
Shared Meals and Food Fights

Geographical Indications, Rural Development, and the Environment

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■ **ABSTRACT:** The article highlights relevant issues within the global debate on geographical indications, as they relate to food products. Geographical indications, a form of intellectual property designated by considering principally the place of origin of products, have become a hot topic among producers, activists, economists, and politicians worldwide. Commercial and legal issues related to them have generated complex negotiations in international organizations and national institutions, while their cultural aspects have stimulated theoretical debates about the impact of global trade on local identities. Geographical indications could become a valid tool to implement community-based, sustainable, and quality-oriented agriculture, depending on the sociopolitical environment and whether they are relevant for the producers involved, affordable in terms of administrative and management costs, and applicable on different scales of production. The article also explores the environmental impact of geographical indications and their potential in ensuring the livelihood of rural communities in emerging economies and promoting sustainable agricultural models.

■ **KEYWORDS:** biodiversity, cultural heritage, geographical indications, global trade, intellectual property, indigenous knowledge, rural development

In the past decades, markets worldwide have witnessed the development of categories, referred to as value-based food, that define products not according to flavor or biochemical characteristics, but rather their marketing, cultural, and political connotations. Among these, we can mention “local,” “fair trade” “sustainable” and, from a certain point of view, “organic” (Barham 2002, 2003). This article focuses on one of such value-based categories—geographical indication. This is a form of intellectual property that, when referring to food products, designates them principally by their places of origin, where origin is considered to be the main factor behind the products’ intrinsic quality and reputation. We examine this specific intellectual property category because so far it is the only one to be legally defined at the international level, namely in the 1994 World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which mainly covers issues related to copyright, trademark, and patent. However, despite the legal recognition, the cultural elements that are often deemed intrinsic to geographical indications—local customs, traditions, and artisanal know-how—are

quite difficult to define in terms of individual property rights, as they are generally considered to be common goods. As we demonstrate, the tension between the existing legal categories of intellectual property and geographical indications is generating juridical controversies, political negotiations, and theoretical debates at the global trade level.

Currently, the literature on geographical indications is quite fragmented among disciplines and practices that seldom dialogue among each other. Covered mostly in discussions about economics, development, trade (especially international trade), and the law (in particular about intellectual property), geographical indications have become objects of interest in rural sociology, political science, and anthropology, due to their multifaceted connections to food, identities, and place. Although the potential impact of geographical indications on environment and sustainability, and their relation to indigenous knowledge, have been somewhat explored, scholarship specifically addressing these issues remains scarce.

Due to the extent and complexity of the debates surrounding geographical indications, this article does not aim to be comprehensive or to provide a definitive evaluation about the topic. While reviewing the current state of the research and highlighting a number of relevant legal, political, and economic issues, this article also identifies areas for future investigation, especially about the possible impact of geographical indications on the environment. Because of the connection of geographical indications to contemporary economic, political, and trade-related issues, this article does not exclusively focus on scholarly literature, but also takes into consideration material produced by administrative entities, international institutions, private business, and marketing organizations.

Geographical Indications: Past and Present

The concept of geographical indications and related trade and juridical controversies have received attention in scholarly literature from the legal point of view, generating a great number of articles, documents, and a few full-length books (Echols 2008; Giovannucci et al. 2009; Heath and Sanders 2005; Kongolo 2008). As we show, their vast majority consists of either examinations of the category from the legal point of view and its possible impact on global trade, or case studies analyzing particular occurrences. Due to the relative novelty of the topic, it might be useful to offer a brief overview of what geographical indications are, their history, and the circumstances of their growing relevance.

The concept of geographical indication has a long history in Europe. It originates from the classification that France established in 1855, ranking sixty wine makers (*château*) from the Bordeaux area in five growths (*crus*) on both their quality and the price they commanded (Colman 2008; Stanziani 2004). The Appellation d'Origine Contrôlée (AOC; Controlled Denomination of Origin) as a legal category was officially established in 1919 by the Law for the Protection of the Place of Origin, which led in 1935 to the foundation of the National Institute for Controlled Denominations (Institut National des Appellations d'Origine) with the goal of managing the system. The first AOC was Côtes du Rhône, approved in 1937, for the Rhône wine region. Each wine-producing area was entitled to create rules to discipline its viticulture (grape varieties that could be used, their proportion in the allowed blends, the aging methods, and so on), within general guidelines imposed by the central authority. Wine makers had to meet specific requirements in order to receive the coveted AOC denomination, which was perceived as a sign of higher quality. The system paid off, with consumers ready to pay more for wines that had received some sort of recognition from the state. The concept of AOC was particularly important at a time when urban consumers were increasingly removed from food production, a situ-

ation that made them victims of frequent frauds, provoking anxieties about quality and safety. It provided reassurance against the modern anonymity of science and technology (Atkins et al. 2007; Stanziani 2006).

AOCs, conceptual ancestors of what are now geographical indications, were protected within the framework of national laws and limited in effect to the state territory. However, with the development of international commerce in the second half of the nineteenth century, it became clear that control was needed outside the national borders. Efforts were made to create forms of international protection, starting with the 1883 Paris Convention on Intellectual Property and the 1891 Madrid Agreement for the Repression of False or Deceptive Indications of Source of Goods. The next step was the 1958 Treaty of Lisbon, which further defined the protection of the appellation of origin to include cases in which “the appellation is used in translated form or accompanied by terms such as ‘kind,’ ‘type,’ ‘make,’ ‘imitation’ or the like” (art. 6). In 1989 a Protocol Concerning the International Registration of Marks was signed to allow protection of certain denominations and appellations as trademarks, followed by a formal agreement in 1991. According to the protocol, an international registration made with the International Bureau of the World Intellectual Property Organization (WIPO), one of the specialized agencies of the United Nations, produces the same effects as an application for registration of the mark made in each of the countries designated by the applicant. The protocol also made it possible to record necessary changes and to renew registration through the same office.

By the late 1980s many European states had already set up national systems for food registration and classification. Therefore when the European Union (EU) started issuing regulations on this matter, the existing quality denominations had to be acknowledged and coordinated by the EU authorities, and rules had to be set on how to establish new ones. Every country rushed to have as many protected products as possible, making negotiations difficult and long. Finally in 1992 the EU issued regulation 2081, which allowed the registration of products under three categories: the PDO (Protected Designation of Origin), the PGI (Protected Geographical Indication), and the TSG (Traditional Specialty Guaranteed). Each category allowed different connections with their place of origin, traditions, and methods of production, with PDO being the most binding category and TSG the loosest.

The new European system accelerated the international process of recognition and systematization of the legal concept of geographical indication. In 1994, the TRIPS agreement, one of the founding treaties of the newly founded World Trade Organization (WTO), codified the term geographical indications (besides regulating copyrights, trademarks, and patents). Article 22 of the TRIPS agreement states that “Geographical indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin” (WTO 1994).

In this legal definition, reference to tradition, history, culture, or any other human factor is conspicuously absent, and the text does not specify who is entitled to enjoy the intellectual property rights of the good. Conversely, the insistence on the uniqueness of products connected to specific places runs against the free, smooth, and predictable flow of goods that is one of the explicit goals of the WTO. Due to this intrinsic tension, WIPO acknowledged the unusual characteristics of geographical indications within global trade negotiations, examining their functioning as specific cases of intellectual property (Broude 2005b).

Multilateral and regional agreements are important to the international protection of geographical indications, which vary according to each country’s legal framework and safeguard system. Though it is relatively easy to obtain protection in countries that have some form of legislation on this specific category of intellectual property, it is more complicated when a country

only recognizes general trademarks or collective marks, as is the case with the United States. The status of geographical indication is one of the hot issues of the Doha Development Agenda (Doha Round) of the WTO multilateral trade negotiations, which has brought agriculture to the forefront around issues of global market accessibility, technical barriers to trade, export subsidies, domestic support to agriculture, and implementation of the WTO agreements by developing economies. The EU, which has linked geographical indications to the reform of its common agricultural policy and to the protection of its farmers from price-based competition, is pushing to establish an internationally recognized geographical indication system similar to its own. The adoption of a multilateral register would extend the protection granted to wines and spirits by article 23 of TRIPS to all products, prohibiting the use of translated geographical indication names and even expressions such as “style” or “type” after the geographical indication denomination (Lang 2006). However, a group of countries (including the United States, Australia, New Zealand, and several Latin American and Asian countries from the Cairns Group of agricultural exporting countries) proposes instead a voluntary system based on the creation of an international database (WIPO 2007; WTO 2010). These countries seem determined to uphold the primacy of trademarks in global trade. In January 2011, for the first time in thirteen years of negotiations, negotiators started working on a draft for a multilateral geographical indications register for wines and spirits, which could potentially be used in the future as the model for an international register for all kinds of goods (WTO 2011a). Shortly after, in April 2011, a report on the issues related to the extension of the provisions in article 23 of TRIPS to other products was issued, expressing all of the opposing views. Many developing countries have continued to voice concerns with regard to the special level of protection for wines and spirits, that they disproportionately benefit the more developed countries rather than those whose main products are agriculture and textile. There also exist strong opinions that an expanded geographical indication protection beyond wines and spirits would negatively affect some export goods of developing countries (WTO 2011b).

The debate is both economic and cultural since geographical indications, as a form of collective intellectual property, challenge the law and spirit of US companies oriented toward individual ownership (Daviron and Ponte 2005: 37–43). In the European system geographical indications do not belong to individual producers but to producers’ associations, regulated by public regulations at the regional, national, and EU levels. This approach goes against both the practice and the legal framework of American business, which considers brands as intellectual property protected under a trade name. Trademarks belong to individuals or private companies, and can be bought and sold as a business asset. If violated, it is up to the natural or legal persons to defend their rights to the name before a court of law. The legal contrast between trademarks, WTO geographical indications and the stricter EU system, together with the very disparate ways WTO members have implemented the commitment to protect national and foreign geographical indications, has elicited growing interest among legal experts in international regulations on trade and commerce (Babcock and Clemens 2004; Credit 2009; Doster 2006; Echols 2003; Gervais 2010; Hughes 2006; Ilbert and Petit 2009; Kireeva and O’Connor 2010; Watanapruttipaisan 2009).

Because the principle “first in time, first in right” can be applied to trademarks, European producers of geographical indication goods often have to deal with trademarks registered in other countries that contain their products’ names. Another problem is that most trademark laws prohibit the registration of geographical names because they consider them merely as an indication of the place of origin, a description, or even a generic name (e.g., Chablis in the US). In those cases geographical indication names have to be protected as a collective or a certification mark, when such legal concepts exist, or the producers have to obtain limited safeguard

simply for their logo through the registration of the visual trademark (O'Connor 2004). The trademark registration often does not cover translations, the use of the geographical indication with the so-called delocalisers (i.e., "Wisconsin Parmesan"), and tags such as "like," "style," and so on.

Geographical Indications and Development

The establishment of geographical indications as a possible tool for the development of rural communities is stimulating reaction not only in academia, but also among political and economic decision makers in local, national, and international institutions, as reflected in a wide variety of literature. The commercial and cultural relevance of the perceived connections between specific foods and their place of origin has led to the debate on whether geographical indications can help in implementing just and innovative forms of community-based, quality-oriented agriculture, or whether they are an expression of agrarian utopias based on romanticized ideas of the past that in fact contribute to reproduce local and global inequalities.

By banking on differentiation and the exclusive rights of benefiting from the products' reputation of origin, food manufacturers and growers in Europe are fully aware that geographical indications have the potential to increase the value of their goods, avoid oversupply, protect them from competitors selling similar products at lower prices under the same name, and create entry barriers for producers who do not have the means to comply with the often complex regulations. Geographical indication products have been discussed as "club goods"; a subtype of public goods, such as cable TV or social clubs, which are excludable but nonrivalrous in that they might be expensive to access but can equally be enjoyed by all users at least until they reach a point where congestion occurs and excessive demand may turn them into competitive goods (Langinier and Babcock 2006; Torre 2002).

Geographical indications are supposed to partly make up for the information asymmetries, the misinformation, and the high search costs that are often referred to as possible failures in the neoclassic theoretical model of perfect competition markets. Their clear regulations are meant to make both consumers and administrative authorities responsible for food systems and safety feel more protected from fraud. However, it can also be argued that the respect for production protocols does not inherently guarantee sensory excellence, thus keeping crucial information from the consumer (Josling 2006). Furthermore, once a geographical indication acquires recognition there is always the possibility that producers from the same or other regions may try to come up with similar goods of lesser quality that could profit from the fame of the geographical indication and obtain premium prices from consumers, jeopardizing the reputation of the whole group (Anania and Nisticò 2004). Yet other researchers have pointed out that all the producers involved may enjoy advantages, albeit of different kinds. These dynamics have been examined through the concept of the "avatar," referring to the copies and variants of a traditional product that can coexist in a structurally complementary relationship with the original. In such environments geographical indication producers can take advantage of their reputation, of consolidated channels of distribution, and of consumers ready to pay premium prices, while the producers of the avatars can benefit from the spillover effect of the geographical indication product notoriety (Ceccarelli et al. 2010). The debate has turned into a transatlantic controversy, with all parties involved trying to get as many countries as possible on their side in order to influence decisions within the WTO (Raustiala and Munzer 2007). The EU maintains that geographical indications should be protected from these occurrences, but the US trademark system gives preeminence to entrepreneurship and creativity. New World countries have also pointed out that some of

their geographical names, although deriving from places originally located in the colonial powers that controlled them, have actually been used for autonomous products with deeply rooted traditions.

The limitations imposed on the availability of a product by its recognition as geographical indication can move its supply curve toward increases in price, even with production costs remaining stable, which a neoliberal framework of analysis could interpret as a monopolistic position within. The profit resulting from it could be criticized as a form of nonproductive rent granted to those who own the geographical indication rights, a distortion of competitiveness, and a noneconomic barrier to free trade and the emergence of new industries (Linnemer and Perrot 2000). Conversely, high prices could be justified as a compensation for the considerable costs involved in developing high-quality products and in obtaining and managing a geographical indication, which require either a great number of producers sharing the costs or forms of external subsidies (Moschini et al. 2008).

This set of debates seems quite remote from the realities of many farmers and small producers outside Europe and other industrialized countries where the states' role has been steadily declining, increasingly leaving the establishment of new geographical indications to producers' associations. In emerging economies it is often development agencies, nongovernmental organizations, and national institutions—both private and public—that are examining geographical indications as a possible tool for rural development in disenfranchised areas, working with producers to create forms of cooperation and to ensure protection and promotion of their goods. Geographical indications have been criticized for being a “development adverse” instrument since, unlike trademarks and patents, they are a form of intellectual property that is not based on innovation but rather on the reputation of traditions and artisanal skills that are transmitted over generations in specific places (Vittori 2010). It is also undeniable that this very aspect offers growth opportunities for emerging economies where traditional foods are often produced in marginal or unfavorable areas by small farmers who are unable to reach economies of scale that would allow them to free themselves from a commodity-based export model (CIRAD 2006; Tregear et al. 2004). However, farmers need to be able to ensure the minimum production volume and the surplus necessary to access any market activity, requiring at times the intervention of external aid and development investment (Larson 2010).

Under this set of conditions, the economic potential of geographical indications has been examined within the research on global value chains that focuses on the vertical relationships among buyers, distributors, and producers by following the movement of goods or services from the origin to the final consumer, as well as through the analysis of their governance dynamics. According to this approach, the final consumers' perception of the unique qualities attributed to local specialties produced in limited amounts can differentiate them from homogeneous and mass-produced commodities, pushing them up along the global value chain and ensuring greater portions of the final sale value for the producers. Value-chain analysis suggests that by using certain characteristics of global trade to their advantage, producers and administrative bodies in emerging economies can actually take advantage of the renewed interest in immaterial, value-based qualities in the final markets, usually located in postindustrial societies (Kaplinsky 2004; Nadvi 2004; Ponte and Gibbon 2005). However, this raises the problem of establishing products in developing economies whose commercial viability depends on consumers whose preferences can easily change and who are culturally and geographically far from the very traditions that geographical indications are supposed to enhance.

The few aspects discussed so far suggest how the debate on geographical indications is extremely complex and varies greatly in different situations. The economic impact of geographical indications has been widely studied in Europe, but the literature regarding their implemen-

tation in other areas is still relatively limited, although quickly growing (Kireeva and Vergano 2006; Marie-Vivien 2010; Roussel and Verdeaux 2007; Suh and MacPherson 2007; Teuber 2010; Wang and Kireeva 2007). Overall, research indicates that geographical indications may present several advantages for rural development depending on the sociopolitical environment and whether they are relevant for the producers involved, affordable in terms of administrative and management costs, and applicable on different scales (Bowen 2010; Bramley et al. 2009; Giovannucci 2008; Grote 2009; Rangnekar 2004; Reviron 2009; van de Kop et al. 2006). Geographical indications tend to discourage possible registrations of traditional local products as commercial trademarks by third parties. For example, in 1997 the Texas-based company RiceTec was granted a patent for basmati rice by the US Patent and Trademarks Office. The patent was so broad it would have granted RiceTec the exclusive use of the term basmati and a monopoly on farm-bred basmati varieties from South Asia, including proprietary rights on seeds from hybrids (Lightbome 2003; Watal 2001). The international patent was revoked while the national one is still valid, but the question of the registration of basmati as a geographical indication is still pending for a name that refers to several varieties grown in the northern part of Western Punjab, on both sides of the Indo-Pakistani border. Although India has implemented geographical indication legislation in 2003 and a Trademarks Ordinance came into force in Pakistan in 2004 (with the application for the registration of basmati as geographical indication filed in 2005), political tensions and pressures from local traders keep national authorities on both sides of the border from resolving the situation (Chandola 2006; Giraud 2008). Similarly, an attempt to trademark the name “Darjeeling” was thwarted by the Tea Board of India, which succeeded in having the trademark canceled (Le Goffic 2008).

Another aspect is that by employing local knowledge and farmers’ know-how, geographical indications can stimulate entrepreneurial attitudes within rural communities that have the potential to assure higher revenues and to limit the migration toward urban centers and to the Global North. However, this is not a guaranteed outcome; depending on the social and political structures surrounding the geographical indication production, the new income can potentially increase inequality. Some research has evaluated the impact of geographical indications on the real estate market of the area of origin, to assess whether increased commercial values can exclude the less affluent producers (Blackwell 2007). Alternatively, if geographical indication property rights were considered as collectively owned and a common good that cannot be delocalized or sold, the resources derived from their commercial value could be reinvested in the development of local communities and in the conservation of the environment through sustainable agriculture (Zografos 2008).

In any case, the actual incidence of these potential advantages depends on the social and political relations among the producers of geographical indication specialties. A study on tequila has indicated how the profits deriving from the international success of the beverage and its protection as geographical indications have been absorbed mostly by the bottlers, while very little income has actually trickled down to agave farmers (Bowen and Gerritsen 2007; Bowen and Zapata 2009). The evaluation of the impact of geographical indications on specific communities also needs to consider gender relations issues, including who grows and produces what in very diverse family and social structures (Parasecoli 2010).

Not all countries are following the geographical indication road. For example, in 2007 Ethiopia’s pro bono lawyers at Arnold & Porter became involved in a very public debate with Starbucks about the trademark registration of three of Ethiopia’s more famous coffee varieties (Sidamo, Harar, and Yirgacheffe) in more than thirty countries (Barraclough 2007). Starbucks polemically pointed out that Ethiopia should have protected its coffees with geographical indications rather than under intellectual property legislation. Rather than charging royalty fees, the

Ethiopian government is issuing royalty-free licenses to international companies for the use of the three trademarks in exchange for their promotion and marketing, hoping that the increase in demand will also lead to a rise in price.

Geographical Indications, Cultural Heritage, Indigenous Knowledge, and the Environment

As mentioned in the introduction, very little attention has been paid specifically to the impact of geographical indications on the environment. This section suggests areas for future research, based on the literature available on cultural heritage, indigenous knowledge, agrobiodiversity, and sustainability. It needs to be emphasized that most of the suggestions raised in this section are mostly speculative and only partly research-based and that diverse approaches and competing hypotheses on the topic exist.

Although not directly connected with environmental issues, the legal concept of “cultural heritage,” which also covers aspects of material culture of specific communities, could be extended to include local agricultural varieties, food production, as well as food-related traditions and techniques. Consequently, it might be applied to promote agrobiodiversity conservation and stewardship of potentially endangered territories. The protection of cultural artifacts has been taken up by the United Nations and in particular UNESCO (United Nations Educational, Scientific, and Cultural Organization). At first the safeguard was focused on architectural treasures, sites, and landscapes, but the 1972 UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage expanded international protection to specific natural habitats as well, reflecting growing concerns about the environment. This recognition acknowledges the relevance of landscapes and natural characters for certain communities and cultures. Article 47 of the convention defines cultural landscapes as “cultural properties and combined works of nature and of man. ... They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.” In 1989 UNESCO issued a Recommendation on the Safeguarding of Traditional Culture and Folklore, which underlines the human aspects of cultural heritage. In 1995 the European Conference of Ministers responsible for the Cultural Heritage in Helsinki embraced the concept of cultural landscapes to include peoples’ tradition, their cultural identity, and also their interaction with the environment. The 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage defined the latter as “the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artifacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.” The preamble of the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions underlines that cultural diversity can be considered *per se* as part of the common heritage of humanity and should be preserved as such. The protection under the heading of cultural heritage has been extended to whole cuisines. Based on the provisions of the 2003 UNESCO convention, in 2010 “The gastronomic meal of the French,” “The Mediterranean diet,” and “Traditional Mexican cuisine—ancestral, ongoing community culture, the Michoacán paradigm” were added to the Representative List of the Intangible Cultural Heritage of Humanity, confirming the inclusion of food and food traditions under the convention’s provisions.

These legal texts could potentially play an important role in helping to define and safeguard food productions as cultural expressions of specific communities and of their interaction with

the environment. In developing economies, the UNESCO conventions would protect producers who might find difficulties in establishing geographical indications due to financial costs and administrative problems, and from unwarranted use of their cultural resources. However, the interpretation of the conventions on cultural heritage and the very principles constituting their framework of reference are object of debate. The most fundamental problems derive from the concept of culture itself, too vast to become the basis for a legal definition of cultural heritage. Is folklore “part of the heritage of humanity” or part of cultural identity of a specific community or people? Because applying the concept of intellectual property to cultural resources would imply a separation of ownership from control and access, and as a consequence the possibility of commodifying cultural elements, the legal harmonization of these elements has solicited scholarly interest especially in emerging economies (Arewa 2006; Long 2006; Srinivas 2008; Sunder 2007). It is particularly difficult to define the extent of natural heritage to be protected. Although article 3 of the 2003 UNESCO convention clearly affirms that “nothing in this convention can be interpreted as ... affecting the rights and obligations of States Parties deriving from any international instrument relating to Intellectual Property rights or to the use of biological and ecological resources to which they are parties,” some authors have suggested that the extension of article 23 of TRIPS to all geographical indications could be based on the relevance of cultural identity as public domain (Broude 2005a, 2005b).

The same tensions are evident also when it comes to indigenous knowledge, also referred to as traditional knowledge. Potentially relevant in the geographical indication debate, the category is broadly identified as “the knowledge that an indigenous (local) community accumulates over generations of living in a particular environment. This definition encompasses all forms of knowledge—technologies, know-how, skills, practices and beliefs—that enable the community to achieve stable livelihoods in their environment” (UNEP 2010). Although there is still no international convention that provides a precise legal framework and specific modalities for the protection of traditional products that could fall under this category, the 1992 Convention for Biological Diversity makes frequent reference to indigenous and traditional knowledge, explored also by scholars in its legal and political potential (Antons 2009; Bratspies 2006; Langton and Ma Rhea 2005; Munzer and Raustiala 2009; Oguamanam 2006). In 2000 WIPO established the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC-GRTKF) precisely to examine the complex relationship between traditional knowledge, intellectual property rights, and agrobiodiversity.

Indigenous knowledge as a possible juridical category raises issues with regard to the control of national states over natural resources, to the point that the preamble to the 1992 UN Convention on Biological Diversity used the expression “common concern of humankind” for the conservation of biological diversity, all while reaffirming the states’ “sovereign rights over their own biological resources.” The convention further states that each contracting party, “subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices” (art. 8j). Indigenous knowledge is identified as relevant for national interest and as such subject to sovereign rights and national legislation, and states are supposed to “protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements” (art. 10c). The convention tries to strike a balance among national priorities, the interests of the private sector, and the objectives of intergovernmental and nongovernmental organizations in terms of access

and benefit sharing, by affirming that “the authority to determine access to genetic resources rests with the national governments and is subject to national legislation,” while “each Contracting Party shall endeavor to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and not to impose restrictions that run counter to the objectives of this Convention” (art. 15). These goals, referred to as ABS (Access and Benefit Sharing), were further spelled out in 2010 with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, which at the time of writing is open to signature at the United Nations Headquarters in New York. In article 7, the protocol states that “in accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established.” Furthermore, article 12 strengthens the ability of these communities to benefit from the use of their knowledge, innovations, and practices. In fact, developing countries have been lobbying to obtain disclosure of the origin of genetic materials or associated indigenous knowledge claimed in patent applications, also connecting it to the negotiations about the geographical indication registry (Correa 2010).

The concept of indigenous knowledge has mostly been employed within the framework of social and economic development projects, but it has potential to be used as a legal weapon in the battle to maintain collective intellectual property. In India, indigenous knowledge-related techniques and products have been granted patents and the protection connected to them even though they did not fulfill the traditional legal requirements of novelty and invention. For instance, a pharmaceutical patent in the US for the use of turmeric in the healing of wounds and rashes was canceled by the United States Patent and Trademark Office due to the previous existence in India of similar traditional medicine procedures and products, while the European Patent Office (EPO) revoked the patent for neem (*Azadirachta indica*), whose extracts are traditionally employed as insect repellent. In 1995 a trust fund was built to commercialize agent compounds from the medicinal plant arogyapaacha (*Trichopus zeylanicus*) and a treaty was signed between the Tropical Botanic Garden and Research Institute and the Kani tribal community that traditionally used it to transfer 2 percent of the revenue to the tribe (Subba Rao 2006). The 2001 International Treaty on Plant Genetic Resources for Food and Agriculture seems to be moving the international community in a similar direction, guaranteeing food security through conservation, exchange, and sustainable use of world’s plant genetic resources, as well as their fair use and equitable benefit sharing in harmony with the Convention of Biological Diversity. The 2003 Cartagena Protocol on Biosafety also underlines the relevance of agrobiodiversity by requiring “safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity” (art. 1), “especially with regard to the value of biological diversity to indigenous and local communities” (art. 26).

Currently however, indigenous knowledge needs to be backed by documentation and proof showing its prior existence in order to acquire relevance in the international legal system of intellectual property and to reap and distribute the commercial benefits connected to its utilization. India is well positioned in this sense due to its millennial of written culture, but other civilizations that did not adopt writing find themselves in a much more difficult situation. The Third World Network, an independent nonprofit international network of organizations and individuals involved in issues related to development, proposed a Community Intellectual Rights Act, according to which local communities would be the “custodians” (or “stewards”) of their traditions, prohibiting the concession of any rights of exclusive use of such innovations (Nijar 1994).

Articles 215 and 216 of the federal constitution of Brazil states that the government shall protect “the expressions of popular, Indian and Afro-Brazilian cultures” and “promote and protect the Brazilian cultural heritage, by means of inventories, registers, vigilance, monument protection decrees, expropriation and other forms of precaution and preservation” (Santilli 2006). The harmonization between the highly diverse social and political organizations of local communities and the legal system of the nation-states within which intellectual property laws operate, presents juridical and practical challenges.

Depending on legal interpretations and international negotiations on the issue, and in the case that certain foods and products are proved to be a fundamental part of a population’s identity, the legal extension of cultural heritage and cultural property might have the potential to be used to maintain food and products of populations that lack the bureaucratic structures necessary to implement their protection as geographical indication. Of course, specific multilateral instruments should be elaborated that would require reduced legal and administrative interventions from local authorities, also with the goal of limiting costs. In some cases geographical indication status for specific products might enhance their protection as indigenous knowledge and vice versa under the conditions that negotiations on TRIPS, ABS, and development achieve a higher degree of coordination, which is an important factor for countries that cannot afford to send delegations to multiple diplomatic negotiations (Correa 2010; Downes 2002; Panizzon 2006). At any rate, all the parties involved need to consider the inevitable impact of the marketing of geographical indication and indigenous knowledge products on the international market. The innovation that this exposure requires would affect the social and political structures of the local communities involved, even when ensuring viable livelihoods. For this reason, the dynamics of governance of the value chain built around the products are crucial in ensuring cultural survival.

Geographical indications were not explicitly designed to ensure the conservation of agrobiodiversity, and the discussion regarding the assessment of the effects of geographical indication products on sustainability and the environment is still limited. However, authors that address the issue tend to state that these legal protections might contribute to maintaining and developing genetic resources connected with cultivation, shepherding, and also foraging of specific species (Berard and Marchenay 2006). Many of the traditions related to these resources are in fact quite specific to limited areas and usually not produced on a large scale. The diffusion of these legal categories not only in the Western world but also in emerging economies would contribute to maintaining and defending biodiversity, which could turn into an economic asset with a potentially noticeable impact on rural development. At times, research and collaboration among local communities, scientists, academics, and institutional actors might be necessary to identify, study, and to recover local resources with geographical indication potential that might have remained invisible—both to consumers and policymakers—due to cultural and social hurdles. These initiatives can directly reinforce agrobiodiversity through the protection and valorization of crops and animal species, and through a sustainable use aimed to achieve long-term economic viability (Thrupp 2000). Furthermore, the promotion of rural livelihoods that depend on the sustainable use of geographical indication resources can indirectly affect biodiversity through the diffusion of agricultural techniques with a positive impact on the conservation of local ecosystems and landscapes. At the same time, the homogenization of the varieties or breeds specifically required by quality standards in geographical indication regulations and reinforced by market and productivity demands can cause the marginalization of other varieties and, as a consequence, a reduction in diversity (Larson 2007, 2010). Moreover, climate change could possibly affect the productivity or even the survival of traditional or local crops identified as potential geographical indications, making it necessary for the communities involved to maintain a variety of productions.

Various factors need to be taken into consideration when evaluating the long-term viability of geographical indications. Especially in emerging economies they tend to be economically profitable because they can count on an international audience of gourmets, which often implies export to far destinations. The environmental impact of the fuel necessary to transport the products to their final markets is the object of debates that focus especially on the concept of “food miles” (MacGregor and Vorley 2006; Weber and Matthews 2009; Wynen and Vanzetti 2008). Very often geographical indications become a travel motivation increasing the inflow of visitors interested in culinary specialties and tradition. What is the environmental impact of this kind of culinary tourism on the area of production? Do geographical indications inherently tend to promote forms of sustainable tourism or could they become also appealing for mass tourism? (Hall et al. 2003; Long 2004; Smith and Costello 2009; Spurlock 2009). To this date, few studies are available on the environmental effects of geographical indications and their impact on the sustainability of local food systems. Theoretically, the higher commercial value of their crops could push farmers to grow them more intensively and in larger areas, increasing the risks of soil degradations and water scarcity. At the same time, the growing market value of traditional crops could make them too expensive for the very communities where they originate, excluding locals from their consumption. The cases of Andean crop quinoa and the Brazilian berry açai have attracted the attention of the international press (Colapinto 2011; Romero and Shahriari 2011). Depending on the social dynamics within the different communities, variable amounts of the geographical indication products should be kept for local use at accessible prices in order to maintain their cultural significance.

Conclusions

This brief overview of the role and relevance of geographical indications for sustainable rural development and the safeguard of cultural heritage as a bastion against the loss of agrobiodiversity leaves many questions unanswered, while suggesting directions for future research. The contemporary debates on these issues and the interest they are eliciting in a variety of fields indicate their relevance not only from the theoretical point of view, but also in terms of governance, trade, and economics, with real-life impact on many communities all around the world.

Geographical indications could have the potential to become a valid tool in implementing community-based, sustainable, and quality-oriented agriculture, when given an accurate analysis of depending on the socio-political environment and whether they are relevant for the producers involved, affordable in terms of administrative and management costs, and applicable on different scales of production. However, in reality, these benefits cannot be considered automatically inherent to the establishment of a geographical indication for a local traditional crop, because its regulation may only refer to its place of origin and its characteristics without necessarily mentioning the environmental aspects of the agricultural practices connected with its production. On the one hand, the implementation of geographical indications could increase the commercial value of traditional crops and avoid their disappearance due to low yields, high costs associated with labor-intensive methods of production, and lack of transmission of the necessary know-how. On the other hand, it is necessary to assess the impact of the popularity of a geographical indication, which often entails increases in price and in quantities reserved for sales in distant but more profitable markets, thus reducing its availability and affordability for the producing communities.

Future research should also focus on the consequences for local ecosystems in case geographical indications are extended to unsuitable areas or for the adoption of intensive techniques

aiming to increase yields to reap larger revenues. Furthermore, because the final consumers of sought-after geographical indications might be far from the places of production, it is necessary to consider the environmental externalities connected to long distance transportation. Last, the risk of dependency is also something to be considered when exporting a large percentage of sales to foreign markets, which are often influenced by trends determined by media and local sociopolitical dynamics outside the control of the producing communities.

The legal status of geographical indication products and crops that could fall under the definition of indigenous knowledge as either collective or private rights continues to constitute a main source of contention in the ongoing international negotiations. Many countries argue that this is not the only available model to ensure protection of the intellectual property rights connected with agricultural products, pushing instead to uphold the trademark system as a valid alternative. As the 2010 Nagoya Protocol of Access and Benefit Sharing and the other conventions discussed in the article indicate, this controversy is far from being theoretical. Its outcome will have a relevant impact on how the stream of revenue potentially connected to the production, distribution, promotion, and sales of the geographical indications or of products falling under the category of indigenous knowledge are distributed along the value chain.

The review of the literature reveals that the research on geographical indications falls under different disciplines, and the topic is also discussed in political and economic venues that at times do not communicate enough with each other. There is need for more case studies that monitor implementation processes and evaluate the actual impact of geographical indications on specific communities, not only in terms of trade opportunities and value chains, but development, human rights, and social dynamics, especially in developing countries. Their analysis should also consider the sustainability of the products involved, by applying life cycle assessment methods from production to distribution to final consumption. Qualitative and quantitative approaches are equally necessary to provide all the actors involved in the establishment of new geographical indications with reliable data and effective policy tools, contributing to the elaboration of regulations that are more sensitive to cultural, social, and environmental aspects. Building on the cooperation of scholars, practitioners, policymakers, and activists, together with the direct input of the communities involved, a truly multidisciplinary approach would be better suited to explore the connections among the various features of this new form of protection of intellectual property in all its ramifications, including its relation with indigenous knowledge and agrobiodiversity.

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■ REFERENCES

- Anania, Giovanni, and Rosanna 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* 160 (4): 681–701.
- Antons, Christoph. 2009. *Traditional Knowledge, Traditional Cultural Expressions, and Intellectual Property Law in the Asia-Pacific Region*. Alphen aan der Rijn: Kluwer Law International.
- Arewa, Olufunmilayo. 2006. "TRIPS and Traditional Knowledge: Local Communities, Local Knowledge, and Global Intellectual Property Frameworks." *Marquette Intellectual Property Law Review* 10 (2): 155–180.
- Babcock, Bruce A., and Roxanne Clemens. 2004. "Geographical Indications and Property Rights: Protecting Value-Added Agricultural Products." MATRIC Briefing Paper 04-MBP 7, Iowa State University.
- Barham, Elizabeth. 2002. "Towards a Theory of Values-Based Labeling." *Agriculture and Human Values* 19 (4): 349–360.
- . 2003. "Translating Terroir: The Global Challenge of French AOC Labeling." *Journal of Rural Studies* 19 (1): 127–138.
- Barracough, Emma. 2007. "From Commodity to IP asset." *Managing Intellectual Property* 8 (173): 18–19.
- Berard, Laurence, and Philippe Marchenay. 2006. "Local Products and Geographical Indications: Taking Account of Local Knowledge and Biodiversity." *International Social Science Journal* 58 (187): 109–116.
- Blackwell, Martin. 2007. "The Relationship of Geographical Indications with Real Property Valuation and Management." *Property Management* 25 (2): 193–203.
- Bowen, Sarah. 2010. "Development from Within? The Potential for Geographical Indications in the Global South." *Journal of World Intellectual Property* 13 (2): 231–252.
- Bowen, Sarah, and Peter R. W. Gerritsen. 2007. "Reverse Leasing and Power Dynamics among Blue Agave Farmers in Western Mexico." *Agriculture and Human Values* 24 (4): 473–488.
- Bowen, Sarah, and Ana Venzuela Zapata. 2009. "Geographical Indications, Terroir, and Socioeconomic and Ecological Sustainability: The Case of Tequila." *Journal of Rural Studies* 25 (1): 108–119.
- Bramley, Cerkia, Estelle Bienabe, and Johann Kirsten. 2009. "The Economics of Geographical Indications: Toward a Conceptual Framework for GI Research in Developing Countries." Pp. 109–141 in *The Economics of Intellectual Property*, ed. WIPO. Geneva: WIPO.
- Bratspies Rebecca. 2006. "The New Discovery Doctrine: Some Thoughts on Property Rights and Traditional Knowledge." *American Indian Law Review* 31 (2): 315–340.
- Broude, Tomer. 2005a. "Culture, Trade and Additional Protection for Geographical Indications." *Bridges* 9 (9): 20–22.
- Broude, Tomer. 2005b. "Taking Trade and Culture Seriously: Geographical Indications and Cultural Protection in WTO Law." *University of Pennsylvania Journal of International Economic Law* 26 (4): 623–692.
- Ceccarelli, Giovanni, Alberto Grandi, and Stefano Magagnoli. 2010. Avatar: La Costruzione di un modello storico-economico per i prodotti tipici." Paper presented at the La Tipicità nella storia conference Parma-Langhirano, 9–11 September.
- Chandola, H. V. 2006. "Basmati Rice: Geographical Indication or Misindication." *Journal of World Intellectual Property* 9 (2): 166–188.
- CIRAD. 2006. CIRAD Annual Report. <http://www.cirad.fr/en/publications-resources/science-for-all/rapports-annuels/cirad-2006/innovating> (accessed 4 January 2011).
- Colapinto, John. 2011. "Strange Fruit: The Rise and Fall of Açai." *New Yorker*, 30 May. http://www.newyorker.com/reporting/2011/05/30/110530fa_fact_colapinto (accessed 5 July 2011).
- Colman, Tyler. 2008. *Wine Politics: How Governments, Environmentalists, Mobsters, and Critics Influence the Wines We Drink*. Berkeley and Los Angeles: University of California Press.
- Correa, Carlos M. 2010. *Geographical Indications and the Obligation to Disclose the Origin of Biological Materials: Is a Compromise Possible under TRIPS? ICTSD Policy Brief 8*. Geneva: ICTSD.

- Creditt, Emily C. 2009. "Terroir vs. Trademarks: The Debate over Geographical Indications and Expansions to the TRIPS Agreement." *Vanderbilt Journal of Entertainment and Technology Law* 11 (2): 425–459.
- Daviron, Benoit, and Stefano Ponte. 2005. *The Coffee Paradox*. London: Zed Books.
- Doster, Ivy. 2006. "A Cheese by Any Other Name: A Palatable Compromise to the Conflict over Geographical Indications." *Vanderbilt Law Review* 59 (3): 873–903.
- Downes, David. 2002. "How Intellectual Property Could Be a Tool to Protect Traditional Knowledge." *Columbia Journal of Environmental Law* 25: 253–282.
- Echols, Marsha A. 2003. "Geographical Indications for Foods, Trips and the Doha Development Agenda." *Journal of African Law* 47 (2): 199–220.
- . 2008. *Geographical Indications for Food Products: International Legal and Regulatory Perspectives*. Alphen aan den Rijn: Kluwer Law International.
- Gervais, Daniel J. 2010. "Reinventing Lisbon: The Case for a Protocol to the Lisbon Agreement (Geographical Indications)." *Chicago Journal of International Law* 11 (1): 67–126.
- Giovannucci, Daniele, ed. 2008. *Guide to Geographical Indications: Approaches to Value*. Geneva: International Trade Centre.
- Giovannucci, Daniele, Tim Josling, William Kerr, Bernard O'Connor, and May T. Yeung. 2009. *Guide to Geographical Indications: Linking Products and Their Origins*. Geneva, Switzerland: International Trade Center.
- Giraud, Georges. 2008. "Range and Limit of Geographical Indication Scheme: The Case of Basmati Rice from Punjab, Pakistan." *International Food and Agribusiness Management Review* 11 (1): 51–76.
- Grote, Ulrike. 2009. "Environmental Labeling, Protected Geographical Indications and the Interests of Developing Countries." *Estey Centre Journal of International Law and Trade Policy* 10 (1): 94–110.
- Hall, Michael C., Liz Sharples, Richard Mitchell, Niki Macionis, and Brock Cambourne. 2003. *Food Tourism around the World: Development, Management and Markets*. Burlington, MA: Butterworth-Heinemann.
- Heath, Christopher, and Anselm Kamperman Sanders. 2005. *New Frontiers of Intellectual Property Law: IP and Cultural Heritage, Geographical Indications, Enforcement and Overprotection (IIC Studies)*. Oxford and Portland, OR: Hart.
- Hughes, Justin. 2006. "Champagne, Feta, and Bourbon: The Spirited Debate about Geographical Indications." *Hastings Law Journal* 58: 299–386.
- Ilbert, Hélène, and Michel Petit. 2009. "Are Geographical Indications a Valid Property Right? Global Trends and Challenges." *Development Policy Review* 27 (5): 503–528.
- Josling, Tim. 2006. "What's in a Name? The Economics, Law and Politics of Geographical Indications for Foods and Beverages." Institute for International Integration Studies Discussion Paper No. 109, Dublin.
- Kaplinsky, Raphael. 2004. "Spreading the Gains from Globalization : What Can Be Learned from Value-Chain Analysis?" *Problems of Economic Transition* 47 (2): 74–115.
- Kireeva, Irina, and Bernard O'Connor. 2010. "Geographical Indications and the TRIPS Agreement: What Protection Is Provided to Geographical Indications in WTO Members?" *Journal of World Intellectual Property* 13 (2): 275–303.
- Kireeva, Irina, and Paolo Vergano. 2006. "Geographical Indications and the Interface between Trade Mark Protection and Sui Generis Protection: The Example of China, Thailand and Vietnam." *International Trade Law and Regulation* 12 (4): 97–108.
- Kongolo, Thsimanga. 2008. *Challenges in Respect to Protection of Geographical Indications*. Kluwer Law International, Alphen aan den Rijn: Kluwer Law International.
- Lang, Aaron C. 2006. "On the Need of Expanding art. 23 of the TRIPS Agreement." *Duke Journal of Comparative and International Law* 16 (2): 487–510.
- Langinier, Corinne, and Bruce Babcock. 2006. "Agricultural Production Clubs: Viability and Welfare Implications." CARD Working Paper 06-WP 431, Iowa State University.
- Langton, Marcia, and Zane Ma Rhea. 2005. "Traditional Indigenous Biodiversity-Related Knowledge." *Australian Academic & Research Libraries* 36 (2): 47–72.

- Larson, Jorge. 2007. *Relevance of Geographical Indications and Designations of Origin for the Sustainable Use of Genetic Resources*. Maccaresse: Global Facilitation Unit for Underutilized Species.
- . 2010. *Geographical Indications, in Situ Conservation and Traditional Knowledge*. ICTSD Policy Brief 3. Geneva: ICTSD.
- Le Goffic, Caroline. 2008. "Cancellation of a Trade Mark Based on a Prior Foreign Geographical Indication Related to Different Products." *Journal of Intellectual Property Law & Practice* 3 (3): 152–154.
- Lightbourne, Muriel. 2003. "Of Rice and Men—An Attempt to Assess the Basmati Affair." *Journal of World Intellectual Property* 6 (6): 875–894.
- Linnemer, Laurent, and Anne Perrot. 2000. "Une Analyse économique des signes de qualité." *Revue économique* 51 (6): 1397–1418.
- Long, Doris Estelle. 2006. "Traditional Knowledge and the Fight for the Public Domaine." *John Marshall Review of Intellectual Property Law* 5: 317–329.
- Long, Lucy, ed. 2004. *Culinary Tourism*. Lexington: University Press of Kentucky.
- MacGregor, James, and Bill Vorley. 2006. *Fair Miles? The Concept of "food miles" through A Sustainable Development Lens*. London: IIED.
- Marie-Vivien, Delphine. 2010. "The Role of the State in the Protection of Geographical Indications: From Disengagement in France/Europe to Significant Involvement in India." *Journal of World Intellectual Property* 13 (2): 121–147.
- Moschini, Giancarlo, Luisa Menapace, and Daniel Pick. 2008. "Geographical Indications and the Competitive Provision of Quality in Agricultural Markets." *American Journal of Agricultural Economics* 90 (3): 794–812.
- Munzer, Stephen, and Kal Raustiala. 2009. "The Uneasy Case for Intellectual Property Right in Traditional Knowledge." *Cardozo Arts & Entertainment Law Journal* 27: 37–97.
- Nadvi, Khalid. 2004. "Globalisation and Poverty: How can Global Value Chain Research Inform the Policy Debate?" *IDS Bulletin* 35 (1): 20–30.
- Nijar, G.S. 1994. "Third World Network Discussion Paper: Towards a Legal Framework for Protecting Biological Diversity and Community Intellectual Rights: A Third World Perspective." Second Session of the ICCBD, Nairobi, 20 June–1 July.
- O'Connor, Bernard. 2004. "The Legal Protection of Geographical Indications." *Intellectual Property Quarterly* 1: 35–57.
- Oguamanam, Chidi. 2006. *International Law and Indigenous Knowledge: Intellectual Property, Plant Biodiversity, and Traditional Medicine*. Toronto: University of Toronto Press.
- Panizzon, Marion. 2006. "Traditional Knowledge and Geographical Indications: Foundations, Interests and Negotiating Positions." NCCR Working Paper No. 2005/01, Berne.
- Parasecoli, Fabio. 2010. "The Gender of Geographical Indications: Women, Place, and the Marketing of Identities." *Cultural Studies/Critical Methodologies* 10 (6): 467–478.
- Ponte, Stefano, and Peter Gibbon. 2005. "Quality Standards, Conventions and the Governance of Global Value Chains." *Economy and Society* 34 (1): 1–31.
- Rangnekar, Dwijen. 2004. "The Socio-Economics of Geographical Indications, UNCTAD-ICTSD Project on IPRs and Sustainable Development." ICTSD Issue Paper No. 8, Geneva.
- Raustiala, Kal, and Stephen R. Munzer. 2007. "The Global Struggle over Geographical Indications." *European Journal of International Law* 18 (2): 337–365.
- Reviron, Sophie. 2009. *Geographical Indications: Creation and Distribution of Economic Value in Developing Countries*. Zurich: ETH.
- Romero, Simon, and Shahriari, Sara. 2011. "Quinoa's Global Success Creates Quandary at Home." *New York Times*, March 19. <http://www.nytimes.com/2011/03/20/world/americas/20bolivia.html> (accessed 5 July 2011).
- Roussel, Bernard, and François Verdeaux. 2007. "Natural Patrimony and Local Communities in Ethiopia: Advantages and Limitations of a System of Geographical Indications." *Africa: The Journal of the International African Institute* 77 (1): 30–150.
- Santilli, Juliana. 2006. "Cultural Heritage and Collective Intellectual Property Rights." *IK Notes* 95. <http://siteresources.worldbank.org/INTINDKNOWLEDGE/Resources/iknt95.pdf> (accessed 13 January 2011).

- Smith, Sylvia, and Carol Costello. 2009. "Segmenting Visitors to a Culinary Event: Motivations, Travel Behavior, and Expenditures." *Journal of Hospitality Marketing & Management* 18 (1): 44–67.
- Spurlock, Cindy. 2009. "Performing and Sustaining (Agri)Culture and Place: The Cultivation of Environmental Subjectivity on the Piedmont Farm Tour." *Text and Performance Quarterly* 29 (1): 5–21.
- Srinivas, Krishna Ravi. 2008. "Traditional Knowledge and Intellectual Property Rights." *AJWH Asian Journal of WTO & International Health Law and Policy* 3 (1): 81–120.
- Stanziani, Alessandro. 2004. "Wine Reputation and Quality Controls: The Origin of the AOCs in 19th Century France." *European Journal of Law and Economics* 18 (2): 149–167.
- . 2006. "Histoire de la qualité alimentaire." *Food and History* 4 (1): 307–344.
- Subba Rao, Siriginidi. 2006. "Indigenous Knowledge Organization: An Indian Scenario." *International Journal of Information Management* 26 (3): 224–233.
- Suh, Jeongwook, and Alan MacPherson. 2007. "The Impact of Geographical Indication on the Revitalization of a Regional Economy: A Case Study of 'Boseong' Green Tea." *Area* 39 (4): 518–527.
- Sunder, Madhavi. 2007. "The Invention of Traditional Knowledge." *Law and Contemporary Problems* 70 (2): 97–124.
- Teuber, Ramona. 2010. "Geographical Indications of Origin as a Tool of Product Differentiation: The Case of Coffee." *Journal of International Food & Agribusiness Marketing* 22 (3/4): 277–298.
- Thrupp, Lori Ann. 2000. "Linking Agricultural Biodiversity and Food Security: The Valuable Role of Sustainable Agriculture." *International Affairs* 76 (2): 265–281.
- Torre André. 2002. "Les AOC Sont-elles des Clubs? Réflexions sur les conditions de l'action collective localisée, entre coopération et règles formelles." *Revue d'économie industrielle* 100 (30): 39–62.
- Tregear, Angela, Filippo Arfini, Giovanni Belletti, and Andrea Marescotti. 2004. "The Impact of Territorial Product Qualification Processes on the Rural Development Potential of Small-Scale Food Productions." Paper presented at the Eleventh World Congress of Rural Sociology Trondheim, Norway, 25–30 July.
- UNEP. 2010. *About IK*. <http://www.unep.org/ik/Pages.asp?id=About%20IK> (accessed 13 January 2011).
- van de Kop, Petra, Denis Sautier, and Astrid Gerz, eds. 2006. *Origin-Based Products: Lessons for Pro-Poor Market Development*. Amsterdam: KIT and CIRAD.
- Vittori, Massimo. 2010. "The International Debate on Geographical Indications (GIs): The Point of View of the Global Coalition of GI Producers—oriGIn." *Journal of World Intellectual Property* 13 (2): 304–314.
- Wang, Xiaobing, and Irina Kireeva. 2007. "Protection of Geographical Indications in China: Conflicts, Causes and Solutions." *Journal of World Intellectual Property* 10 (2): 79–96.
- Watal, Jayashree. 2001. *Intellectual Property Rights in the WTO and Developing Countries*. The Hague, Netherlands: Kluwer Law International.
- Wattanapruittipaisan, Thitapha. 2009. "Trademarks and Geographical Indications: Policy Issues and Options in Trade Negotiations and Implementation." *Asian Development Review* 26 (1): 166–205.
- Weber, Christopher L., and H. Scott Matthews. 2008. "Food-Miles and the Relative Climate Impacts of Food Choices in the United States." *Environmental Science & Technology* 42 (10): 3508–3513.
- WIPO. 2007. "Geographical Indications: From Darjeeling to Doha." *Wipo Magazine* 4 (3). http://www.wipo.int/wipo_magazine/en/2007/04/article_0003.html (accessed 20 December 2010).
- WTO. 1994. "Agreement on Trade-Related Aspects of Intellectual Property Rights, Part II, Section 3: Geographical Indications." http://www.wto.org/english/tratop_e/trips_e/t_agm3b_e.htm#3 (accessed 20 December 2010).
- WTO. 2010. "Geographical Indications Talks Gear Up for 2011 Endgame." http://www.wto.org/english/news_e/news10_e/trip_10dec10_e.htm (accessed 14 January 2011).
- . 2011a. "Geographical Indications Talks Produce First Single Draft." http://www.wto.org/english/news_e/news11_e/trip_ss_13jan11_e.htm (accessed 18 March 2011).
- . 2011b. "Report on Issues Related to the Extension of the Protection of Geographical Indications Provided for in the Article 23 of the TRIPS Agreement to Products Other Than Wines and Spirit and Those Related to the Relationship between the TRIPS Agreement and the Convention on Bio-

- logical Diversity.” WT/GC/W/633, TN/C/W/61, 21 April. WTO General Council, Trade Negotiations Committee.
- Wynen, Els, and David Vanzetti. 2008. “No Through Road: The Limitations of Food Miles.” Asian Development Bank Institute Working Paper No. 118, Tokyo.
- Zografos, Daphne. 2008. “Geographical Indications & Socio-Economic Development.” IQsensato Working Paper 3, Geneva.