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GEOGRAPHICAL INDICATIONS AND ENVIRONMENTAL PROTECTION

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Abstract The protection of geographical indications (GIs) is required of all members of the World Trade Organization (WTO), as this is mandated by the WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Among the primary justifications for the protection of GIs is to enable producers to secure the premium prices which are attracted by products which have a unique quality that is attributable to their place of production. As this article points out, one reason for this premium price, in the case of agricultural products is that traditionally produced goods are often free from contaminants, such as herbicides and pesticides. Not previously discussed in the literature is the fact that from an environmental protection perspective, GIs applied to agricultural products provides some consumer confidence in their purity, as well as in their traceability. In securing higher returns for agricultural producers, GIs play an important role in securing rural development and the maintenance of rural landscapes. Finally, the article points out that the international GIs regime provides an important means of protecting the traditional knowledge of agricultural producers.

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Keywords

INTELLECTUAL PROPERTY, GEOGRAPHICAL INDICATIONS, ENVIRONMENTAL PROTECTION

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INTRODUCTION

Geographical Indications (GIs) are signs used to designate the place of origin of goods where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin. The obligation of countries to protect geographical indications is contained in Article 22.2 of the World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). This provision requires WTO Members to provide the legal means for interested parties to prevent:

(a) the use of any means in the designation or presentation of a good that indicates or suggests that the good in question originates in a geographical area other than the true place of origin in a manner which misleads the public as to the geographical origin of the good;

(b) any use which constitutes an act of unfair competition within the meaning of Article 10*bis* of the Paris Convention (1967).

GIs are particularly advantageous for the producers of agricultural products in allowing them to differentiate their products from general commodity products such as rice, coffee and tea, thereby enhancing market access.¹ At the same time a number of researchers have identified the capacity of GIs to capture premium prices because of the higher value that some consumers attach to products differentiated according to their origin. For example, Babcock reported that Bresse poultry in France received quadruple the commodity price for poultry meat²; a case study by Gerz and Dupont of Comté cheese in France indicated that French farmers receive an average of 14% more for milk destined for Comté and that dairy farms in the Comté area since 1990 are 32% more profitable than similar farms outside the Comté area.³ Kireeva et al, examining the use of origin

¹ See P. Evans, 'Geographic Indications, Trade and the Functioning of Markets' in M. Pugatch (ed.) *The Intellectual Property Debate: Perspectives from Law, Economics and Political Economy*, Edward Elgar (London), at 345–60 (2006); C. Bramley and E. Bienabe, 'Developments and Considerations around Geographical Indications in the Developing World', 2 *Queen Mary Journal of Intellectual Property* 14 (2012); F. Galtier, G. Belletti and A. Marescotti, 'Are Geographical Indications a way to "Decommodify" the Coffee Market?' *Paper presented at by 12th Congress of the European Association of Agricultural Economists*, August 26–29, Ghent, Belgium (2008).

² B. A. Babcock, 'Geographical Indications, Property Rights, and Value-Added Agriculture' (2003) *Iowa Ag Review* 9(4) (2003) available at http://www.card.iastate.edu/iowa_ag_review/fall_03/article1.aspx. (last visited Feb. 2, 2017)

³ A. Gerz, and F. Dupont, 'Comté Cheese in France: Impact of a Geographical Indication on Rural Development' in P. van de Kop, D. Sautier, and A. Gerz, eds. *Origin-Based Products: Lessons for Pro-Poor Market Development*, Amsterdam, KIT Publishers (Amsterdam), 2006, 75–87. See also F. Arfani, 'The value of typical products: The case of Prosciutto di Parma and Parmigiano Reggiano cheese' in B. Sylvander, D. Barjolle, F. Arfani, (eds.) *The Socio-economics of Origin Labelled Products in Agri-food Supply Chains: Spatial, Institutional and Co-ordination Aspects*, (2000) 17 *Actes et Communications*, 77 (2000).

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marks in the Peoples Republic of China reported that the price of “Zhangqiu Scallion” per kilogram was raised from 0.2 - 0.6 yuan before the use of the origin mark to 1.2 - 5 yuan in 2009.⁴ “Jianlian” lotus seed was registered as a GI in 2006, leading to a rise in price from 26-28 yuan per kilogram to 32-34 yuan per kilogram.

The principal reasons which have been identified for GI-marked goods attracting premium prices, is that consumers prize their exoticism⁵ and the greater care which has gone into their production compared with undifferentiated commodity products.⁶ Another factor, which this article will examine, is the increasing realisation that traditionally produced goods are often freer from contaminants, such as herbicides and pesticides and that GIs applied to these goods provides confidence in their traceability.

I. CERTIFICATION OF ENVIRONMENTAL PRODUCT QUALITY

GIs can play an important role in signalling the quality of goods.⁷ They are important in signalling credence attributes, particularly as an origin brand will be underpinned by a registration and certification system. These will be administered by a producers association, which will secure compliance with agreed production standards. Producers can thus signal quality and the associated reputation that has been developed over time⁸ and which is incentivised by the premium prices attracted by a GI to maintain product quality.⁹

Of course, in order for the perceived benefits of GI labelling to be realised, such as the promotion of environmental sustainability, there needs to be consumer awareness that origin labelling represents qualities linked to natural and human factors. This ties in with

⁴ I. Kireeva, W. Xiaobing and Z. Yumin, *Comprehensive Feasibility Study for Possible Negotiations on a Geographical Indications Agreement between China and the EU*, Brussels, EU-China IP2, (Brussels), (2009).

⁵ S. Agarwal and M. Barone, *Emerging Issues for Geographical Indication Branding Strategies*, MATRIC Research Paper 05-MRP 9, January 2005, Iowa State University (2005).

⁶ See Révion, S., E Thevenod-Mottet and N. El Benni, *Geographical indications: creation and distribution of economic value in developing countries*, NCCR Working Paper no 14, (2009).

⁷ See J. E. Hobbs, *Information, Incentives and Institutions in the Agri-Food Sector*, (2003) 51 *Canadian Journal of Agricultural Economics*, 413 (2003); J. E. Hobbs and W. A. Kerr, *Consumer Information, Labelling and International Trade in Agri-Food Products*, (2006) 31 *Food Policy* 78, (2006); T. Becker, *European food quality policy: the importance of geographical indications, organic certification and food quality insurance schemes in European countries*, (2008) 10 *The Estey Centre Journal of International Law and Trade Policy* 111, (2008).

⁸ See J. A. Winfree and J. McCluskey, *Collective Reputation and Quality*, (2005) 87 *Journal of Agricultural Economics*, 206, (2005).

⁹ G. Moschini, L. Menapace and D. Pick, *Geographical indications and the provision of quality in agricultural markets*, (2008) 90 *American Journal of Agricultural Economics* 794, (2008).

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the consumer demand for traceability in agrifood products.¹⁰ Rural product certification schemes have proliferated since the mid-1990s. They include the certification of organic agriculture, fair-trade certification of products from developing countries and food produced in compliance with sanitary and traceability protocols.¹¹ Consumers have been identified as placing increasing value on the integrity of food, such as the social and environmental standards involved in the production and processing of agrifood products.¹² This is particularly the case following recent food safety crises. As it is not unusual for food to be grown, processed and packaged in different places consumer trust in products is eroded, particularly as a consequence of these crises. Studies indicate a willingness of consumers to pay a premium price to producers who offer transparency in relation to the composition and origin of their products. In situations where uncertainty about quality or safety is elevated, such as in a health crisis, origin labelling can become an important means of inferring product quality, eg meat labels after the BSE crisis in Europe¹³ Lees, 2003 and dairy product labels after the Chinese Melamin crisis.¹⁴

Concerns about the safety of agrifoods in China has stimulated an interest in mechanisms for assuring traceability in food chains.¹⁵ In this context GIs “may convey assumed ‘local’ (traceability) and ‘natural’ (nutritiousness and safety) characteristics thereby acting as proxies for quality”¹⁶

¹⁰ J. Murdoch, J. T. Marsden, J Banks. (2000) *Quality, Nature, and Embeddedness: Some Theoretical Considerations in the Context of the Food Sector*, 76(2) *Economic Geography*, 76(2): 107, (2000); J.D. Van Der Ploeg, J.D., H. Renting and M. Minderhoud-Jones *The socio-economic impact of rural development: realities and potentials*, 40 *Sociologia Ruralis*, 391, (2000).

¹¹ G. Giraud and C. Amblard, *What does traceability mean for beef meat consumer?*, 23 *Food Science* 40, (2003); T. Mutersbaugh, D. Klooster, M-C. Renard, and P. Taylor, *Editorial. Certifying rural spaces: Quality certified products and rural governance*, (2005) 21 *Journal of Rural Studies* 381, (2005).

¹² Giraud and Amblard, n.11 supra; H. Renting, T. K. Marsden and J Banks, *Understanding Alternative Food Networks: Exploring the Role of Short Food Supply Chains in Rural Development*, (2003) 35 *Environment and Planning A*, 393, (2003); J.E. Hobbs, D. Bailey, D.L. Dickinson and M. Haghiri, *Traceability in the Canadian Red Meat Sector: Do Consumers Care?*, (2005) 53 *Canadian Journal of Agricultural Economics* 47, (2005).

¹³ W. Verbeke and J. Vlaene, *Consumer attitude to beef quality labeling and associations with beef quality labels*, (1999) 10 *Journal of International Food and Agribusiness Marketing*, 45, (1999); M.L. Loureiro and W. J. Umberger, *A choice experiment model for beef: What US consumer responses tell us about relative preferences for food safety, country-of-origin labeling and traceability*, (2007) 32 *Food Policy* 496, (2007); T. Becker, *European food quality policy: the importance of geographical indications, organic certification and food quality insurance schemes in European countries*, (2008) 10 *The Estey Centre Journal of International Law and Trade Policy* 111, (2008); M. Lees, *Food Authenticity and Traceability*, Cambridge, Woodhead Publishing (Cambridge), (2003).

¹⁴ L. Xu and L. Wu, *Food safety and consumer willingness to pay for certified traceable food in China*, (2010) 90 *Journal of the Science of Food and Agriculture* 1368, (2010).

¹⁵ See Xing Zhao, Donald Finlay and Moya Kneafsey, *The effectiveness of contemporary Geographical Indications (GIs) schemes in enhancing the quality of Chinese agrifoods – Experiences from the field*, (2014) 36 *Journal of Rural Studies* 77, (2014).

¹⁶ Id at 78.

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In Europe, where GIs have been longest developed, there are some empirically based suggestions that consumers' and producers both have expectations of about the quality of origin products in the European market.¹⁷ However, studies indicate that although in shaping the quality of the product European producers have not not necessarily specifically address positive environmental effects in the way in which they have formulate product specifications, more recently there has been a “greening” of product specifications reflecting environmental considerations.¹⁸ Thus, GIs “provide the opportunity for territorialisation of environmental-friendly production rules, taking into account local specificities”.¹⁹

II. SUSTAINABLE USE OF NATURAL RESOURCES AND BIODIVERSITY CONSERVATION

The current literature on GIs does not directly address their environmental implications. Bramley and Bienabe observe that environmental sustainability was not the primary aim of GIs development, but the fact that GIs derive from local, including natural, resources means that environmental benefits are increasingly seen as a positive potential GI externality.²⁰ Responsible environment stewardship has been mentioned by policymakers as a justification for GI protection.²¹

Indeed, the evolution of the specifications of origin products are the result of long-standing farming practices involving a composite of agricultural, cultural and environmental practices.²² Traditional crop management practices have been identified as a rich resource for understanding the interactions between biodiversity and ecosystem

¹⁷ See R. Teuber, ‘*Consumers' and producers' expectations towards geographical indications; Empirical evidence for a German case study*’, (2011) 113 *British Food Journal* 900, (2011); A. Stasi, G. Nardone, R. Viscecchia and A. Seccia, ‘*Italian wine demand and differentiation effect of geographical indications*’, (2011) 23 *International Journal of Wine Business Research* 49, (2011).

¹⁸ See D. Giovannucci, T. Josling, W. Kerr, B. O'Connor and M.T. Yeung, *Guide to geographical indications. Linking products and their origin*, New York: International Trade Center (New York), (2009).

¹⁹ G. Belletti, A. Marescotti, Javier Sanz-Cañada and Hristos Vakoufaris, ‘*Linking protection of geographical indications to the environment: Evidence from the European Union olive-oil sector*’, (2015) 48 *Land Use Policy* 94, (2015).

²⁰ C. Bramley and E. Bienabe, ‘*Developments and considerations around geographical indications in the developing world*’, (2012) 2 *Queen Mary Journal of Intellectual Property* 14, (2012).

²¹ European Commission, ‘Conclusions from the consultation on agricultural product quality’ Brussels, Directorate-General for agriculture and rural development, Brussels (EC), (2009); F Thévenod-Mottet, ‘*Geographical indications and biodiversity*’ in: S. Lockie and D. Carpenter, (eds.), *Agriculture, biodiversity and markets. Livelihoods and agroecology in comparative perspective*, London: Earthscan (London), 2010, 201–213 (2010).

²² See W.M. Denevan, ‘*Prehistoric agricultural methods as models for sustainability*’, (1995) 11 *Advances in Plant Pathology* 21, (1995).

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function to identify the principles needed to develop more sustainable agricultural systems.²³

The codes of practices which are collectively adopted by producer associations for the purpose of origin labelling often incorporate biodiversity objectives.²⁴ Biénabe et al, refer to the Rooibos industry in South Africa as an example of an industry which has explicitly considered biodiversity concerns in designing its product specifications.²⁵ This is because Rooibos production takes place in a biodiverse and environmentally sensitive area.

With greater knowledge of the interdependence between agricultural products and the local environment, producer associations also have a greater awareness of threats to the environment in production practices.²⁶ Consequently, it is suggested that the “GI registration process can be expected to have a positive impact upon the key components of ecological embeddedness and, in particular, on the way actors involved in the chain address the ecological elements of food production....”²⁷

Kop et al point out that as the registered Comté PDO specifications limit the intensification of farming, so farmers use fewer inputs and the environment is better protected, contributing to maintaining the open landscape of both pasture and woodland that is typical of the Jura region.²⁸ Profitable traditional livestock raising in the Comté area has limited the loss of pastureland to 7% in the GI-approved area, compared with 18% in the non-GI area.

Belletti et al in their empirical study of the European olive oil industry, which is characterised by an extensive use of GIs, identify this industry as a good example of agriculture with many associated positive environmental impacts such as lower rates of soil erosion, improved fire-risk control, water efficiency, lower pollution and higher levels of biodiversity and genetic diversity in olive-tree varieties.²⁹

²³ B.R. Dewalt, *Using indigenous knowledge to improve agriculture and natural resource management*, (1994) 5 Human Organization 23, (1994).

²⁴ J Larson, *The relevance of geographical indications and designations of origin for the sustainable use of genetic resources*, Rome, Global Facilitation Unit for Underutilised Species (Rome), (2007)

²⁵ E Biénabe, M Leclercq, P Moity Maïzi, *Le rooibos d’Afrique du Sud: comment la biodiversité s’invite dans la construction d’une indication géographique?* (2009) 50 Autrepart 50 (2009).

²⁶ See M. Riccheri, G. A. Benjamin, S. Schlegel and A. Leipprand, *Assessing the applicability of geographical indications as a means to improve environmental quality in affected ecosystems and the competitiveness of agricultural products*, IPDEV Research Report, Brussels, European Commission (Brussels), (2007).

²⁷ See Belletti et al, n.19 supra at 95; T. Marsden, J. Banks and G. Bristow, *Food supply chain approaches: exploring their role in rural development* (2000) 40 Soc. Ruralis 424, (2000).

²⁸ P. van de Kop, Denis Sautier and Astrid Gerz, *Origin-Based Products. Lessons for pro-poor market development*, Bulletin 372, Royal Tropical Institute (KIT) (Amsterdam), French Agricultural Research Centre for International Development (CIRAD), (Montpellier), (2006).

²⁹ See Belletti, n.19 supra.

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Lamarque and Lambin, in a study of cheese producers in the French Alps marketing their cheese as “Tomme de Savoie” and “Emmental de Savoie”³⁰, found that farmers used GIs to attract price premiums and generally adopted environmentally sustainable cropping practices.³¹ However, it was conceded that the data from this study might be skewed by the effect of product subsidies under the European Common Agricultural Policy.

Williams has suggested that the producers of origin products are encouraged to act in a responsible manner towards the local environment as negative publicity would damage the product’s image in the mind of the consumer.³² Thus producers are likely to be concerned with environmental factors such as pollution and sustainable management of natural resources.

However, it is also important to point out that the success of an origin product may lead to an increase in demand and therefore to increased pressure on local resources. Sustainable production guidelines need to be agreed upon by means of a participatory process in order to prevent pressure being placed on fragile environments and to ensure in particular that the GI does not lead to “genetic erosion”.³³

Rural sustainability achieved through the preservation of biodiversity, landscapes, and traditional knowledge may be promoted by the protection of GIs.³⁴ For example, Guerra has observed that in the Mexcal region of Mexico the Agave sugar needed to make Tequila is cultivated and managed from wild or forest Agave species, which encourages the biodiverse Agave species.³⁵ GIs can also serve as a tool for encouraging sustainable agricultural practice by legally limiting the scale of production and production methods. Penker notes that origin products impose an increased responsibility of producers to their

³⁰ Savoie is the name of the Auverne-Rhône-Alpes region of the French Alps.

³¹ Pénélope Lamarque and Eric F. Lambin, *The effectiveness of marked-based instruments to foster the conservation of extensive land use: The case of Geographical Indications in the French Alps*, 42 *Land Use Policy* 706, (2015).

³² R.M. Williams, ‘Do Geographical Indications Promote Sustainable Rural Development: Two UK case studies and implications for New Zealand rural development policy’, Lincoln University, (2007) available at http://researcharchive.lincoln.ac.nz/dspace/bitstream/10182/585/1/williams_mnrmee.pdf (accessed Feb. 4, 2017).

³³ See D. Downes and S.A. Laird, *Innovative Mechanisms for Sharing Benefits of Biodiversity and Related Knowledge – Cases Studies on Geographical Indications and Trademarks*, UNCTAD Biotrade Initiative, (Geneva), (1999); V. Boisvert, *From the conservation of genetic diversity to the promotion of quality foodstuff. Can the French model of 'Appellation d'Origine Contrôlée' be exported?*, *Collective Action and Property Rights Working Paper no.49*, International Food Policy Research Institute (IFPRI), (Washington D.C.), (2006).

³⁴ E. Barham, *Towards a Theory of Value-Based Labeling*, 19 *Agriculture and Human Values*, 349, (2002).

³⁵ J. L. Guerra, *Geographical Indications and Biodiversity: Bridges Joining Distant Territories*, BRIDGES BioRes 2, (2004). See also S. Bowen and A. V. Zapata, *Geographical indications, terroir, and socio-economic and ecological sustainability: the case of tequila*, 25 *J. Rural Stud.* 108, (2009).

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place of production.³⁶ Lampkin et al, have noted that “organic standards provide a mechanism by which farmers pursuing sustainability goals can be compensated by the market for internalizing external costs”.³⁷

Larson has analysed 30 case studies in both developed and developing countries, concluding that GIs can promote biodiversity conservation both directly, through the use and conservation of specific genetic resources, and indirectly, through the management of the rural landscape and ecosystem.³⁸

In general, the studies indicate that the development of GIs as a tool for biodiversity and environmentally sustainable land use management is more effective when there is a consensus among all actors in the supply chain as to the definition of the relevant geographical area, agricultural practices, product specifications and the collective objectives of those actors.³⁹

III. RURAL DEVELOPMENT

One of the justifications advanced for the establishment of an early GIs system for the protection of wines produced in France was the role that they played in preserving agriculture and rural employment in areas which were unsuitable for cereals and other crops.⁴⁰ The maintenance and promotion of rural development has been repeatedly advanced as a justification for GIs.⁴¹ However, more empirical, rather than theoretical

³⁶ M. Penker, *Mapping and Measuring the Ecological Embeddedness of Food Supply Chains*, (2006) 37 *Geoforum* 368, (2006).

³⁷ N. Lampkin, C. Foster and S. M. Padel, *The Policy and Regulatory Environment for Organic Farming in Europe: Country reports, Organic Farming in Europe: Economics and Policy Volume 2*, ~~Hohenheim~~, Die Deutsche Bibliothek – CIP-Einheitsaufnahme. ([Hohenheim](#)), (1999).

³⁸ Larson, n.24 supra.

³⁹ See D. Giovannucci, E. Barham and R. Pirog, *Defining and Marketing “Local” Foods: Geographical Indications for US Products* (2010) 13 *The Journal of World Intellectual Property* 94, (2010).

⁴⁰ A. Stanziani, *Wine Reputation and Quality Controls: The Origin of the AOCs in 19th Century France*, (2004) 18 *European Journal of Law and Economics* 149, (2004).

⁴¹ C. Ray, *Culture, Intellectual Property and Territorial Rural Development*, (1998) 38 *Sociologia Ruralis* 3, (1998); J. Banks and T. K. Marsden, *Integrating Agri-Environment Policy, Farming Systems and Rural Development: Tir Cymen in Wales*, (2000) 40 *Sociologia Ruralis* 466, (2000); T. Marsden, J. Banks, G. Bristow, *Food Supply Chain Approaches: Exploring their role in Rural Development*, (2000) 40 *Sociologia Ruralis* 424, (2000); B. Ilbery, M. Kneafsey, A. Söderlund, E. Dimara, *Quality, Imagery and Marketing: Producer Perspectives on Quality Products and Services in the Lagging Rural Regions of the European Union*, (2001) 83 *Geogr. Ann.* 27, (2001); A. Pacciani, G. Beletti, A. Marescotti and S. Scaramuzzi, *The role of typical products in fostering rural development and the effects of regulation (EEC) 2081/92*, 73rd Seminar of the European Association of Agricultural Economists Ancona 28-30 June 2001; G. Belletti and A. Marescotti, *Link between Origin-Labelled Products and Rural Development, WP Report 3. Development of Origin-Labelled Products: Humanity, Innovations, and Sustainability (DOLPHINS) project*, Le Mans (2002); A. Treagar, *From Stilton to Vimto: Using Food History to Re-think Typical Products in Rural*

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evidence is required to establish this justification. Most of the case studies come from France, Italy, Portugal, Greece and Spain which until recently account for three quarters of the GIs found in Europe.⁴² The protection of GIs accords with the EU policy on rural development. Recital 4 to Regulation (EU) No 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs, governing GIs identifies that:

*Operating quality schemes for producers which reward them for their efforts to produce a diverse range of quality products can benefit the rural economy. This is particularly the case in less favoured areas, in mountain areas and in the most remote regions, where the farming sector accounts for a significant part of the economy and production costs are high. In this way quality schemes are able to contribute to and complement rural development policy In particular, they may contribute to areas in which the farming sector is of greater economic importance and, especially, to disadvantaged areas.*⁴³

The creation of local jobs through the protection of GIs is a factor influencing rural exodus⁴⁴ n increase in employment has for example been observed for the Comté cheese industry. Kop et al estimate that the production of Comté cheese generates five times more jobs in processing, maturing, marketing, packing, etc. than does its generic equivalent, Emmental and that migration away from the countryside in the Comté area is only half that of the origin-protected area.⁴⁵ They estimate that at the national level, although Comté cheeses account for only 10% of total French cheese output, they are responsible for 40% of the job offers for students who have been trained in cheese-

Development, (2003) 43 *Sociologia Ruralis* 92, (2003); B. Babcock and R. Clemens, *Geographical indications and property rights: Protecting value added agricultural products* -MATRIC Briefing paper 04-MBP 7, (2004); A. Tregear, F. Arfini, G. Belletti and A. Marescotti, *Regional foods and rural development: The role of product qualification*, (2007) 23 *Journal of Rural Studies* 12, (2007); G. Belletti and A. Marescotti, *Origin Products, Geographical Indications and Rural Development*, in Barham, E. and B. Sylvander, (eds), *Labels of Origin for Food. Local Development, Global Recognition*, Wallingford, Oxford, CAB International, (Wallingford, Oxford), (2011), 75-91; M. Blakeney and G. Mengistie, *Intellectual Property and Economic Development in Sub-Saharan Africa* (2011) 14 *The Journal of World Intellectual Property*, 238, (2011).

⁴² K. Morgan, T. K. Marsden, J Banks, *Worlds of Food: Place, Power, and Provenance in the Food Chain*. Oxford University Press, (Oxford), (2006).

⁴³ *Official Journal L* 343, 14.12.2012, p. 1.

⁴⁴ See O'Connor & Co, *Geographical Indications and the Challenges for ACP Countries*, Agritrade, CTA, (Brussels), (2005).

⁴⁵ P. van de Kop, Denis Sautier and Astrid Gerz, *Origin-Based Products. Lessons for pro-poor market development*, Bulletin of the *Royal Tropical Institute (Amsterdam)*, 372, (2006); see also V. Requillart, *On the economics of geographical indications in the EU*, Paper presented at a workshop on Geographical indications, country of origin and collective brands: firm strategies and public policies, Toulouse June 14-15, 2007.

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making in vocational schools. Similar results have been identified for origin protected cheeses supporting the milk supply from cattle in Northern Italy and the sheep of Southern Italy.⁴⁶

However, in the interests of maintaining environmental sustainability, the commercial attractiveness of GI-protected products should be balanced against maintaining rural landscapes.⁴⁷ The Comité Interprofessionnel du Vin de Champagne has requested "The landscapes of the Champagne region" to be included on UNESCO's World Heritage List.⁴⁸ The objective is to protect the famous sites of the Champagne region, which include the great diversity of vineyards and the outstanding character of the area's cellars carved from the surrounding chalk and the unique landscapes of the Champagne region. Similarly, Blakeney has pointed to the value to Mauritius in preserving its sugar field landscapes in maintaining their attractiveness for tourism, which has become an important secondary industry.⁴⁹

IV. AIDING THE PRESERVATION OF TRADITIONAL KNOWLEDGE

Bérard and Marchenay describe GIs as a means of "enabling people to translate their long-standing, collective, and patrimonial knowledge into livelihood and income" which may also underpin the maintenance of biodiversity.⁵⁰ It has been pointed out by a number of authors that GIs share many of the characteristics of traditional knowledge (TK) as both seek to preserve communal rights and like TK GIs can be held in perpetuity, for as long as a community maintains the practices which guarantee the distinctive quality of a local product.

Panizzon and Cottier observed that

Traditional Knowledge (TK) and Geographical Indications (GIs) share a common element insofar as they both protect accumulated knowledge typical to a specific locality. While TK expresses the local traditions of knowledge, GIs stand for specific geographical origin of a typical product or production method. GIs and TK relate a product (GIs),

⁴⁶ G. Belletti, G. Brunori, A. Marescotti, A. Rossi, *Multifunctionality and rural development: a multilevel approach*², in G. Van Huylenbroek and G. Durand eds., *Multifunctional agriculture. A new paradigm for European agriculture and rural development*, Aldershot, Ashgate, (Aldershot), (2003), 55-80.

⁴⁷ See B. Sylvander, *Development of origin labelled products: Humanity, innovation and sustainability*², Dolphins WP7 Report, European Commission, (Brussels), (January, 2004).

⁴⁸ http://www.champagne.fr/en_indx.html, August 2007, (accessed, Feb.4, 2017).

⁴⁹ M. Blakeney, *Geographical Indications and the Marketing of Agricultural Products: Mauritius – a Case Study*², (2011)-17 International Trade Law & Regulation 58, (2011).

⁵⁰ L. Bérard and P. Marchenay, *Geographical indications, a contribution to maintaining biodiversity?*², Biosphere Reserves, Technical Notes. 3-2008, Paris, UNESCO, (Paris), (2009).

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respectively a piece of information (TK), to a geographically confined people or a particular region or locality.⁵¹

Similarly, in its Review of Existing Intellectual Property Protection of TK⁵², WIPO's IGC Secretariat explained that

*GIs as defined by Article 22.1 of the TRIPS Agreement and appellations of origin, as defined by Article 2 of the Lisbon Agreement ... rely not only on their geographical connotation but also, essentially on human and/or natural factors (which may have generated a given quality, reputation or other characteristic of the good). In practice, human and/or natural factors are the result of traditional, standard techniques which local communities have developed and incorporated into production. Goods designated and differentiated by geographical indications, be they wines, spirits, cheese, handicrafts, watches, silverware and others, are as much expressions of local cultural and community identification as other elements of traditional knowledge can be.*⁵³

Three examples provided by the Secretariat of TK protected by GIs are: 'Cocuy the Pecaya' liquor from Venezuela, 'Phu Quoc' fish sauce and 'Shan Tuyet Moc Chau' tea, both from Vietnam.⁵⁴

It has been suggested that GIs are more a means for "preserving rather than protecting" traditional knowledge.⁵⁵ However, from the perspective of environmental sustainability this is a desirable result.

CONCLUSION

It is increasingly realised that the environmental attributes of an agricultural product can play an important part in its appeal to consumers. From the perspective of producers, the GI registration system provides the opportunity to incorporate the environmental attributes of products into the product specifications. The authorities involved in GI protection can play an important role when requiring producers to substantiate the link between product quality and the territory of production to include environmental factors in the formulation of product specifications.

An even more activist role can be taken by the public authorities in developing GIs on behalf of agricultural communities. An example of this is the development by the

⁵¹ T. Cottier and M. Panizzon, *Legal Perspectives on Traditional Knowledge: The Case for Intellectual Property Protection*, (2004) 7 *Journal of International Economic Law* 371, (2004).

⁵² WIPO/GRTKF/IC/3/7 May 6, 2002.

⁵³ *Id* at para 40.

⁵⁴ *Id*.

⁵⁵ C. Bramley, *A review of the socio-economic impact of geographical indications: considerations for the developing world*, Paper presented at the WIPO Worldwide Symposium on Geographical Indications Lima Peru June 22 – 24, 2011.

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Department of Horticulture (DoH) of the government of Karnataka in India of a GI for Coorg orange (Kodagina kittale, *Citrus reticulata*), an ecotype of the mandarin orange.⁵⁶ This variety had almost disappeared because of diseases and lack of interest among farmers eager to involve themselves in more lucrative cash crops: coffee and pepper. The DoH filed a GI application for a “Coorg Orange”, which was registered in 2004. Among the objectives of the DoH were to protect and revive a traditional crop variety and to provide high quality (disease-free) plant material, bringing economic development to the region and protecting the ecosystem where the orange is grown.⁵⁷ The strategy of the DoH is to educate the local farmers about the GI and then to gather them in a registered society to which the ownership of the GI will be transferred.

Public policies can also play an important role in promoting the linkage of product qualities with environmental factors. This can be done through educational initiatives to explain the importance of these factors in the design of product specifications, labelling and marketing; assisting research and development activities and the promotion of environmentally sensitive agricultural techniques. The public authorities can also require the elaboration in product specifications of the environmental stewardship which is required to preserve the biophysical attributes of the *terroir*⁵⁸ associated with the unique characteristics of products. *Terroir* is linked to the unique biophysical and cultural properties of specific places for example, microclimate, geological features including soil type, altitude, latitude and indigenous plant species.⁵⁹ The notion of *terroir* also embraces the cultural and agricultural practices that have maintained biological diversity and landscapes over multiple generations.⁶⁰ Thus the need to maintain *terroir* attributes of goods to qualify for GI protection over the long term inevitably requires the adoption of environmentally sustainable land-use practices.

⁵⁶ Claude Garcia, Delphine Marie-Vivien, Chepudira G. Kushalappa, P. G. Chengappa, and K. M. Nanaya, *Geographical Indications and Biodiversity in the Western Ghats, India*, (2007), 27 Mountain Research and Development 206, (2007).

⁵⁷ Id at 208.

⁵⁸ *Terroir* is a French word derived from terre "land" to describe the set of all environmental factors that affect a crop's phenotype, unique environment contexts and farming practices, when the crop is grown in a specific habitat. See D. Gade, *Tradition, territory, and terroir in French viticulture: cassis, France, and Appellation Contrôlée*, (2004), 94 Annals of the Association of American Geographers 848, (2004).

⁵⁹ See L. Bérard and P. Marchenay, *Local products and geographical indications: taking account of local knowledge and biodiversity*, (2006), 186 International Social Science Journal 109, (2006).

⁶⁰ See L. Bérard, M. Cegarra, M. Djama, S. Louafi, P. Marchenay, B. Roussel and F. Verdeaux, 'Savoirs et savoir-faire naturalistes locaux: l'originalité française, Les notes IDDRI No. 8, Paris, Institut du Développement Durable et des Relations Internationales, (Paris), (2005).

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