

CHALLENGES AND OPPORTUNITIES FOR PROTECTING GEOGRAPHICAL INDICATIONS IN THAILAND

Chuthaporn Ngokkuen and Ulrike Grote*

In this paper, the legal framework for the protection of geographical indications (GIs) in Thailand is analysed and challenges the country has been facing in that regard are discussed. Although the legal protection of GIs is ensured by the World Trade Organization, unresolved issues remain concerning GI protection in Thailand. Biopiracy, existing conflicts of interests concerning different types of intellectual property rights (trademarks and patents versus GIs) and the rise in regional and bilateral trade agreements have created major challenges at the multilateral level. In drawing on GI cases in Thailand, in particular that concerning jasmine rice, an attempt is made to further analyse these challenges to protect genetic resources from the perspective of Thailand. This paper concludes with suggestions on how such challenges can be mitigated and in which direction trade negotiations should be shaped.

JEL Classification: O13, O34, Q17, Q18.

Key words: Intellectual property, geographical indications, biopiracy, jasmine rice, Thailand.

I. INTRODUCTION

In the past three decades, the role of intellectual property rights (IPRs) in agribusiness has increased enormously. The so-called Green Revolution in the 1960s was the most significant reason for the introduction of proprietary aspects in industrial agriculture. Seeds became the private property of multinational seed companies and

* Chuthaporn Ngokkuen, Research Fellow, corresponding author (e-mail: ngokkuen@iuw.uni-hannover.de, twinjeab@gmail.com), and Ulrike Grote, Professor, co-author (e-mail: grote@iuw.uni-hannover.de), both of whom are from the Institute for Environmental Economics and World Trade, School of Economics and Management, Leibniz University Hannover, Germany.

international research centres, such as the International Maize and Wheat Improvement Center and the International Rice Research Institute (IRRI). Although the protection of IPRs is ensured by various international conventions, conflicts still arise between developed and developing countries concerning those rights. On one hand, developed countries which produce most of the world's intellectual property (IP) and possess biotechnological knowledge accuse developing countries of IP piracy. On the other hand, developing countries which own large reserves of the Earth's pool of genetic resources, accuse developed countries of biopiracy (Adi, 2006; GRAIN, 1998). There have been in fact reported attempts by multinational corporations, mainly owned by developed countries, to exploit advantages and weaknesses in various conventions by trying to monopolize the seed and germ-plasm industry (Adi, 2006).

Some developing countries, such as India, Kenya and Thailand, thus hope to utilize the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) of the World Trade Organization (WTO) to protect their national intellectual and cultural heritage, as well as their rich biodiversity resources (Zou, 2005). Geographical indications (GIs), which indicate that a certain good originates from a particular region, where a given quality of the good is attributable to its place of origin, have become a hotly discussed issue in the international trade context. GIs stand at the intersection of three issues in international law: international trade, intellectual property and agricultural policy (Raustiala and Munzer, 2007). The demand for extending protection on products other than wine and spirits under the multilateral framework is becoming stronger, not only because GIs provide protection against counterfeiting and freeriding on the reputation of the GI products but also because of their potential role in protecting public goods, such as traditional and indigenous knowledge (Grote, 2009). There is also evidence that GIs can provide higher economic returns to holders of traditional knowledge through price premiums (see Teuber, 2007), fostering tourism (Suh and MacPherson, 2007) and enhancing rural development (Tregear and others, 2007).

At the national level, Thailand ensures GI protection through the enforcement of a special law on GIs that was enacted in 2003. Effective protection is expected to have important implications for Thailand's rural households, since many of them are involved in the production of GI products. Benefits may arise from improved market access and potential price premiums. This could reduce vulnerability to poverty among the rural poor and thus reduce their migration to urban areas by retaining labour and other production factors in the geographical area concerned (Correa, 2002).

This paper analyses whether and to what extent GIs can provide protection to genetic resources. In order to achieve this objective, the paper is structured as follows: in section II the threat of biopiracy is outlined by taking a close look at the case of

jasmine rice. In section III the role of GI certification and its legal framework are discussed. Some more practical issues involving GIs, such as the registration and certification process for GI products in Thailand, are described in section IV, along with information about registered GI products in Thailand. In section V, some of the challenges associated with the use of GIs as a protection tool for genetic resources are highlighted, again drawing on the case of jasmine rice; some solutions to these challenges are also offered. The paper concludes with some policy recommendations offered in section VI.

II. BIOPIRACY AND THE CASE OF JASMINE RICE

This section first highlights the need to protect genetic resources against biopiracy. The case study of jasmine rice illustrates the importance of IPR protection for Thailand. This section then describes the origins of jasmine rice, followed by a brief description of the economic value of jasmine rice for Thailand. Subsequent subsections are concerned with the protection of jasmine rice through patents and GIs.

Biopiracy and the call for better protection of intellectual property rights

As a member of WTO and as a party to the TRIPS Agreement, Thailand is required to take appropriate measures to implement the provisions of the agreement within its domestic legal framework. However, beyond the legal requirements under TRIPS, there is also a need to protect against biopiracy, which is an exploding issue in Asia (Jaovisidha, 2003); it refers to the uncompensated exploitation of developing countries' natural resources (Afreen and Abraham, 2008). Biopiracy arises when IP systems are used to legitimize the exclusive ownership and control of genetic resources and knowledge without recognizing the rights of, and without compensating, the indigenous and rural communities concerned (Delgado, 2002). Biopiracy can be related to the spread of genetic resources and to the traditional knowledge which has been gained, adapted and embedded in the local culture of an indigenous community over time. For the past several years, there has been an increasing number of reported cases of biopiracy and commercial exploitation of plants, genetic resources and traditional knowledge from developing countries. Natural products, such as neem, turmeric, ayahuasa, hoodia cactus and basmati rice, are well-known examples of such reported cases of misappropriation (O'Connor, 2003). The first cases of biopiracy in Thailand included the "Jasmati" case as well as the cases of the medical plant *plao-noi* (*Croton sublyratus*) and a variety of bitter melon (*Momordica* spp.) which is known to slow the progress of HIV infection (Kerr and Yampoin, 2007).

Biopiracy related to jasmine rice

Thailand experienced the first case of biopiracy when a newly developed hybrid variety under the name “Jasmati” was registered in 1997 by the Rice Tec Corporation at the Patent and Trademark Office of the United States of America. The name contains two variants of two rice varieties: jasmine rice from Thailand and basmati rice from the Indian subcontinent. However, “Jasmati” rice, which is a hybridized variety called Della that was developed from the Italian Bertone rice in the United States, has characteristics other than those of basmati and jasmine rice. The use of the name Jasmati could therefore mislead rice consumers by making them wrongly believe that Jasmati rice would have the same characteristics as jasmine rice from Thailand and/or basmati rice from the Indian subcontinent, even though the rice was not genetically related to the jasmine rice grown in Thailand. This concern was reinforced by the finding of a market survey showing that over half of the consumers in the United States buying “Jasmati” thought it was related to jasmine and basmati rice (Roggemann, 2005).¹

The origins of jasmine rice

Jasmine rice, or *hom* (fragrant) *mali* (jasmine flower) rice (in Thai: *khao hom mali*), is a rice variety which is grown in upland areas of Thailand only once a year using two kinds of Thai jasmine rice seeds: Khao Dawk Mali 105 and RD15 (in Thai: *GorKhor* 15). Khao Dawk Mali 105 resulted from the further development of local Thai jasmine rice seeds. It was first discovered in Laempradoo Subdistrict, Panasnikom District of Chonburi Province in southeastern Thailand, and then taken to be cultivated in Tatonglang Subdistrict in Bangkla District of Chachoengsao Province, a neighbouring province of Chonburi. Owing to its high yields, many farmers adopted it. Even though this traditional jasmine rice was relatively expensive, it became popular among Thai consumers, in particular among the rich in Bangkok. Since 1950, this traditional form of Thai jasmine rice was further bred and developed in field trials of the Rice Research Centre in Chachoengsao Province. After six years of cultivation tests in different areas of Thailand, it was found that the northeastern region of the country (usually referred to as *Isaan* in Thailand), with its unique sandy loam and rain-fed upland soil, is most suitable for jasmine rice cultivation using Khao Dawk Mali 105 seeds. The next generation of rice breeders used Khao Dawk Mali 105 seeds as a parent for the crossing and then irradiated them with gamma rays to foster mutation of the rice.

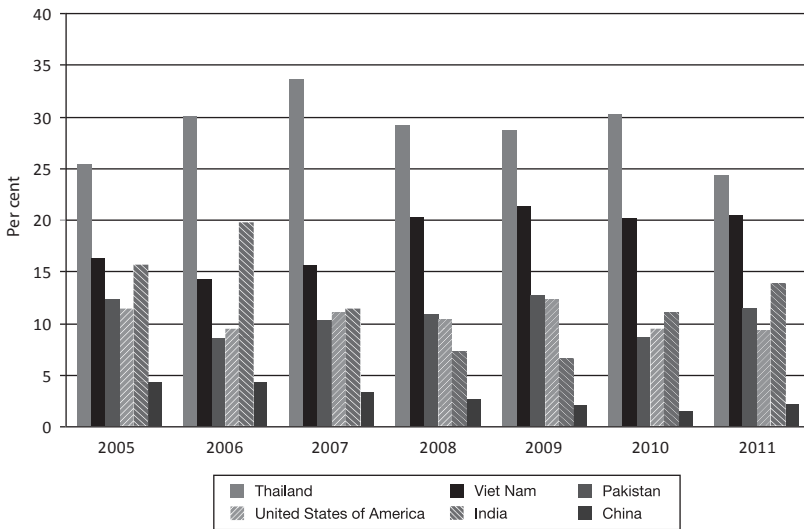
¹ More threatening than the “Jasmati” patent is “Jasmine 85” which was developed by IRRI to create an “improved” jasmine rice variety that can be grown in the United States using jasmine rice seed, namely Khao Dawk Mali 105 which is a major rice variety grown in the northeastern Thailand. However, it still has a limited effect in the United States market, especially for Asian Americans (Goodwin and others, 1992).

The outcome of this breeding development was RD15, which has been cultivated in northern and northeastern Thailand since 1965 (Thailand, Bureau of Rice Research and Development, n.d.; iCoopThai, n.d.).

Thereafter, the Thai Government has made efforts to promote the cultivation of jasmine rice in the northeastern part of the country using Khao Dawk Mali 105 and RD15. However, since northeastern consumers prefer sticky rice as a staple food, a breakthrough was achieved only in three of the provinces in the southern part of *Issan*, namely Buri Ram, Surin and Si Sa Ket, where local people are ethnically Khmer and prefer to consume jasmine rice. Within these provinces, a huge flat and dry area called *Thung Kula Rong-Hai* was then used for the cultivation of the premium form of jasmine rice, imparting a unique texture and the natural and distinct aromatic fragrance of the jasmine flower, with the source of the fragrance being 2-acetyl-1-pyrroline. Owing to these specific characteristics, jasmine rice became popular among many consumers not only in Thailand but also outside the country.

Economic value of jasmine rice

The importance of rice for Thailand derives not only from its being a major staple food for domestic consumption but also from its export volume and value. Thailand has been one of the world's largest rice exporters for nearly three decades (Toriyama, Heong and Hardy, 2005). Its market share amounted to more than 25 per cent of the global total traded between 2005 and 2010, leaving the second and third largest exporters, Viet Nam and Pakistan, far behind (see figure 1). Exporting rice to the global market has resulted in considerable export revenues not only for Thailand as a whole but also for individual rice farmers.

Figure 1. World market shares of rice exports by country, 2005-2011

Source: Authors, based on data from the United States Department of Agriculture (USDA). *Grain: World Market and Trade*. Available from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1487> (accessed 17 May 2012).

Jasmine rice makes up more than a quarter of Thai rice exports each year. As table 1 shows, in 2011 approximately a third of the rice export value stemmed from exporting jasmine rice, which earned about \$2 billion in foreign currency for Thailand (Thailand, Ministry of Agriculture and Cooperatives, 2009; 2010).

Table 1. Rice trade

Item	2006	2007	2008	2009	2010	2011
World rice exports (million tons of milled rice)	29.48	31.93	29.22	29.53	31.61	34.76
Thailand's world market share (percentage)	25.40	28.80	35.00	29.10	29.5	30.2
Domestic consumption (million tons of milled rice)	10.50	10.73	11.28	12.12	12.08	12.08
Export						
- Total export volume (million tons of milled rice)	7.49	9.19	10.22	7.26	8.94	10.71
- Total export value (US\$1 000 million) ^a	2.59	3.45	6.06	5.01	5.30	6.40
- Total Thai jasmine rice export volume (million tons of milled rice)	2.60	3.07	2.52	2.63	2.36	2.36
- Total Thai jasmine rice export value (US\$1 000 million) ^a	1.06	1.39	1.81	2.0	2.0	2.09
Export price for Thai jasmine rice (US dollars/ton) ^a	475	565	910	937	1 023	1 043

Source: Authors, based on data from Thailand, Ministry of Agriculture and Cooperatives (2009; 2010; 2011).

Note: ^a Exchange rates for 2006, 2007, 2008, 2009, 2010 and 2011 are 37.93, 34.56, 33.36, 34.34, 31.73 and 30.49 baht/US dollar, respectively (Bank of Thailand, 2002-2011).

The call for protection

The discussion on special protection for GI products was brought to the public's attention with the case involving the "Jasmati" trademark (O'Connor, 2004). A trademark is a private right that can be transferred or sold, while a GI is a community right that cannot be sold or transferred to other parties. Hence, concerns are related to the economic importance of Thai jasmine rice, which is one of Thailand's most important agricultural export crops and which is regarded as a source of culture and belief. Against this backdrop, the Act on GI Protection B.E. 2546 was introduced in 2003 as a tool for protecting origin-based products from biopiracy (Jaovisidha, 2003), and in the case of jasmine rice, the registration of a rice patent on its aroma genes in the United States in 2008. In addition, to promote the cultivation and marketing of jasmine rice, the Thai Hom Mali Rice Trade Association Thung Kula Rong-Hai Geographical Indication was established in 2008. By 2008/09, there were 1,131 Thai jasmine rice farmers, 13 exporters and 4 processors certified as GI operators for Thung Kula Rong-Hai rice by the Department of Intellectual Property (Ngokkuen and Grote, 2011; 2012).

III. THE ROLE OF GEOGRAPHICAL INDICATION PROTECTION AND ITS LEGAL FRAMEWORK

In this section the role of GI certification in protecting genetic resources is highlighted first, showing that GIs are potentially useful in protecting against biopiracy. The legal framework then elaborates on how GIs are protected at the international and national levels.

The role of geographical indication certification

While an overview of the economic literature on GI protection has been provided by Bramley, Biénabe and Kirsten (2009), Jena and Grote (2010) and Teuber, Anders and Langinier (2011), this section focuses on some selected economic aspects of GIs. Of special relevance in this context is the role of information on quality and reputation, which is conveyed via certification or labelling. Thus, the importance of GI certification can be explained on the basis of different theories, namely the information theory, the reputation theory of Shapiro (1982; 1983) and theories from new institutional economics.

The use of distinctive or quality signs, such as geographical names, is directly related to the information theory and Shapiro's model on reputation (OECD, 2000). Despite the experience or search activities of consumers, it is more difficult and

expensive for them to obtain information about the quality of a product than about its price (Nelson, 1970). Consumers are not always able to use the experience from repeated purchases to discern product quality (Marette, Crespi and Schiavina, 1999). Akerlof (1970) stressed the importance of information for the proper functioning of the market since market failures occur when asymmetric information exists. If the qualities are given exogenously, the problem is one of adverse selection, meaning that the sellers know the actual quality of their products while the consumers do not. Without any means of differentiating goods, there will be no incentives for producers of high-quality goods to remain in such a market because all goods tend to be sold at the same price. This situation is well known under the term “market for lemons”.

One solution to reducing information asymmetry and improving consumer information about product quality could be a private or public intervention, for example by introducing labelling schemes which supply consumers with information about ingredients, production methods, packaging, storage and product origin (Beales, Craswell and Salop, 1981; OECD, 2000; Marette, Crespi and Schiavina, 1999; Vivas-Eugui, 2001).

To protect themselves from the risks of asymmetric information, producers use various signs as markers of quality and assurance of reputation. Thus, distinctive signs and reputation, which denote the persistence of quality, play an important role in signalling a certain level of quality (e.g. Stigler, 1961; Schmalensee, 1978; Shapiro, 1982; 1983; Rangnekar, 2004). Reputation conveyed via a distinctive sign economizes search costs for consumers (Stigler, 1961; Rangnekar, 2004). Savings in search costs then enable reputable goods to receive price premiums which consumers are somewhat willing to pay (Stigler, 1961) and which compensate sellers for their investments in reputation (Shapiro, 1983). This is true especially in the case of origin-linked products for which reputation is a factor that can lead to a higher price based on the recognized tradition and excellence of the product. Such a reputation often requires the use of legal instruments to protect the product name (Vandecandelaere and others, 2009). GIs provide such a mechanism. They identify products and confer the exclusive right to use a distinctive sign for all producers from a given geographical area. GIs thus enable the producers to convey a considerable quantity of information to consumers and become a worthwhile marketing tool if they are used properly and are well protected (Tregear, Kuznesof and Moxey, 1998; Addor and Grazioli, 2002; Rangnekar, 2004; Jena and Grote, 2010).

International legal framework for geographical indication protection

The protection of IPRs is pursued at the international level through various agreements and conventions, including the International Convention for the Protection of New Varieties of Plants, which led to the establishment of the International Union for the Protection of New Varieties of Plants; the Convention on Biological Diversity; and the TRIPS Agreement, which establishes a comprehensive framework on intellectual property protection covering the following main areas of IPRs: copyright, trademarks, geographical indications, industrial designs, patents, the lay-out designs of integrated circuits and undisclosed information. It is considered as the first international treaty to protect GIs through substantive provisions (Jain, 2009).

Until now, there has still been no conclusion regarding the scope of GI protection at WTO but the demand for extending protection on products other than wine and spirits under the multilateral framework is becoming stronger and louder. The stalemate at WTO is caused by two strands of viewpoints with respect to the exceptions clause: the grandfather clause under article 24.5 of the TRIPS Agreement has driven the rise in regional and bilateral trade talks between the Member States led by the United States and the European Union. While the United States emphasizes in its regional and bilateral trade deals the exceptions clause in favour of trademarks that are identical with or similar to GIs, the European Union seeks to eliminate the exceptions available under this clause in order to establish a *sui generis* form of GI protection that clearly prevails over trademarks (Das, 2007; Jain, 2009). In view of the endless negotiations regarding GI protection extension under WTO, some developing countries, being convinced of the economic benefits and trade potential inherent in GIs, have voluntarily started to register their GI products in other countries. Thailand, for instance, registered its GI products in the European Union (Grote, 2009).

For the consolidation of benefits via GI protection for developing countries possessing GI assets, actions are needed not only at the national level but also at the international level in order to reach a consensus on the extension of GI protection for products other than wine and spirits. National regulations which only apply to one country are not sufficient in a global economy where products often are moved beyond national borders (Addor and Grazioli, 2002). Since negotiations in WTO might take years before any consensus is reached, it is necessary that there be international recognition of GIs which are nationally registered (Vivas-Eugui, 2001).

National legal framework for geographical indication protection

Implementing TRIPS standards for GI protection at the national level can be done either through the *sui generis* system following the collective or public approach inherent in a GI, or under the private system of trademark law pursuing an individual ownership or private approach (Vivas-Eugui, 2001; Addor and Grazioli, 2002; Vandecandelaere and others, 2009). Many countries have chosen to protect GIs as certification marks under the private trademark system. This means that if one specific country wants to register a GI in any country with a system of trademark law, it would then have to protect the GI through the registration of a certification mark in the national office of that country (Vivas-Eugui, 2001). Thailand has chosen the *sui generis* system based on a collective approach by enforcing the Act on GI Protection B.E. 2546 (2003), the objectives of which are: (a) to protect consumers from misleading information about the product and producers from unfair competition; (b) to add value to products and serve as a marketing tool for the producers; (c) to maintain product standards; (d) to distribute GI income to rural areas and support industries in the rural communities; and (e) to protect traditional knowledge and strengthen indigenous communities (Thailand, Department of Intellectual Property, 2004).

The Act entered into force in Thailand on 28 April 2003. Prior to its enactment, no specific provisions existed to protect geographical indications in the country (Jaovisidha, 2003). However, Thailand has been providing general protection against the deceptive use of IPRs for many years via such means as the Consumer Protection Act of 1979, the Food Act of 1979 and the Penal Code of 1956 (amended by an Act in 1994). Furthermore, certain general legislation, such as protection under the criminal law, tort law and protection under the Trademark Act, was applied, although the pieces of legislation were not designed to protect against biopiracy and therefore only provided indirect and inadequate protection (Jaovisidha, 2003; O'Connor, 2004).

According to the Thai Act on GI Protection, GIs are defined as “a name, symbol or any other thing used for calling or representing a geographical origin and capable of identifying that the goods originating in that geographical origin are the goods, the particular quality, reputation or characteristic of which is attributable to such geographical origin” (Thailand, Ministry of Commerce, 2003, section 3). The geographical origin refers to a certain area, district, region or locality, including sea, lake, river, watercourse, island, mountain or the like. GI labels are classified into two types: (a) *direct GI* – a geographical name that relates directly to GI products, such as Chaiya Salted Eggs or Thung Kula Rong-Hai Thai Hom Mali Rice (TKR); and

(b) *indirect GI* – sign or anything that does not contain a geographical name to identify the geographical origin or production origin, such as a “Yamo”² picture.

The Act refers to goods that can be purchased, exchanged or transferred. They can originate from nature or they can be agricultural products, including handicrafts and industrial products. There are two protection levels: (a) *general protection* against any use of GIs that are misleading or constitute unfair competition (section 27); and (b) *higher level of protection for special products named by the Minister of Commerce*. Salted egg producers in Chiang Mai, for example, cannot use the name “Chaiya Salted Eggs” since doing so would mislead consumers and constitute unfair competition. Thus, a higher level of protection is provided, even when the use of such GI does not mislead the public about the true origin of a product. The prohibition is also valid for any use of GI in translation or accompanied by the expressions “kind” or “type” or the like. Thailand has named special products for this category of GI protection, such as rice, silk, wine and spirits.

The owners of a registered GI are communities or organizations located in the geographical origin. These owners have the exclusive right to prevent all third parties from using their GI. Since GIs are the rights of the community, they cannot be transferred to others for use. Furthermore, it must be acknowledged that the national legislation has limited power to curb infringements happening abroad.

IV. GEOGRAPHICAL INDICATION REGISTRATION AND CERTIFICATION PROCESS IN THAILAND

This section describes some practical issues around GIs, namely their registration and certification process. Furthermore, it highlights the GI products being registered and certified in Thailand. The implementation of the GI Act involves setting strict product standards as well as origin requirements; these are needed to justify the strong rights granted and it makes sure that there is no danger of goods becoming generic. Without such regulations, the value of a GI for all legitimate users may be negatively affected when one registered GI user decides to sell his or her low-quality products in the high-quality market (Anania and Nisticò, 2004; Jena and Grote, 2010). The system of GI registration therefore serves as a tool by which producers can reach the consumers with a consistent quality signal.

² “Yamo” is the colloquial name of Thao Suranaree, a nineteenth century heroine from Nakhon Ratchasima Province in northeastern Thailand.

Geographical indication registration process

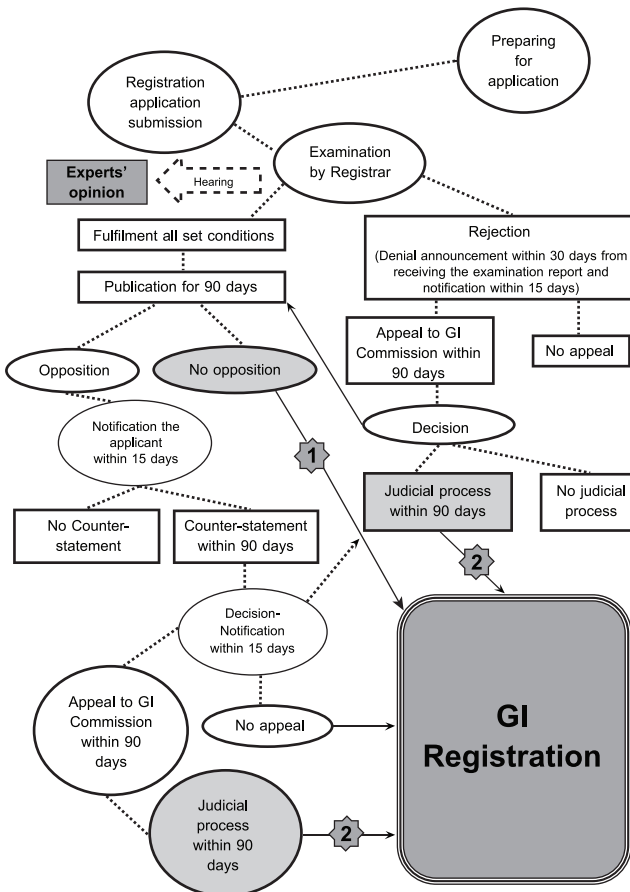
In order to protect GIs, the Thai GI Protection Act has established a registration system. In section 7 of the GI Act three groups of stakeholders eligible to apply for registration are identified: (a) *governmental bodies, governmental offices, State-owned enterprises or local administration organizations* which are registered as a juristic person; (b) *single persons, groups of persons or juristic persons* who do business involving GI products and who are located or live in the GI area; and (c) *groups or organizations of consumers* who make use of GI products. These stakeholders represent the interests of the producers of the products concerned (Thailand, Ministry of Commerce, 2003). In addition, applicants can be Thai nationals or foreigners. Foreigners who want to register their GIs in Thailand must either hold a nationality in the member countries of the treaties concerned or the multilateral GI protection agreements in which Thailand is a member, or they must have settled down or have their own enterprises in Thailand or in any of the member countries. Regarding foreign GIs, there must be clear evidence that these products have been already granted protection in their country of origin by the date of GI application in Thailand. Section 5 of the Act contains a list of GI names which cannot be registered, i.e. generic names or names that are commonly used in the trade of those goods as well as names being contrary to public order, morality and public policy (Thailand, Ministry of Commerce, 2003).

According to Thailand's Department of Intellectual Property (n.d.), there are several stages in developing a GI. First, a network must be built by assembling all business operators in the production line from upstream raw material producers to the downstream process operators of a specific potential GI product. The origin and quality as well as the reputation or other characteristics of the good along with the history of the production of the goods concerned in that location of geographical origin must be documented. Furthermore, there should be evidence of consumer perceptions concerning those goods. Finally, a cost-benefit analysis which considers the monitoring and marketing costs should be undertaken to provide insights on whether GI application would pay off for the stakeholders involved. It is clearly noted that not all area names or all kinds of products need protection in the form of a GI. The product specification requires the zoning or boundary setting for GI production and the establishment of the inspection structure and control system. A draft production standard can then be submitted to request certification of the selected good by a foreign certification body. Finally, marketing and public relations plans for the GI product should be established. Once all these stages have been finalized, the GI registration application must be submitted either to the GI Registry or the Provincial Office of Commercial Affairs under the Ministry of Commerce. The Department of Intellectual Property is then responsible for the examination of all applications, the

registration of GIs and ultimately the licensing of a Thai GI label.

Within 120 days from the date of receiving the application, the examination officer must submit the examination report to the Registrar who will consider the report and make a decision whether to register the product in question as a GI or not. If the Registrar sees that all inherent conditions of the GI application for registration have been fulfilled, the Department would then announce the GI registration application. If there is no opposition by other interested parties, the product in question will be registered as a GI, as shown in figure 2 (line No. 1).

Figure 2. Procedures for registration of geographical indications in Thailand



Source: Authors, based on Thailand, Ministry of Commerce (2003); and Department of Intellectual Property website. Available from www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=view&id=1079&Itemid=251 (accessed 23 December 2009).

Any interested party or even the government official is entitled to request the GI Commission not to register a product of concern as a GI, or to cancel already registered ones if any of the following two situations applies (Thailand, Ministry of Commerce, 2003):

- (a) The registration application for a GI or for GI registration has not proceeded publicly, or any statement in the application does not reflect the true reality during the registration procedure;
- (b) A changed situation after registration leads the registered GI to become generic or contrary to public order, morality and public policy, or the changed situation leads to a change in the characteristics, quality and reputation of the GI goods concerned.

Once the name of the GI product has been registered by the Registrar, the producers from the geographical origin and entrepreneurs of such GI products are granted rights over the use of the GI label, as shown in figure 3. However, it is important to note that, while the producers have to come from the geographical origin, the entrepreneurs do not necessarily need to originate from that particular GI area. The use of a GI label by any GI value chain actors on their product can nevertheless be cancelled (a) when it is misleading and deceptive, thus resulting in potential damage to the reputation of persons who are users of the same GI, and (b) when the GI label is used for other products which are not registered and do not come from the same place of origin (section 27 of the Act). Any person who uses a GI label without the legitimate right to do so, or who uses it to mislead consumers shall be liable to a fine of up to Baht 200,000.

Figure 3. GI label for Thai geographical indications

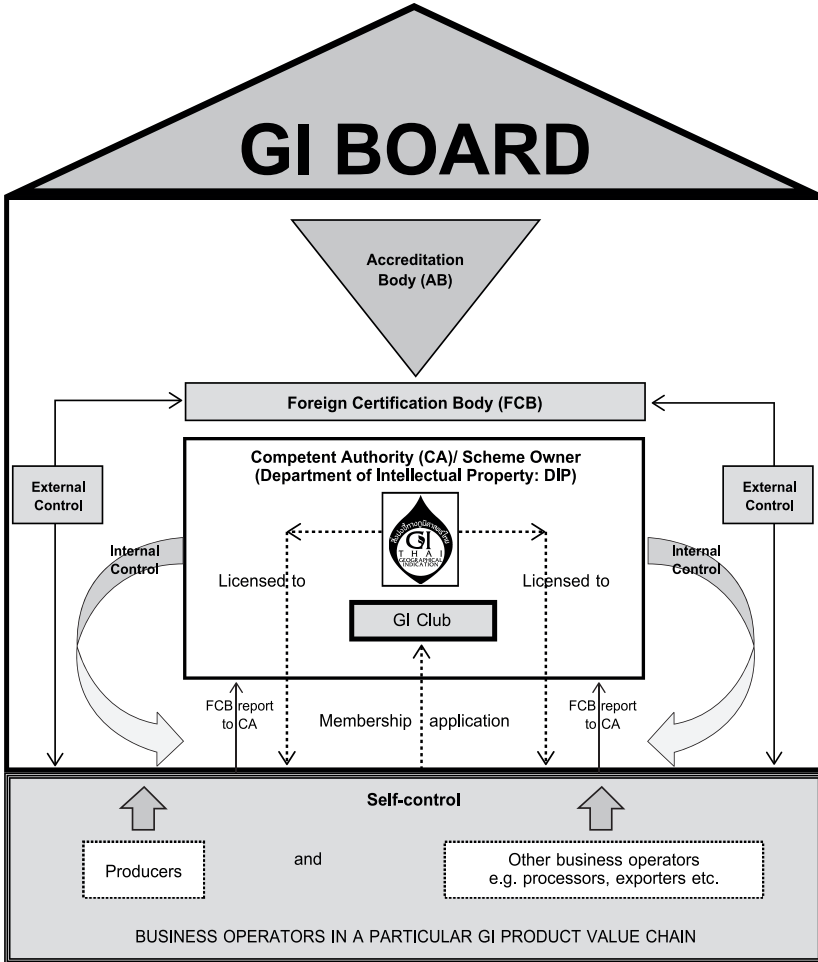


Source: Department of Intellectual Property, Ministry of Commerce of Thailand.

Geographical indication certification process in Thailand

After registration of the GI good, the producers and business operators of that particular GI product still need to become certified. Figure 4 illustrates the GI certification process in Thailand. According to Ngokkuen and Grote (2011), three important steps are required for certifying commercial operators of the GI product production line: (a) self-control; (b) internal control; and (c) external control by the foreign certification body on behalf of a competent authority, i.e. the Thai Department of Intellectual Property. Self-control is the initial step in the quality control management of the GI product concerned. This implies that producers follow the producer manual and the control plan given by the Department of Intellectual Property in order to maintain the quality of the GI product concerned. Internal control relates to the control within the border of the country concerned. It involves the control of all GI producers, processors and other GI stakeholders by local and national governmental bodies, which are usually represented by a GI committee at the provincial level. These actors have to be certified by the Department of Intellectual Property. The external control involves the quality control and formality checks by the foreign certification body. This is particularly the case when such GI products are exported to countries where GI certification is required (Ngokkuen and Grote, 2011). External control is also carried out by the accreditation body which has the responsibility to provide accreditation for the certification body. The responsible accreditation body in Thailand is the Thai Industrial Standards Institute (TISI) and the National Bureau of Agricultural Commodity and Food Standard (ACFS).

Figure 4. Geographical indication certification process and GI control system in Thailand



Source: Authors, based on website of the Department of Intellectual Property. Available from [www.ipthailand.go.th/ipthailand/index.php?option=com_docman&task=cat_view &gid=232&Itemid=192](http://www.ipthailand.go.th/ipthailand/index.php?option=com_docman&task=cat_view&gid=232&Itemid=192) (accessed 23 December 2009); and Ngokkuen and Grote (2011: p.174).

After being certified by the Department, the GI producers or GI business operators can use the GI label on the packages for their product and for their marketing campaigns. However, the membership status of the GI business operators must be annually renewed by the competent authority.

Registered geographical indication products in Thailand

Within the last 10 years, 46 different products have been registered and certified as GIs in Thailand. Panasnikom Handicrafts, Trang Roast Pork and Doi Tung Coffee became the country's first three registered GIs (see table A.1 in the annex). As of December 2012, 8 product types have been registered as GIs, namely handicrafts, food, coffee, wine and spirits, horticultural products, rice, pottery, general textiles and textile goods, and silk. Most of the registered GIs in Thailand are Thai GIs. Eight registered GIs are foreign ones. The most often registered GI products are horticultural products (14 products), followed by 8 kinds of GI rice. Thung Kula Rong-Hai Thai Hom Mali Rice from the Northeast is the most popular form of jasmine rice and has been registered as Thai GI rice, followed by Surin Hom Mali Rice from the same region.

V. CHALLENGES OF GEOGRAPHICAL INDICATION PROTECTION

There are a number of challenges associated with GIs as a tool to protect genetic resources in Thailand. Two major challenges are highlighted in this section, namely the use of GI certificates versus patents, and regional trade agreements along with the TRIPS Agreement. Both challenges are explained by drawing on the case study of jasmine rice. Some possible solutions are suggested.

The call for better protection of geographical indications

At the international level, the GI registration application for the product labelled "Khao Hom Mali Thung Kula Rong-Hai" was submitted by the Thai Department of Intellectual Property to the European Union's GI Registry on 20 November 2008 (European Commission, 2010). This GI application was the first one from Asia and the first attempt to seek GI protection abroad. As of April 2012, the term *Khao Hom Mali Thung Kula Rong-Hai* has still not been registered by the European Union's GI Registry due to the opposition of five countries: Belgium, France, Italy, the Netherlands and the United Kingdom of Great Britain and Northern Ireland. These countries contended that Thailand should not be the only country allowed to register the term *Khao Hom Mali*, as other countries can also grow jasmine rice. European rice traders were concerned about not being able to use the word *Khao Hom Mali* in branding other Jasmine rice products from Thailand once the term *Khao Hom Mali Thung Kula Rong-Hai* would have been registered as GI in the European Union. They suggest that Thailand should apply for registering only the term *Thung Kula Rong-Hai*.³ Thailand then agreed to

³ "Five European nations oppose Thai registration of Thai Hom Mali rice", *MCOT online news*, 26 January 2011.

apply for GI protection only for the term *Thung Kula Rong-Hai*. However, the DIP insisted on having its *Thung Kula Rong-Hai* jasmine rice to be sold at a premium price with the GI designation displayed on the packaging. In addition, the rice must be packed at the site where it was cultivated and be traceable back to the field in order to keep the quality of the jasmine rice concerned, which originated from the GI area. Thailand does not forbid rice traders in the European Union from importing and packing in the European Union varieties of Thai jasmine rice grown in other areas of Thailand next to other varieties of premium rice, brown rice, or other kinds of rice. However, it must be ensured that the European traders have an appropriate supervised packing system, making all rice imported from Thailand capable of being traced to its origin. This is in order to protect the reputation of Thai rice.⁴

Besides the attempt to protect the reputation of Thai jasmine rice abroad through registration of a GI, there have been also intensive attempts since 2001 by the Thai Government to protect it under the trademark law in other countries (Thailand, Department of Foreign Trade, 2002). Thai jasmine rice under the name “Thai Hom Mali Rice” with an official Thai-language term “Khao Hom Mali Thai” or “Kaow Hom Mali Thai” has already been successfully registered as a certification mark (figure 5) by the Trademark Office in more than 50 countries, including Australia, Canada, Malaysia, Singapore and the United States (Thailand, Department of Foreign Trade, 2002). The Thai-language terms “khao” and “hom mali” refer to rice and jasmine flower fragrance in English, respectively. The reason behind the registration application of Thai jasmine rice labelled “Khao Hom Mali” instead of “Jasmine rice” is due to the existing private system of trademark law in some countries, including the United States where the court considers the term “jasmine” as generic. The Department of Foreign Trade of Thailand’s Ministry of Commerce controls the use of the certification mark which is aimed at providing consumers with information and assurance that rice imported with the mark meets its quality standards. The mark is also used to certify the origin, composition and method of production, quality or other quality characteristics of a product.

⁴ For more information on this point, see “Hom Mali rice GI registration likely this year”, *Bangkok Post*, 25 June 2011; and “Thailand/European Union: EU nations oppose Thailand’s registration with European Commission for geographical indication of Thai Jasmine rice”, *Thai Press Reports*, 2011.

Figure 5. Certification mark of Thai Hom Mali Rice originated in Thailand

Source: Department of Foreign Trade, Ministry of Commerce of Thailand.

In January 2008, the National Science and Technology Development Agency in Thailand obtained a patent on genes that generate aroma in the world famous jasmine rice in the United States. This was considered by the Agency as a necessity to be able to protect Thailand's national treasure by keeping other countries from obtaining a patent on rice, an act that would damage Thai farmers and the Thai rice industry. However, due to the existing conflicts of interests regarding IPR types at the multilateral level, i.e. trademarks and patents versus GIs, this move to patent Thai Jasmine rice genes could send a wrong signal to other trading partners. Since Thailand prefers the *sui generis* GI law over trademarks and patent law in protecting GI products and since the country had strongly opposed the patent registration of living organisms and genetic resources in the past, alliance-seeking activities with respect to better protection of agricultural GIs at the multilateral level are therefore in the situation of self-challenge.

Moreover, there is concern that the rice patent on genes from jasmine rice could develop into a double-edged sword in the future, owing to the limited duration of the patent protection period of up to 20 years. Law experts, non-governmental organizations and farmers thus see this rice patent as more harmful than beneficial for the long-term protection of Thai jasmine rice. Anybody could benefit from this variety by adopting the genetic engineering technology needed to put the aromatic genes into any rice variety in order to make it as aromatic as Thai jasmine rice after the expiration of the patent protection period. Combining this concern with the issue of biopiracy, the damage would be much more severe, since foreigners could also apply for patents on other living organisms and genes,⁵ even though such living organisms and genetic

⁵ For additional details, see "Thai rice gene patent sends wrong signal", *Bangkok Post*, 3 July 2009.

resources do not have a point of origin in their countries. Bad experiences with cases such as those of *plao-noi* and bitter gourd could affect Thailand again.

Even though there is still room for relief – since under the Convention on Biological Diversity there is some willing to assign ownership rights to the first phase of the biotechnology process and at the multilateral level – the TRIPS Agreement still does not grant patent protection to any products resulting from the first phase of the biotechnology process (Kerr and Yampoin, 2007). Furthermore, it allows signatory countries to exempt and exclude plant and animal patents from their national patent laws (El-Said, 2005). However, the convention to protect such living organisms and genetic resources has still not been ratified at the international level. Furthermore, even if the products from the first phase of the biotechnology process are not granted patent protection under the TRIPS Agreement, the extension of GI protection under article 23 of TRIPS for agricultural products is still under negotiation. The challenge for GI protection would therefore increase to a greater extent not only for GI protection in Thailand, but also for the whole GI protection system under TRIPS. What Thailand could do alternatively with respect to the issue concerned is to take the initiative to open the floor for negotiations that go much further than the existing request for extending GI protection under article 23. Upgrading its national *sui generis* system for GI protection could be alternatively carried out by adding protection on genetic resources of GI plants. Such a tightened *sui generis* system should not only be integrated into the national legal framework but it should also conform well to specific needs of indigenous and local communities and best protect the genetic resources of the country. Hence, a comprehensive approach with a bundle of complementary legal, non-legal and voluntary mechanisms, such as GI registration, currently serves as the best solution for enhanced GI protection.

Regional trade agreements, TRIPS-plus and TRIPS-minus

Owing to the slow progress in completing the current Doha Development Round, more and more regional and bilateral free trade agreements (RTAs and FTAs) have been negotiated in the recent past (El-Said, 2005). This changing trend in trade negotiations has also been induced by (a) article 24.1 of the TRIPS Agreement, which encourages WTO members to have recourse to bilateral agreements; and by (b) the minimum IP standards of the TRIPS Agreement allowing the creation of higher standards in any IP agreement negotiated subsequent to TRIPS among WTO members. This introduction of minimum IP standards is allowed as long as the principles of non-discrimination, i.e. most-favoured-nation and national treatment, are respected (Mercurio, 2006). However, it is important to note that these newly generated RTAs and FTAs operate outside the jurisdiction of WTO, since they are only notified to WTO but are not governed by its rules and dispute settlement arrangements. In addition, since

a new trade round could be launched easier than under the multilateral framework, they are thus multiplying very fast (GRAIN, 2001). As of 15 January 2012, a total of 511 RTAs were notified to the General Agreement on Tariffs and Trade and WTO, of which 319 agreements were in force with most of them (90 per cent) being FTAs, while customs unions account only for 10 per cent (WTO, 2012).

Having failed to achieve stronger IPR protection in the TRIPS negotiations, developed countries have included more protectable subject matter, broader and more extensive coverage, increased harmonization, stronger enforcement mechanisms and a weakening of flexibilities and special and differential treatment in the bilateral FTA negotiations with the developing and least developed countries (Mercurio, 2006). The TRIPS provisions contained in RTAs and FTAs are considered as “TRIPS-plus” provisions if the country is being forcefully required to implement more extensive levels and standards of IPR protection than required under the TRIPS Agreement, or if they have to reduce the scope of their rights and exceptions as well as to eliminate an option which was awarded to them under the TRIPS Agreement (Musungu and Dutfield, 2003). The TRIPS-plus agenda was made particularly by the United States and the European Union through a series of RTAs and FTAs, with the United States pursuing its strategy of “competitive liberalization” and thus becoming the most active country in bilateral trade talks (Mercurio, 2006).

While the European Union in FTAs with other countries stressed the recognition of selected European GIs, particularly GIs for wines and/or spirits, the United States focused to a large extent on the elimination of domestic *sui generis* GI protection systems and their replacement by regular trademark systems (Vivas-Engui and Spennemann, 2006a; 2006b). Vivas-Engui and Spennemann (2006a) termed such provisions by the United States as “TRIPS-minus” provisions. This preference by the United States for trademarks can be explained by the country’s own legal tradition of having trademarks, and also because they do not consider GIs as community rights but rather as private rights which can be licensed or sold (Charlier and Ngo, 2007). Binding such standards into FTAs or RTAs will therefore prevent a Government from using proactive legal measures created under the national GI Act to punish freeriders in cases of deception or misuse of the national GIs by a trading partner. Agreeing to such standards therefore not only means agreeing to amend the national IP law, but it also means that countries may be agreeing to standards that are far from their own economic and social needs (Mercurio, 2006). The TRIPS-plus or TRIPS-minus provisions have therefore very important implications for developing countries because of their higher level of flexibility which again puts developing countries into a difficult situation as negotiating partners (George, 2004). Rules and practices under these concepts limit their ability to protect the public interest (Musungu and Dutfield, 2003).

Even though Thailand supports multilateral trade liberalization, as a member of the Asia-Pacific Economic Cooperation forum and as a party to the Association of Southeast Asian Nations (ASEAN), the country is also committed to “open regionalism”. Since 2002, Thailand has actively negotiated preferential trading arrangements with such countries as Australia, China, India, New Zealand and the United States. As of 5 April 2012, free trade talks of Thailand comprised a total of 22 FTAs and RTAs, of which 6 agreements became effective (Thailand, Department of Trade Negotiations, 2012). Many FTAs and RTAs are seen as beneficial for Thailand’s economy. However, the Thailand-United States FTA has been considered as the most critical one since it is comprehensive and very detailed. In its chapter on IPRs, it is specified that trademark holders are granted exclusive rights over third parties who use trade-identical or similar signs, including GIs (TDRI, 2003). Farmers, especially jasmine rice farmers, activists and academics in Thailand have voiced strong opposition to the FTA negotiations with the United States owing to fear of their strong power and particularly because of their role as a funder of jasmine rice bioengineering projects (Roggemann, 2005). The imbalance in bargaining power for developing countries vis-à-vis developed countries is very pronounced and can be more easily exploited in the context of bilateral negotiations than in a multilateral setting. The developing countries, particularly the smaller and weaker among them, have little ability to counter the negotiating demands of powerful trading partners, in particular the United States, in bilateral FTA negotiations (Buckley, Lo and Boulle, 2008). A challenge for a developing country such as Thailand is thus how to counter the negotiating demands of the United States.

Until now, the proposed Thailand-United States FTA has not been concluded. Negotiations have been put on hold by the United States since February 2006, mainly due to the political situation in Thailand. The hold was also due to the expiration of the United States Bipartisan Trade Promotion Authority Act of 2002 in June 2007. The Act has still not been renewed or extended by the United States Congress since that time (Hornbeck and Cooper, 2011). The continuation of the FTA negotiations with the United States has therefore been postponed to an unknown date (Thailand, Department of Trade Negotiations, 2012).⁶ Thus, Thailand still has some time to explore means to strengthen its national legislation for better GI protection before committing itself to such a FTA and concluding further FTAs or RTAs with other leading economies. This could be done for example by amending and upgrading the existing GI Protection Act

⁶ Senator Jim Webb, Chairman of the United States Senate’s Subcommittee on East Asian and Pacific Affairs, during his visit in Thailand expressed the hope that both countries would coordinate their bilateral cooperation and further foster the already strong relations between the two countries, and that the United States was ready to support Thailand with the newly elected government of Ms. Yingluck Shinawatra in various fields (“US senate committee welcomes new Thai PM”, *Thailand Business News*, 16 August 2011).

to a higher level of protection over the trademark law but still being conform with the TRIPS rules. The country should also carefully assess whether the ensuring obligations in the RTAs or FTAs correspond with its economic, cultural and societal priorities (Vivas-Eugui and Spennemann, 2006a; 2006b). This challenge is therefore a domestic matter.

It is important to emphasize that GI protection should be based on the same standards for all countries rather than under a multilateral trade framework and not under the bilateral ones (Mercurio, 2006). At the international level, Thailand and all other developing and least developed countries should make sure that long-term policy goals and coherence with the multilateral obligations are adequately taken into account (Vivas-Eugui and Spennemann, 2006a; 2006b). The multilateral trading system is beneficial for them because of its ability to extend dispute settlements across agreements (Mathur, 2001). Moreover, in the WTO forum, such countries have at least the power of numbers. By grouping together similarly situated members, they have been able to have a significant impact on the direction of the multilateral trade agenda, whereas such an outcome would not be feasible in a bilateral context (Buckley, Lo and Boule, 2008). Thailand should thus stress its position to support the multilateral trade rules of the TRIPS Agreement under the auspices of WTO. The country should actively work more closely together with other “GI alliances” in order to make the GI issue more public. The target should be not only to improve information for consumers of Thai GIs in the global market but also to raise recognition from all parties about the importance of having domestic GIs being better protected. Given the facts that the member countries are already banded into different groups, that developing countries themselves do not share the same viewpoints with respect to the issue of GI protection extension under the TRIPS Agreement and that the promotion of bilateralism by developed countries encompasses “dividing” developing coalitions (Mercurio, 2006), it is currently very difficult to gather alliances and build consent for setting standards for GI protection at the multilateral level.

VI. CONCLUSION

In the recent past, the discussion on better IPR protection has taken centre stage. Developed countries which produce most of the world’s IPs owing to their high knowledge-based technologies, seek to protect their self-interest by trying to influence the IPR conventions. They complain about the inadequacy of IPR protection in developing countries and accuse them of IP piracy. Many developing countries, however, accuse the developed countries of biopiracy. In view of the endless negotiations to extend GI protection to products other than wine and spirits at the

multilateral level, together with no ratification of the Convention on Biological Diversity by the United States, the ability of WTO to cope with the problem of biopiracy around the globe is weak. Some countries, in particular those which possess GI products, have enacted laws to protect their genetic resources. Thailand with its *sui generis* GI protection system hopes to mitigate the problem of exploiting origin-based names. The Thai GI Act was enacted not only due to the requirements of the multilateral trading framework but also due to biopiracy related to its widely known Thai jasmine rice. The biopiracy issue was seen as the main driving force accelerating the process for enacting the GI law.

However, increased trade liberalization through bilateral FTAs and RTAs with economies such as the United States and the attempt to protect its national “assets” by obtaining a patent for the rice genes in the United States Patent and Trademark Office have created a situation that has started to challenge GI protection in Thailand. This is due to the limited protection period for patents registered in the United States (only up to 20 years). Furthermore, patenting life forms was never a position of Thailand at the multilateral trade negotiations on patent protection. Suggestions on how to solve such problems do exist, such as opening negotiations that go much further than the existing request of extending GI protection under article 23, or upgrading its national *sui generis* system for GI protection by adding protection on genetic resources of GI plants. However, there is a cost to such suggestions and the expected outcome is unsure. Raising the issue of automatic protection on genetic resources of GI plants within the scope of GI protection is much more challenging, while there is criticism of the *sui generis* system of GI protection by opponents in a series of bilateral FTAs and RTAs. It is to question whether the country would be better off by using its resources on other facets of development that are more likely to yield sustainable outcomes. While creating consumers’ awareness about GIs, for example, is generally recommendable, it must also be considered that GI promotion is expensive and sustainable benefits are not guaranteed. Nevertheless, given the social, cultural and economic importance of GIs for Thailand, it is necessary and worth trying to seek win-win solutions which are of benefit to both sides, the opponents and proponents of GI protection. Many Thai GIs are agricultural in nature and involve all kinds of actors from poor rural households to GI exporters. Losing “GI assets” due to inadequate protection might have a negative impact on many of the million poor in the rural areas.

REFERENCES

- Addor, F., and A. Grazioli (2002). Geographical indications beyond wines and spirits. A road map for a better protection for geographical indications in the WTO/TRIPS Agreement. *Journal of World Intellectual Property*, vol. 5, No. 6, pp. 865-897.
- Adi, B. (2006). Intellectual property rights in biotechnology and the fate of poor farmers' agriculture. *Journal of World Intellectual Property*, vol. 9, No. 1, pp. 91-112.
- Afreen, S., and B.P. Abraham (2008). Biopiracy and protection of traditional knowledge: intellectual property rights and beyond. Working Paper Series, No. 629, September. Calcutta: Indian Institute of Management.
- Akerlof, G.A. (1970). The market for 'lemons': quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, vol. 84, No. 3, pp. 488-500.
- Anania, G., and R. Nisticò (2004). Public regulation as a substitute for trust in quality food markets: what if the trust substitute cannot be fully trusted? *Journal of Institutional and Theoretical Economics*, vol. 160, pp. 681-701.
- Bank of Thailand (2002-2010). *Average Exchange rates of Commercial Banks in Bangkok*. Bangkok.
- Beales, H., R. Craswell, and S.C. Salop (1981). The efficient regulation of consumer information. *Journal of Law and Economics*, vol. 24, No. 3, pp. 491-539.
- Bramley, C., E. Biénabe, and J. Kirsten (2009). The economics of geographical indications: towards a conceptual framework for geographical indication research in developing countries. In *The Economics of Intellectual Property: Suggestions for Further Research in Developing Countries and Countries with Economies in Transition*. Geneva: World Intellectual Property Organization. Available from www.wipo.int/export/sites/www/ip-development/en/economics/pdf/wo_1012_e_ch_4.pdf. Accessed 30 January 2012.
- Buckley, R., V.L. Lo, and L. Boule (2008). *Challenges to Multilateral Trade. The Impact of Bilateral, Preferential and Regional Agreements*. Alphen aan den Rijn, The Netherlands: Kluwer Law International.
- Charlier, C., and M. Ngo (2007). An analysis of the European communities: protection of trademarks and geographical indications for agricultural products and foodstuffs dispute. *Journal of World Intellectual Property*, vol. 10, No. 3-4, pp. 171-186.
- Correa, C.M. (2002). Protection of geographical indications in Caricom Countries. Available from [www.crn.org/documents/studies/Geographical Indications Correa.pdf](http://www.crn.org/documents/studies/Geographical%20Indications%20Correa.pdf). Accessed 23 December 2011.
- Das, K. (2007). Protection of geographical indications and developing countries. T.R.A.D.E. Working Paper 10. Geneva: South Centre.
- Delgado, G.C. (2002). Biopiracy and intellectual property as the basis for biotechnological development: the case of Mexico. *International Journal of Politics, Culture and Society*, vol. 16, No. 2, pp. 297-318.
- El-Said, M. (2005). The road from TRIPS-minus, to TRIPS, to TRIPS-plus. Implications of IPRs for the Arab world. *Journal of World Intellectual Property*, vol. 8, No. 1, pp. 53-65.
- European Commission (2010). Publication of an application pursuant to article 6 (2) of Council Regulation (EC) No 510/2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs (2010/C 169/06). *Official Journal of the European Union*, C 169/7, 29.06.2010. Available from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:169:0007:0011:EN:PDF>. Accessed 20 June 2012.

- George, J. (2004). Next decade of TRIPS Agreement: possibility of tripped geographical indications. *World Trade Review*, vol. 4, No. 14. Available from www.worldtradereview.com/news.asp?pType=N&iType=A&iID=87&siD=14&nID=16122. Accessed 15 December 2009.
- Goodwin, H.L., and others (1992). Market potential for domestic rice varieties among Asian Americans: technical report. Consumer and Product Market Research Report, No. CPM 1-92T. Texas: Texas Agricultural Market Research Center.
- GRAIN (1998). Biopiracy, TRIPS and the patenting of Asia's rice bowl: a collective NGO situationer on IPRs on rice. Available from www.grain.org/article/entries/27-biopiracy-trips-and-the-patenting-of-asia-s-rice-bowl. Accessed 6 September 2011.
- _____ (2001). TRIPS-plus through the back door: how bilateral treaties impose much stronger rules for IPRs on life than the WTO. Available from www.grain.org/article/entries/5-trips-plus-through-the-back-door.pdf.
- Grote, U. (2009). Environmental labeling, protected geographical indications and the interests of developing countries. *Estey Centre Journal of International Law and Trade Policy*, vol. 10, No. 1, pp. 94-110. Available from <http://ageconsearch.umn.edu/bitstream/48795/2/grote10-1.pdf>.
- Hornbeck, J.F., and W.H. Cooper (2011). Trade promotion authority (TPA) and the role of congress in tradem policy. Congressional Research Service Report No. RL33743. Available from www.fas.org/sgp/crs/misc/RL33743.pdf. Accessed 5 April 2012.
- iCoopThai (n.d.). Soontorn Srihanoen: the one who created mythology of Khao Dawk Mali 105 rice. Available from www.icoopthai.com/index.php/cooperative-head-personal/81-rice-jasmin105. Accessed 9 August 2011. (In Thai).
- Jain, S. (2009). Effects of the extension of geographical indications: a South Asian perspective. *Asia-Pacific Development Journal*, vol. 16, No. 2, pp. 65-86.
- Jaovisidha, Suraphol (2003). Protection of geographical indications – “Thailand’s perspective”. Paper prepared for the European Union-Association of Southeast Asian Nations Workshop on Geographical Indication: A Way into the Market, Hanoi, 7-8 October. Available from www.ecap-project.org/archive/fileadmin/ecapll/pdf/en/activities/regional/gi_2003/gi_thailand_surapol.pdf.
- Jena, P.R., and U. Grote (2010). Changing institutions to protect regional heritage: a case for geographical indications in the Indian agrifood sector. *Development Policy Review*, vol.28, No. 2, pp. 217-236.
- Kerr, W.A., and R. Yampoin (2007). Adoption of biotechnology in Thailand and the threat of intellectual property piracy. *Canadian Journal of Agricultural Economics*, vol. 48, No. 4, pp. 597-606.
- Marette, S., J.M. Crespi, and A. Schiavina (1999). The role of common labelling in a context of asymmetric information. *European Review of Agricultural Economics*, vol. 26, No. 2, pp. 167-178.
- Mathur, S.K. (2001). Domestic challenges and the TRIPS agreement: the way forward for India. *Journal of World Intellectual Property*, vol. 4, No. 3, pp. 337-347.
- Mercurio, B. (2006). TRIPS-plus provisions in FTAs: recent trends. In *Regional Trade Agreements and the WTO Legal System*, Lorand Bartel and Federico Ortino, eds. Oxford: Oxford University Press. Available from <http://ssrn.com/abstract=947767>. Accessed 15 December 2009.
- Musungu, S.F., and G. Dutfield (2003). Multilateral agreements and a TRIPS-plus world: the World Intellectual Property Organization (WIPO). TRIPS Issues Papers No. 3 Geneva: Quaker United Nations Office (QUONO); Ottawa: Quaker International Affairs Program.

- Nelson, P. (1970). Information and consumer behavior. *The Journal of Political Economy*, vol. 78, No. 2, pp. 311-329.
- Ngokkuen, C., and U. Grote (2011). The prediction of household's behaviour in adopting geographical indication certification for Jasmine rice from northeastern Thailand. *International Journal on GSTF Business Review*, vol. 1, No. 1, pp. 173-178.
- _____ (2012). Geographical indication for Jasmine: applying a logit model to predict adoption behaviour of Thai farm households. *Quarterly Journal of International Agriculture*, vol. 51, No. 2, pp. 157-185.
- O'Connor, B. (2003). Protecting traditional knowledge: an overview of a developing area of intellectual property law. *Journal of World Intellectual Property*, vol. 6, No. 5, pp. 677-698.
- _____ (2004). *The Law of Geographical Indications*. London: Cameron.
- Organisation for Economic Co-operation and Development (OECD) (2000). Appellations of origin and geographical indications in OECD member countries: economic and legal implications. Study carried out under the Programme of Work for 1999/2000 adopted by the Committee for Agriculture and endorsed by the Trade Committee. Paris: OECD. Available from www.origin-food.org/pdf/meet0901/oecd.pdf. Accessed 18 September 2011.
- Rangnekar, D. (2004). The socio-economics of geographical indications: a review of empirical evidence from Europe. Issues Papers No. 8. Geneva: United Nations Conference on Trade and Development/International Centre for Trade and Sustainable Development.
- Raustiala, K., and S.R. Munzer (2007). The global struggle over geographical indications. *European Journal of International Law*, vol. 18, No. 2, pp. 337-365.
- Roggemann, E. (2005). Fair trade Thai jasmine rice: social change and alternative food strategies across borders. Educational Network for Global and Grassroots Exchange. Los Angeles: Urban and Environmental Policy Institute. Available from <http://globalgrassroots.files.wordpress.com/2011/02/fair-trade-thai-jasmine-rice-ellensroggemannthesis.pdf>.
- Schmalensee, R. (1978). A model of advertising and product quality. *Journal of Political Economy*, vol. 86, No. 3, pp. 485-503.
- Shapiro, C. (1982). Consumer information, product quality, and seller reputation. *Bell Journal of Economics*, vol. 13, No. 1, pp. 20-35.
- _____ (1983). Premiums for high quality products as returns to reputations. *Quarterly Journal of Economics*, vol. 98, No. 4, pp. 659-680.
- Stigler, G.J. (1961). The economics of information. *Journal of Political Economy*, vol. 69, No. 3, pp. 213-225.
- Suh, J., and A. MacPherson (2007). The impact of geographical indication on the revitalization of a regional economy: a case study of Boseong green tea. *Area*, vol. 39, No. 4, pp. 518-527.
- Teuber, R. (2007). Geographical indications of origin as a tool of product differentiation. The case of coffee. Paper presented at the 105th European Association of Agricultural Economists Seminar on International Marketing and International Trade of Food Quality Products. Bologna, Italy, 8-10 March.
- Teuber, R., S. Anders, and C. Langinier (2011). The economics of geographical indications: welfare implications. Working paper, No. 2011-6. Québec, Canada: Structure and Performance of Agriculture and Agri-products Industry Network. Available from www.ualberta.ca/~langinie/Papers/Lit-Overview_GI_Paper_04_2011.pdf. Accessed 11 December 2011.

- Thai Development Research Institute (TDRI) (2003). *Report on Effects of Bilateral FTA between Thailand and the US*. Bangkok. (In Thai).
- Thailand, Bureau of Rice Research and Development (n.d.). Rice knowledge bank. Bangkok: Ministry of Agriculture and Cooperative. Available from www.brrd.in.th/main/index.php?option=com_content&view=article&id=163. Access 9 August 2011. (In Thai).
- Thailand, Department of Foreign Trade (2002). *Project on Publication and Public Relations of Thai Hom Mali Rice (Jasmine) Standards*. Royal Thai Government Report. Nonthaburi: Ministry of Commerce. (In Thai)
- Thailand, Department of Intellectual Property (2004). Basic information on geographical indication. Available from www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=view&id=291&Itemid=248. Accessed 11 December 2009. (In Thai)
- _____ (n.d.). Registration of geographical indication handbook. Nonthaburi: Ministry of Commerce. Available from www.ipthailand.go.th/ipthailand/index.php?option=com_docman&task=cat_view&gid=232&Itemid=192. Accessed 18 December 2009. (In Thai).
- Thailand, Department of Trade Negotiations (2012). *Thai FTA. Latest Status of Negotiations*. Nonthaburi. Available from www.thaifta.com/thaifta/Home/NegoLastestStatus/tabid/117/Default.aspx. Accessed 5 April 2012.
- Thailand, Ministry of Agriculture and Cooperatives (2009). Basic information on agricultural economics 2009. Bangkok. (In Thai).
- _____ (2010). Basic information on agricultural economics 2010. Bangkok. (In Thai)
- _____ (2011). Basic information on agricultural economics 2011. Bangkok. (In Thai)
- Thailand, Ministry of Commerce (2003). Geographical Indications Protection Act, B.E. 2546 (2003), Pinai Nanakorn, trans. *Royal Thai Government Gazette*, vol. 120, part 108a.
- Toriyama, K., H.L. Heong, and B. Hardy, eds. (2005). Rice is life: scientific perspectives for the 21st century. Proceedings of the World Rice Research Conference held in Tokyo and Tsukuba, Japan, 4-7 November 2004. Los Baños, Philippines: International Rice Research Institute, and Tsukuba, Japan: Japan International Research Center for Agricultural Sciences. CD-ROM. Available from http://books.irri.org/9712202046_content.pdf.
- Tregear, A., S. Kuznesof, and A. Moxey (1998). Policy initiatives for regional foods: some insights from consumer research. *Food Policy*, vol. 23, No. 5, pp. 383-394.
- Tregear, A., and others (2007). Regional foods and rural development: the role of product qualification. *Journal of Rural Studies*, vol. 23, pp. 12-22.
- Vandecandelaere, E., and others (2009). Linking people, places and products. A guide for promoting quality linked to geographical origin and sustainable geographical indications. Rome: Food and Agriculture Organization/Strengthening International Research on Geographical Indications.
- Vivas-Eugui, D. (2001). Negotiations on geographical indications in the TRIPS Council and their effect on the WTO agricultural negotiations. Implications for developing countries and the case of Venezuela. *Journal of World Intellectual Property*, vol. 4, No. 5, pp. 703-728.
- Vivas-Eugui, D., and C. Spennemann (2006a). The treatment of geographical indications in recent regional and bilateral free trade agreements. Costa Rica: United Nations Conference on Trade and Development/International Centre for Trade and Sustainable Development Project on Intellectual Property and Sustainable Development.

- _____ (2006b). The treatment of geographical indications in recent WTO discussions and in regional and bilateral agreements. Geneva: International Centre for Trade and Sustainable Development and United Nations Conference on Trade and Development.
- World Trade Organization (WTO) (2012). Regional trade agreements. Available from www.wto.org/english/tratop_e/region_e/region_e.htm. Accessed 5 April 2012.
- Zou, J. (2005). Rice and cheese, anyone? The fight over TRIPS geographical indications continues. Available from www.brooklaw.edu/students/journals/bjil/bjil30iii_zou.pdf. Accessed 17 November 2009.

ANNEX

Table A.1. Registered geographical indications in Thailand classified by product type, 2003-2012

No.	Geographical indications	Product type	Registered date
1	Panasnikom Handicrafts	Handicrafts	26 August 2005
2	Bor Sang Umbrella	Handicrafts	1 June 2006
3	Chiang Mai Celadon	Handicrafts	31 August 2007
4	Yok Blabri Nan	Handicrafts	23 December 2010
5	Trang Roasted Pork	Food	18 April 2006
6	Surat Thani Oyster	Food – seafood	23 June 2006
7	Prosciutto Di Parma	Food – ham	21 July 2006
8	Chaiya Salted Eggs	Food – eggs	27 September 2007
9	Doi Tung Coffee	Coffee	18 April 2006
10	Doi Chaang Coffee	Coffee	27 September 2007
11	Phurua Plateau Wine	Wine	18 April 2006
12	Brunello Di Montalcino	Wine	27 September 2007
13	Napa Valley	Wine	12 June 2008
14	Cognac	Spirits	27 September 2007
15	Pisco	Spirits	30 September 2007
16	Tequila	Spirits	15 August 2008
17	Champagne	Sparkling wine	15 December 2006
18	Scotch Whisky	Whisky	13 July 2007
19	Chainat Khaotangkwa Pomelo	Horticultural product	23 June 2006
20	Sriracha Pineapple	Horticultural product	23 June 2006
21	Chiangrai Phulae Pineapple	Horticultural product	15 December 2006
22	Nanglae Pineapple	Horticultural product	15 December 2006
23	Nakornchaisri Pomelo	Horticultural product	30 September 2007
24	Petchabun Sweet Tamarind	Horticultural product	30 September 2007
25	Phuket Pineapple	Horticultural product	26 October 2007
26	Samutsongkhram Kom Lychee	Horticultural product	10 March 2008
27	Phet Rose Apple	Horticultural product	17 April 2008
28	Glauy Hin Bannang Sata	Horticultural product	8 June 2009

Table A.1 (continued)

No.	Geographical indications	Product type	Registered date
29	Som-O-KhawYai Samutsonkram	Horticultural product	19 March 2010
30	Kathon Hor Bangkrang	Horticultural product	11 May 2010
31	Nont Durian	Horticultural product	11 May 2010
32	Pakpanangn Tabtimsiam Pomelo	Horticultural product	13 September 2010
33	Sangyod Muang Phatthalung Rice	Rice	23 June 2006
34	Hang-Hom-Thong-Sakon-Tawapee Rice	Rice - brown rice	15 December 2006
35	Kaowong Kalasin Sticky Rice	Rice - sticky rice	16 May 2007
36	Thung Kula Rong-Hai Thai Hom Mali Rice	Rice - jasmine rice	27 September 2007
37	Surin Hom Mali Rice	Rice - jasmine rice	26 February 2008
38	Khao Kum Lanna	Rice	17 September 2008
39	Jek Chuey Sao Hai Rice	Rice	30 December 2008
40	Leuang Pratew Chumporn Rice	Rice	30 December 2008
41	Ban Chiang Pottery	Pottery	10 August 2007
42	Kohkret Pottery	Pottery	11 May 2010
43	Mae Jam Tin Jok Woven Cloth	Textiles and textile goods	27 September 2007
44	Lamphun Brocade Thai Silk	Silk	27 September 2007
45	Praewa Kalasin Thai Silk	Silk	27 September 2007
46	Chonnabot Mudmee Thai Silk	Silk	14 January 2009

Sources: Department of Intellectual Property and authors' own compilation.