ama believes that there was an

appropriate standardization of coffee that was widely used in the coffee industry, coffee cupping which should be determined in order to sustainably preserve the quality of coffee designated as a product bearing a geographical indication.

In conclusion, a large number of informants believed that harmonization would be an innovative way to reduce certain obstacles resulting from national procedures in each jurisdiction. In terms of legal concerns, harmonizing the registration procedures presents a number of significant obstacles. As each jurisdiction's legal frameworks and preference policies differ, policymakers would be urged to give careful design and deliberation to the harmonization system in order for it to be justifiable in each jurisdiction.

The Standardization of Coffee Concerning the Harmonization of Registration Procedures

Quality control would also reflect the primary objective of geographical indication

Table 2 A Brief Summary of Significant Concerns Derived from the Interviews in Relation to the Harmonization of Geographical Indication Registration Procedures

No.	Interviewee	Harmonization of GI Registration	Concerns
1	Doi Tung Coffee's Director of Sales	Yes	It helps lower the registration fee.
2	Ahka Ama's Owner	Yes	Coffee cupping should be used to evaluate coffee's quality.
3	Officer, Department of Intellectual Property of Thailand	Yes	It facilitates Thai products' entry into the new potential market.
4	Officer, Department of Intellectual Property of Thailand	Yes	Challenging concern on different legal framework.
5	Academic Expert	Yes	Quality control in different jurisdiction results in challenging issue to achieve the harmonization.
6	Former Director General, Department of Intellectual Property of Thailand	No	There is territorial concern.
7	Geographical Indication Professional	Yes	Quality control in different jurisdictions results in challenging issue to achieve the harmonization.
8	Geographical Indication Professional	Yes	It facilitates Thai products' entry into the new potential market.

laws, which is to safeguard consumers from illegally produced identical goods. As such, there should be a suitable standardization of coffee for serving this purpose.

Firstly, each jurisdiction should demand traceability for geographical indication registration. Traceability requires specific information on coffee strain, bean selection, plantation, harvesting, and processing, so consumers may be assured of the coffee's promised qualities.

Secondly, coffee cupping is currently regarded as the most precise method for determining the quality of coffee (Baqueta et al., 2019; Donfrancesco et al., 2014). The Specialty Coffee Association of America (SCCA) developed a grading system called cupping. This method of coffee sensory analysis employs experienced tasters who have been adequately trained to detect, characterise, and comprehend the sensory characteristics that contribute to the cup's overall quality. Due to the fact that they are required to conduct these evaluations on an annual basis and for a lengthening period of time, coffee tasters develop a heightened sensitivity to any potential variations in the coffee's sensory qualities (Bressanello et al., 2017). According to SCAA protocols, a tester will assign grades to coffee based on its aroma or fragrance, flavour, aftertaste, body, acidity, uniformity, balance, clear cup, sweetness, defects, and overall quality (SCAA, 2015).

Two aromatic properties include "fragrance" and "aroma," which are the smells of freshly ground coffee when infused with hot water. This can be assessed at three points in the cupping process: (1) smelling the grinds before adding the water; (2) sniffing the scents produced while breaking the crust; and (3) sniffing the aromas released while the coffee steeps. Under "qualities," the 5-point vertical scales can record distinct odors, and the horizontal scales can specify dry, break, and wet levels. Three components of the sample's fragrance or aroma composition determine the final score (SCAA, 2015). Consequently, coffee cupping would be a suitable method for controlling the quality of coffee at the present time. As this method is acceptable

for quality control by the international coffee organization, it should also be included as a minimum standardization in any harmonization system of geographical indication for coffee.

DISCUSSION

The study has demonstrated that these three jurisdictions, namely the EU, Japan, and Thailand, have their own registration procedures that are distinct but also similar in certain respects, as shown in Table 3.

The conclusion that can be drawn from this is that each jurisdiction's primary concern was the implementation of their own legal framework in relation to geographical indication registration procedures. As shown in the preceding table, certain designated products eligible for registration in each jurisdiction are distinct from one another. In particular, only certain products prescribed by Japan's relevant laws are eligible for the registration of geographical indications, whereas the EU and Thailand allow all types of products to be eligible for such registration. Despite the existence of international cooperation through a variety of instruments, most notably the TRIPS Agreement, the ultimate decision regarding which model will be used to implement such obligations depends primarily on the internal policies and preferences of each jurisdiction. Clearly, this demonstrates the importance of the territoriality principle, which is one of the foundational theories regarding intellectual property rights in global society. The differences in registration procedures not only increase the cost of operating a business in another jurisdiction, but also pose a potential barrier to entering the global market. This issue appeared in the EU registration case for Doi Tung Coffee, whereby the company was affected by the different procedure and framework, including the compilation of documents, information, and other required evidence; the same problem may be encountered again when registering in Japan. Doi Tung Coffee was required to produce multiple sets of documents in order to comply with each jurisdiction's pertinent procedures. This

resulted in a time-consuming process and multiple registration fee-related expenses.

Second, the aforementioned barriers in conjunction with the different legal frameworks in each jurisdiction lead to discussion regarding the harmonization of geographical indication registration procedures. As previously demonstrated, there are numerous reasons to support a harmonization. Essentially, registration of products bearing a geographical indication is invariably extremely expensive. Due to an inability to afford such registration costs Thai coffee producers lose the chance to thrive in the global market. Harmonization could therefore reduce the multiple

registration fee-related expenses and free up a substantial amount of time in terms of document preparation.

Third, geographical indication coffee must be traceable. Because geographical indication law aims to safeguard consumers, registration should therefore contain information on the coffee strain, bean selection, plantation, harvesting, and pro cessing details. For consumers to be convinced a coffee has the claimed qualities, it must be of high quality. While determining coffee quality might be challenging and require the skills of a specialist, coffee cupping is currently the most accurate approach.

Table 3 Summary of Key Registration Procedures and Information in Relation to Legislation on Geographical Indication in the EU, Japan, and Thailand.

Issue	EU	Japan	Thailand
General applicable applicant	(1) all manufacturers of the products;(2) all interested parties by joining the manufacturer group; and(3) persons or juristic person.	(1) producer groups;(2) processor groups; and(3) local branding association	 governmental body or state-owned enterprise; natural or juristic person; and groups or organization of consumers.
Key require- ments of foreign appli- cant	Being granted a geographical indication in its home country	Being granted a geographical indication in its home country	Being granted a geographical indication in its home country
Designated product	all kind of products	 edible agricultural, forestry, and fishery products; non-edible agriculture, forestry, and fishery products; food and beverages; and products manufactured or processed using agricultural, forestry, and fishery products. 	all kind of products
Regulatory body	European Commission	Ministry of Agriculture, Forestry, and Fishery (MAFF)	Department of Intellectual Property
Regulation	EC Regulation No. 2081/92 EC Regulation No. 510/2006	Act for the Protection of the Names of Designated Agricultural, Forestry and Fishery Products and Foodstuffs (Act No. 84)	Geographical Indication Protection Act B.E. 2546 (2003)

CONCLUSION AND RECOMMENDATION

The results of this study demonstrate that registration procedures vary across jurisdictions. Various legal frameworks and procedures have resulted from certain territorialitybased justifications. For instance, Japan's Geographical Indication Law only permits certain products to be registered in its territory, whereas the EU and Thailand permit all types of products to be registered within their territory. This disparity can affect Doi Tung Coffee in a variety of ways, in order to comply with the applicable laws and frameworks in each jurisdiction for obtaining geographical indication protection. These differences result not only in operational expenses but also in the losses of opportunities in the global market of the producers. In order to effectively obtain the geographical indication of the EU at the time, Doi Tung Coffee, for instance, required the assistance of multiple legal advisors and even the Thai government's competent authority. Moreover, it would require years to complete the necessary procedures. Harmonization of registration would be a potential option worthy of consideration and discussion at the international level in order to reduce such costs and support coffee producers and other potential industries as well.

Furthermore, as one of the primary purposes of geographical indication law is to safeguard consumers, the quality of coffee should be regulated so as to serve this purpose appropriately. Consequently, traceability and coffee cupping, which is currently the most accurate method for assessing coffee quality, should also be incorporated into the relevant framework of harmonizing the registration procedures. In addition, coffee with geographical indication and an emphasis on quality can assist producers to access new potential markets. In turn, enhanced market access would increase each producer's financial stability and supply chain sustainability.

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