Chapter 6 Distinctive Signs, Biodiversity Derived Products and Protection of Traditional Knowledge

I. Introduction

Geographical indications (GI) are signs¹⁹¹ that identify goods as originating in a specific locality, region or territory, an origin that confers upon them a noted quality, reputation or characteristic.¹⁹² From a global perspective, GI is a broad collective umbrella denomination for distinctive signs linking products with their source, and includes subcategories of trademarks (collective and certification trademarks) as well as several sui generis forms of protection.¹⁹³ Among the *sui generis* subcategories, the most widely known are protected geographical indications (hereafter PGI) and protected denominations of origin (hereafter PDO).¹⁹⁴ In addition to the mentioned 'positive' forms of protection, GI protection is also pursued through the doctrine of unfair competition and passing off, as well as through administrative schemes for protection,¹⁹⁵ which are considered as 'preventive' or 'passive' forms of protection.

Biological resources are widely used as inputs for products that could be covered by GI protection. Climatic factors and ecosystems are natural frameworks that directly influence the quality and the particular features of GI products. The manufacture of GI products can also mirror or be inspired by traditional practices and methods of production that are linked to local livelihoods. All these aspects can create direct linkages between this intellectual property (IP) category and the conservation of biodiversity if properly designed in the technical standards and in the organizational structure. In this regard, GIs are voluntary schemes that can allow and valorize the introduction of sustainable practices and well as TK preservation measures.

GIs provide a contribution to the conservation of biodiversity and the sustainable use of its components (objectives 1 and 2 of the Convention on Biological Diversity (CBD)).¹⁹⁶ The relationship of GIs to the third CBD objective - the fair and equitable sharing of the benefits arising from the utilisation of genetic resources - is by far less clear. GI products mostly incorporate biological resources that in many cases are later processed and ultimately consumed. However, in some cases the GI protected products may include units of heredity (e.g., a fresh fruit or vegetable). In such cases, while the trade of the product as a "commodity" is allowed, such trade does not imply an authorization for the purposes of "utilization" under the Nagoya Protocol. In a case where a genetic resource covered by the GI is utilised for research and development (R&D) purposes (e.g., when seeking to improve some of the natural features of the genetic resource), the obligations under Nagoya Protocol

¹⁹¹ These may include words or phrases, distinctive marks, symbols, icons or groups of characters or traits linking the product with the territory.

¹⁹² See Article 22, TRIPS Agreement.

¹⁹³ In this broad sense, more than 10,000 have been reported to exist globally.

¹⁹⁴ The 167 countries that actively protect GIs as a form of intellectual property fall into two main groups: 111 nations with specific or sui generis systems of GI laws and 56 that prefer to use their trademark systems. D. Giovannucci et al (2009) p. 14. ¹⁹⁵ See UNCTAD-ICTSD (2005), pp. 274-279; D. Giovannucci *et al* (2009), pp. 49-53.

¹⁹⁶ See Article 1 of the CBD (1992).

will apply. This does not mean that other CBD and Nagoya Protocol provisions such as the need to develop biodiversity strategies and the protection of associated traditional knowledge (TK) are not relevant. On the contrary, if GIs are properly designed, they can constitute suitable instruments that contribute to biodiversity conservation and sustainable use.

This chapter seeks to introduce the main links between biodiversity, TK, access and benefit sharing (ABS) and GIs. The chapter will also provide the reader with a better understanding of the benefits and costs of making use of GIs from a sustainable development perspective. Finally, it will produce a checklist of issues that needs to be taken into consideration for maximizing the potential of GIs for biodiversity conservation and sustainable use.

Key Points

- \Rightarrow GIs can be protected through different modalities of distinctive signs including trademarks (certification or collective), as well as *sui generis* forms of GI protection.
- ⇒ GIs, if properly designed, can make a significant contribution to conservation of biological resources and to sustainable use objectives under the CBD.
- \Rightarrow GIs are a voluntary scheme that can allow and valorize the introduction of sustainable practices as well as TK preservation measures.
- \Rightarrow The links between GIs with access and benefit sharing provisions under the CBD and the Nagoya Protocol is limited, as GIs tend to mostly use biological resources as inputs in the manufacturing process. Nevertheless, sometimes GIs may cover genetic resources (e.g. fresh fruits and vegetables) and that any 'utilization' within the context of the Nagoya Protocol may trigger its access and benefit sharing (ABS) provisions.

A. PGIs and PDOs

Originally from Europe, PGI and PDO are forms of protection specifically conceived to link the territory with the 'indicated' product. There are some conceptual and terminological variations across countries and products, but these two remain the most widely used.¹⁹⁷

An important qualitative difference between PGI and PDO refers to the intensity, form and objectiveness of the link between the product and the geographic area of origin. In effect, the linkage between the *terroir* and the product is stronger for PDO, since the good must be produced, processed and prepared within the identified geographic area. Moreover, in the case of PDO the product must display characteristics or qualities fundamentally owed to that area. By contrast, as far as PGIs are concerned, only one of the mentioned operations must actually be performed in the indicated area, thus allowing more flexibility in the conditions so long as the product has a certain quality, reputation or characteristic attributable to that area.

¹⁹⁷ For wines and spirits, the term used in Europe is 'controlled denomination of origin', that can be further specified in terms of assuring a specific level of quality by referring to 'controlled denomination of origin guaranteed'.

¹⁹⁸ See article 2.1 (a) and (b) of the COUNCIL REGULATION (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs (OJ L 93, 31.3.2006, p. 12)

Key Point

 \Rightarrow In the case of PDO, the good must be produced, processed and prepared within the identified geographic area, and it must display features owed to that area. In the case of PGI, it is enough if the products display certain quality, reputation or characteristic attributable to the identified area, as long as it is produced, processed or prepared within the identified geographic area.

B. Trademarks, Certification Trademarks and Collective Trademarks

Some laws protect GI as trademarks, although in principle mere geographic names cannot be registered as trademarks for products. Despite this general prohibition, when the product and the geographic name are identified as referring to a particular source, producer or manufacturer, the name is considered to have gone beyond the geographic meaning (i.e., it has achieved 'secondary meaning') and fulfills a product identification function. Additionally, two particular categories of trademarks are employed to identify the goods' geographic origin: certification and collective marks.

Certification marks consist of words, names, symbols, or devices that identify the quality and nature of the product and state that it meets certain pre-established standards. These standards or quality characteristics can be linked to the place of origin of the product, this being its nexus with GIs. By contrast with other forms of GI protection, the owner or owners of the mark do not use it. On the contrary, the role of the trademark proprietor consists in administering the regime and its use cannot be denied to applicants fulfilling the established criteria. The use of the mark is normally limited to the product that it certifies, so it does not extend to other areas of production or for other products unless its use to other products was specifically requested at the registration phase.

GIs can also be protected by means of collective marks, which are signs distinguishing the goods or services as having a connection with a specific group, and with the standards set up by that community. Collective marks are used exclusively by the members of the collective, who obtain proprietary rights to use a common identifier. The owner of the mark is the parent body, a collective group or organization obliged to administer the mark in the interest of the members of the collective. Although they can imply a geographic origin, they do not necessarily have a geographic content. In fact, a variety of factors distinct from the geographic origin of the goods or services may be at the origin of the collective.

Key Points

- ⇒ Two categories of trademarks are employed to identify the goods' geographic origin, certification and collective marks.
- \Rightarrow Certification marks indicate that the product meets pre-established standards, which can be linked to its place of origin. Collective marks distinguish the goods or services as having a connection with a specific group, and can imply a geographic origin.

C. Key Requirements under TRIPS

The WTO TRIPS Agreement lays down the common characteristics and legal requirements for the protection of GIs. Under Article 22 of TRIPS, Members are obliged to provide legal means of protection – which may include protection against unfair competition as well as statutory and administrative methods of protection – to indications that identify goods as originating in the territory of a Member. 'Goods' is a wide term potentially covering all sorts of products, but not services, whose protection is left to national consideration.

The TRIPS Agreement establishes that a link between the product and the indicated origin must exist. More precisely, the good must 'originate' from the place identified by the GI. The specific meaning of 'originating' is flexible and allows, for instance, the partial manufacture of the good in a distinct place. On the other hand, the features of the product must be 'essentially attributable' to its origin, which means that they need not be entirely attributable to the designated territory.

TRIPS also states that a "given quality, reputation or other characteristic of the good" must be "essentially attributable to its geographic origin". This opens the door to three distinct possibilities. First, the specific *quality* is essentially attributable to its geographic origin. Second, the specific *reputation* is attributed to its geographic origin, which opens the door to a link based on favorable considerations in respect of the good. Third, characteristics distinct from quality and reputation may also form the basis of the protection of the GI, thus permitting the consideration of issues such as the color or aromatic traits of the good. These possibilities confirm that the product may be distinguished by characteristics beyond its physical properties.

The scope covered by the GI will be broader or narrower depending on the reading of the term 'territory'. If it is limited to the physical aspect, the notion becomes narrow. By contrast, if 'territory' also includes its inhabitants, as commonly understood, it will be possible to protect more products. This becomes of particular relevance when considering issues such as the links between TK and GI, since "cultural geography can also lead to the association of unique or superior quality with a particular geographic area. This often relates to traditions or particular skills or talents possessed by certain residents in the area."¹⁹⁹

Provided the aforementioned requirements are met, interested parties must be offered the legal means of protection necessary to avoid any use of the indication that misleads the public regarding the true origin of the product. The means of protection may also prevent any use that constitutes an act of unfair competition.²⁰⁰ In adjudicating conflicts, the key discussion will be focused on the act to "mislead the public". The specific meanings of 'public', 'mislead' and 'deceit' are key to determining the existence of infringement.²⁰¹ On the other hand, the same article bars the registry of trademarks if they contain a GI that may mislead the public as far as the real origin of the goods.

¹⁹⁹ Giovannucci *et al* (2009), p. 16.

²⁰⁰ Article 22(2), TRIPS.

²⁰¹ On the possible interpretation of these terms, see UNCTAD-ICTSD (2005), pp. 292-295.

Key Points

- \Rightarrow Article 22 of TRIPS obliges WTO Members to provide legal means of protection of GIs, which may include protection against unfair competition as well as statutory and administrative methods of protection.
- \Rightarrow The good must 'originate' from the place identified by the GI and a given quality, reputation or other characteristic of the good must be essentially attributable to its geographic origin.

D. Links between GI with and Biodiversity Conservation

GIs can be a useful tool for biodiversity conservation, provided that the market values the GI, conservation practices are incorporated in the GI's technical specifications and that consumers are willing to pay a price differential for origin-based products. If successfully established, the added value of the product should stimulate the preservation of the genetic resources used, the associated TK applied or the ecosystem and landscape within which both have been created. More precisely, GIs "may promote biodiversity conservation directly through the use of a specific genetic resource or indirectly through production and management practices that include landscape and ecosystem considerations".²⁰² As it becomes clear from this rationale, the preservation of genetic resources and TK is a consequence of an economic activity and interest, but it is not necessarily the purposed goal of the GI protection.

The rise of agro-industrial generic products has caused difficulties to small and medium farmers. The difficulty to compete in terms of price and volume against large agro-industrial corporations has often obliged small farmers and collectivities to focus its efforts in market niches that value environment conservation, organic food and landscape preservation. As Larson underlines, GI and informative labeling "give them the possibility of commercializing products that have a link to a particular area with a differentiated identity; in this way they [can] avoid competition based on volume, low prices and marketing".²⁰³ As GIs tend to value the land and its particular agro-ecological characteristics that impart unique organoleptic²⁰⁴ aspects,²⁰⁵ they have proved to be useful in distinguishing products and producers with direct ties with that land and resources.

The benefits for conservation arising from GI protection are not the same, however, for developed and developing countries. Comparative case studies²⁰⁶ have proven so far that positive and relevant effects on genetic resource conservation are easier to take place in developed than in developing countries. This has been the consequence of a higher level of integration of environmental requirements (such as species and races preservation, or grass protection and landscape considerations) in the GI schemes of certain developed countries. For example, in the case of *Comté* cheese in France, there are between 30 to 65 botanical species with the areas covered by the PDO²⁰⁷. Such a field variety in botanical species has a direct impact over the quality of the milk and the organoleptic properties of the cheese. This

²⁰² Larson (2007), p. x.

²⁰³ Larson (2007), p. 4.

²⁰⁴ Properties that can be perceived by sense organs.

²⁰⁵ Giovannucci *et al* (2009), p. 37.

²⁰⁶ Larson (2007).

²⁰⁷ Comité Interprofessionel du Gruyere de Comté (2013). Comté AOP Contributions au Development Local.

contrasts with non-PDOs artificial fields where the level of botanical diversity is less than 10 botanical species²⁰⁸.

In many developing countries, many potentially GI protectable products are of informal nature and therefore have faced problems in integrating environmental requirements. This does not mean that developing countries cannot benefit from positive spillovers, but that some other factors must also be present to ensure that conservation practices are embodied in the GI design. Among these, mention is usually made of institutional strengthening, IP protection, and management of natural, biological and genetic resources.²⁰⁹

Among the main lessons that can be learnt regarding the relationship between GIs and genetic resources are that:

"i) direct contributions to landscape and ecosystem conservation are important in GI production systems based on natural vegetation, perennial crops or extensive low input livestock management; ii) in GIs based on intensive agricultural systems, direct environmental benefits may only result from convergence with organic production methods; iii) direct conservation of genetic resources results from GI implementation when they are intrinsic to the product itself; iv) endangered genetic resources can be recovered directly when a successfully marketed GI is developed and management of germplasm is carried out by producers, the governing body of a GI (GB) and in alliance with regional research institutions; v) GI production systems based on well managed extractive activities promote the conservation of natural vegetation and forested areas with the consequent benefits to ecosystem and landscape conservation; vi) the existing biological and cultural diversity in developing and transformation countries is an asset that can be developed through GI differentiation".²¹⁰

Key Points

- \Rightarrow GI is a useful tool for the protection of genetic distinctiveness if the market values the GI and conveniently rewards it.
- \Rightarrow GIs have proved to be useful in distinguishing products and producers with direct ties with that land and resources. This allows small farmers and collectivities to focus its efforts in market niches that value environment conservation, organic food and landscape preservation.

E. Links between GIs and TK

GIs can support local cultures, groups and traditions while fostering rural development.²¹¹ If successfully granted and promoted, GI "can provide the structure to affirm and protect the

²⁰⁸ Ibid.

²⁰⁹ Larson (2007).

²¹⁰ *Ibid.* pp. 39 and 57.

²¹¹ According to Escudero (2011), the most important "category of intellectual property right that may be directly applied to the protection of TK is that of geographical indication". S. Escudero, International Protection of Geographical Indications and Developing Countries. Trade-Related Agenda, Development and Equity (T.R.A.D.E.) Working Papers 10. South Centre: Geneva. 2001, available at: *http://www.southcentre.org*

unique intellectual or socio-cultural property embodied in indigenous knowledge or traditional and artisanal skills that are valued forms of expression for a particular community".²¹² Rangnekar claims that GIs are at the intersection of culture and geography. For him, GI protection is merited due to the link between a specific origin and a cultural manifestation, or the link between the product and a culture.²¹³

GIs are aimed at fostering the protection of cultural and local agro-ecological characteristics and techniques. For instance, local farming techniques, food preservation methods or processing procedures resulting in distinguishable products may become eligible for GI protection.²¹⁴ The key mechanism to strengthen local characteristics and techniques through GI is the reward provided by the market. If successfully established, the added value of the product thanks to the valorization of the knowledge implied should increase the return to local communities and stimulate the preservation of the conditions or traditions that allowed producing the protected product. As mentioned in Chapter 5, however, GIs do not protect the underlying TK itself.

Since the local culture may be essential in shaping the uniqueness of the protected product, and this uniqueness may be the main market asset of the product, GIs can potentially become a powerful conservationist stimulus of local TK. Its focus on the local sphere, moreover, enables the development of small-scale economies, frequently based on sustainable methods of exploitation. In a related fashion, a positive link between TK and genetic resource conservation can be established, since GIs may help at recovering traditional practices linked to the use of underutilized genetic resources that were neglected by industrialization.²¹⁵

The alluded synergies are not always easy to achieve. It has to be taken into account that GIs are difficult to establish and require good planning and an institutional framework. Moreover, if the quality of the product is not adequate, or farming communities are too poor to become involved in the institutional and regulatory aspects of the GI, this may not only limit its usefulness, but even damage the population, their environment, economy or culture. Also in this negative context, practices resulting from the homogenization of products that are GI protected, frequently trying to standardize the quality of the products to enable mass production, may lose differentiation and act as an impetus against the preservation of TK.²¹⁶

Key Points

- \Rightarrow GIs can foster the protection of cultural and local agro-ecological characteristics and techniques, the key incentive being the reward of the market. As far as the local culture is essential in shaping the uniqueness of the product, GIs may become a powerful conservationist stimulus of local TK.
- \Rightarrow Good planning, strong institutional framework, the quality attributes of the product, and the wealth of the local community are decisive factors to achieve any positive outcome from GI protection.

²¹² Giovannucci et al (2009), p. xviii.

²¹³ Rangnekar (2004), pp. 20-21.

²¹⁴ The link with the local context is emphasized in some laws. For instance, the French law on appellations of origin law alludes to "local, fair and constant practices".

²¹⁵ Larson (2007), p. 40.

²¹⁶ *Ibid*.

F. Are Genetic Resources Protected by a GI subject to ABS rules?²¹⁷

In principle, it will be very unlikely that GIs can trigger access provisions based on the Nagoya Protocol²¹⁸ because utilization is defined as R&D on the genetic and biochemical composition of genetic origin. As mentioned above, on most occasions GIs incorporate biological resources that are later processed and ultimately consumed directly by consumers. Also, R&D on the genetic resources is in general not included in the establishment and implementation of GIs. Certain operations under GIs will use material of biological origin that due to processing and refinements do not contain substantial amounts of functional genetic information any longer - for example oils or spirits - while other material still contains functional genetic information which if used at all can be used for DNA fingerprinting and identity control - for example wines.²¹⁹ The operational value of the CBD definition of genetic resources that is based on the physical presence or absence of genetic information has decreased over the last decades because detection limits for DNA have increased manifold and the CBD does not operate with threshold values. This limited operationality was one of the reasons why negotiators of the Nagoya Protocol finally chose the manner of utilization of genetic resources as the trigger for ABS rules in addition to the physical nature of the accessed material.

In some cases, the GI product matches the genetic resource. This is for example, the case of *Jinxiang Da Suan* (a local garlic variety from Jinxiang district in Shandon Province of China), which recently was registered as a PGI in Europe.²²⁰ This, however, does not imply that the garlic has been used for R&D purposes outside China. One option that countries have at hand to avoid confusion between the trade of the "special products/commodities" covered by a GI and the transfer of genetic resources under ABS rules, is to indicate in the export documentations and labels that that those products are not authorized for utilization in the context of the CBD and the Nagoya Protocol. For example, Decision 391 of the Andean Community²²¹ in its complementary provision number four, stipulates that health certificates for the export of biological resources must clearly indicate that "use of this product as a genetic resource is not authorized".

Because the benefit sharing obligations of the Nagoya Protocol with regard to genetic resources ²²² also include the "commercialization" of such resources including their derivatives²²³, user countries need to discuss the implementation of these provisions also with regard to GIs. One issue to be solved is whether additional profits due to the willingness of consumers to pay a higher price for GI-protected products can be defined as benefit sharing under the Nagoya Protocol. In this regard, there are already cases where producers have made use of exclusive sourcing contracts of raw materials as a way to provide some benefit sharing. This has been, for example, the case of one cosmetic company in the business of producing

²¹⁷ This section is mostly based on kind comments provided by Harmut Meyer.

²¹⁸ See Articles 6. 1 and 2 (c) of the Nagoya Protocol.

²¹⁹ UC Davis (1999).

²²⁰ This GI is already protected geographical indication under EU regulations since 2011. See Official Journal of the EU (2011/C 37/11), EC No: CN-PGI-0005-0622-16.07.2007.

²²¹ Andean Common Regime on Access to Genetic Resources. Decision 391 of 1996.

²²² See Article 5(1) of the Nagoya Protocol.

²²³ See Article 2 (c to e) of the Nagoya Protocol.

argan oil²²⁴, which has offered local communities exclusive sourcing of all its inputs from them as a form of benefit sharing.²²⁵

A reverse picture arises when the TK elements of GIs are discussed in the light of the Nagoya Protocol. Access to TK associated with genetic resources is not linked, according to Nagova Protocol²²⁶, to a specific form of utilization. This is based on the fact that the Nagoya Protocol does not define traditional knowledge and has not included it in the definition of "utilization". Whether the utilization of TK in the context of GIs qualifies as access is dependent on the actual provisions of national ABS and TK legislation and can only be discussed on a case-bycase basis. The benefit sharing obligations with regard to associated TK under Article 5(5) of the Nagoya Protocol may lead also to the conclusion that the utilization of such knowledge in the context of GIs would trigger the rules of the Nagoya Protocol. In this regard, and when assessing the application of associated TK rules in the Nagoya Protocol to a particular GI, it would be important to determine the level of engagement of the community within the GI scheme as in most cases production facilities within the GI territory are owned by "locals" or "employ locals", so benefits may already be generated or directly shared with the community.

Key Points

- The product covered by a GI can in some cases also be a genetic resource. If R&D \Rightarrow activity is undertaken over such a resource that is accessed, the provisions of the Nagova Protocol will be triggered. Rules indicating the type of activity authorized in export documentation and labeling could be of assistance in avoiding confusion "special products/commodities" for direct consumption and the between authorization of utilization of the genetic material under the Nagoya Protocol.
- According to benefit sharing provisions under the Nagoya Protocol, any benefit \Rightarrow arising from the commercialization of genetic resource or its derivatives needs to be shared with the countries of origin. There is a need to determine whether the additional profit obtained through a GI scheme can be considered as a benefit sharing modality under the Protocol.
- The application of associated TK protection provisions in the Nagoya Protocol to TK \Rightarrow embodied in a GI product will depend on the national legislation and the particular case, especially because in many cases the producers or employees in the GI value chain are ILCs.

G. Can Distinctive Signs Address Misappropriation Concerns?

One important concern of biodiversity and TK rich countries is that the IP system has generated incentives for access, utilization and misappropriation of GRs and TK without the authorization or compensation of the countries of origin and TK holders. These incentives have been attributed in large part to the consequence of the emergence of biotechnology industries and the expansion of the scope of patentability over life forms and their

²²⁴ A request to protect argan oil as a PGI under EU regulation was submitted in 2011. The EU Commission is currently ²²⁵ See Lybbert (2007).
 ²²⁶ See Article 7 of the Nagoya Protocol.

components.²²⁷ GRs and TK may sometimes be significant inputs in R&D processes leading to biotechnological inventions. However, the conditions set in national ABS and TK regulations have not always been fulfilled when utilising those resources and knowledge and introducing IP applications. Today, several international processes are directly addressing this problem (see sections on Disclosure Requirements and TK in Chapter 3).

Claims about misappropriation (appropriating the value of GRs and TK without compensating TK, and misuse (acting beyond access conditions and mutually agreed terms) have been quite common since the early 1980s and they continue to arise. To this, one can also add situations of non-patent 'biopiracy' (which applies to other types of IP control of biological resources and TK, including plant breeders' rights and trademarks).²²⁸ Examples of controversial cases of trademarks applications/use over generic plant names, indigenous terms or existing regions in developing countries include "*Rooibos*" by an exporter in the United States²²⁹ (an herbal tea name from South Africa), Maori terminology in Lego's bionicle toys²³⁰, and "*Barlovento*" for a chocolate bar by Nestle (the name of a cocoa-producing region in Venezuela).²³¹

While the literature tends to see GIs and other distinctive signs as potential tools to support sustainable use of biological genetic resources and TK preservation²³², their effect to address biopiracy and misappropriation concerns in patent filing and granting is less clear. GIs and other forms of distinctive signs give protection to the use of an "indication/sign" and to the "reputation" of the product but not to "knowledge" per se. So in principle, they cannot directly impede the filing of a new invention built on genetic resources or TK. However, the reputational content (including of the particular qualities of biological resources used), the codification of TK practices in technical standards/specifications, and continuity of protection under a GI can provide information of relevance in the novelty and prior art analysis in patent and breeders' rights examination and should improve the quality of the patent and breeders' rights subsequently granted (a defensive function). It has been reported that in the case of Darjeeling tea, which was the first GI registered in India, prevention of misappropriation was one of the motivations for the request of protection.²³³ Similar motivations were found in the registration of a PDO for *Quinoa Real* in Bolivia as a consequence of the granting of patent on Quinoa in the late 1990's (later abandoned due to the opposition of indigenous peoples and civil society organizations).²³⁴

The reputational value of an "indication/trade name" protected in the country of origin can facilitate the oppositions for the registration of trademarks in third countries for similar products or related services. For example in 2006, the Ethiopian Patent and Trade Mark Office initiated an opposition procedure against a trademark application introduced in the United States by Starbucks Corporation on *Shirkina* sun-dried *Sidamo* coffee. This opposition succeeded and the United States Patent and Trade Mark Office decision recognized the likelihood of confusion with the trademark "Sidamo" and the reputational value of the Ethiopian Sidamo coffee. As consequence of this successful opposition Starbucks Corporation.²³⁵

²²⁷ Pastor S. and M R Muller (2009), p 11.

²²⁸ Robinson (2010), p. 77.

²²⁹ See FAO (2009-10), p. 155.

²³⁰ Morgan (2003).

²³¹ Vivas Eugui (2001a), p. 703.

²³² Vivas Eugui and Muller (2001b) and Robinson (2010).

²³³ Kumar Datta (2010), p.132.

²³⁴ Larson (2007), p. 49.

²³⁵ DePass (2010).

In the case of utilization of indigenous terms/designs in trademark applications, the legislation of some countries includes explicit prohibitions to register words that might offend a community or consist of names of indigenous and local communities. There are examples in this regard in New Zealand²³⁶ and the Andean Community.²³⁷ In addition, the United States has recently developed a database of Native American Tribal Insignia (which is a larger concept than trademarks)²³⁸ that could be used in the examination process of trademarks in order to avoid potential cases of misappropriation. This type of database could be expanded to also include relevant indigenous terms and designs worldwide.

Key Points

- \Rightarrow GIs do not directly address biopiracy or misappropriation concerns.
- \Rightarrow The existence of a GI over a biological resource, its reputation, and TK contained in the technical standards may be useful to defeat certain patents, breeders' rights and their claims in novelty and prior art examinations.
- ⇒ Practical examples have evidenced that the pre-existence of GIs or trademarks will be key in preventing misappropriation through trademarks in third countries.
- \Rightarrow Some countries have introduced exceptions and measures linked to trademark/design registration of indigenous names, words and signs in order to avoid misappropriation.

H. Summary Comparative Table with Main Features

As mentioned above, 'GI' is a wide denomination for distinctive signs that link goods with their source. It embraces categories of trademarks such as collective and certification trademarks, and includes also several *sui generis* forms of protection. Despite several common features, the foundational principles behind each category differ, and differ as well in its ownership, enforcement mechanisms, the link of the protected good with its origin, the conditions set up for the use of the GI and other issues such as the ties with quality and technical standards. From the point of view of producers, it is vital to choose the legal institution that best suits their interest, the characteristics of the goods, the area of production and the collectivity behind the GI.

²³⁶ New Zealand, Trade Marks Act 2002 No 49, section 17.

²³⁷ See Article 136 g) of Decision 486 of the Andean Community of Nations (2002).

²³⁸ See http://www.uspto.gov/trademarks/law/tribal/index.jsp.

Table 2: Compared Characteristics of PGI, PDO, Certification Marks and Trademarks

Foundational principles	PGI and PDO Links GIs to certification and quality and indirectly to rural development, increase of farmer incomes and group development	Certification marks Industrial property rights, differentiation and marketing tool	Collective trademarks Industrial property rights, differentiation and marketing tool
Ownership	Collective or public	Privately owned, generally by government agencies or producer organizations	Privately owned by groups of proprietors, public or private
Name	Preexistent and linked to the territory. No chronological order, but linkage with the territory	Can be invented and without link with the territory. The first to register the name has full rights.	Can be invented and without link with the territory. The first registering the name has full rights
Link with the geographic origin	Strict. In the case of PDO all inputs must be produced within the territory For PGI this requirement is more flexible	Certification marks do not necessarily require distinctiveness for geographic terms. They can certify various features such as material, methods, quality and origin.	In the case of collective marks, distinctiveness is required for geographic terms
Ties with quality	Strong: it is conceived as a device signaling quality	Not so strong: general marketing tool. However, it can be built in the design	Not so strong: general marketing tool. Linked on the reputation or the producers.
Trade Access	They cannot be sold or delocalized Are accessible to any producer within the specified region of origin that meets the criteria	They can be sold and licensed Certification marks allow free entry to any producer who fulfills all the specifications for certification	They can be sold and licensed Collective marks can only be used by the members of the community
Technical standards	Publicly specified and obligatorily linked to origin.	In general standards are privately elaborated, although some exceptions exist	Private. They are not needed. The collective trademarks can be used to only identify producers.
Duration of the protection	Usually unlimited, can be maintained while condition for protection remain. In some jurisdictions, protection limited to 10 years (renewable)	Limited period of time, usually 10 years (renewable)	Limited period of time, usually 10 years (renewable)
Enforcement	Public, with the occasional collaboration of individuals concerned	Private enforcement. Additionally, a party who believes that a certifier is not following its own standards or is unfairly denying use of a mark can file an opposition, a cancellation proceeding, or an action in court	
Source: Seuba and Vivas, partially based on M. Stéphan et al. (2007) pp. 4-7; and D.Giovannucci (2009), p.55.			

II. Main Benefits and Costs when Making Use of GIs

Numerous factors need to be taken into account to, first, decide whether or not it is desirable to develop a GI and, second, which category among the diverse options will best suit the characteristics of the good, *terroir* and collectivity involved. Although the benefits are numerous and important, they do not take place automatically, and usually are case-specific. On the other hand, expected benefits depend on investments made in areas such as institutional framework and standards-setting. Moreover, benefits are not without parallel effects on welfare, and potential difficulties for access to goods produced under a GI may arise given its impact on prices. The overall picture, however, is fairly positive if institutions are rightly chosen and enough flexibility exists to adjust them to local conditions.

Both benefits and costs can have an impact on the overall society and on collectivities and individuals with a relationship to the GI. Benefits such as preservation of TK and genetic diversity are indeed public goods, and its reach is far wider than the involved geographic area. Economic benefits obtained by virtue of GI protection is in principle a profit that is reaped by those marketing the product, but other related factors such as increases in tax collection must be also considered. As far as costs are concerned, sometimes these are borne privately, while in other cases public institutions manage issues such as quality control, legal protection or setting up administrative or judicial bodies for the surveillance of the GI.

A. Benefits

GIs and other forms of distinctive signs were not directly designed to support the sustainable use of genetic resources or to protect TK. However, there are many potential positive effects/externalities that could be generated by the correct use of these instruments in practice. The most important effects include the following.

1) Market differentiation and the prime price.

Geographical indications and informative labelling mechanisms give the possibility of commercializing products that have a link to a particular area with a differentiated identity. This allows avoiding competition based on volume, low prices and mass marketing.²³⁹ GIs can also permit lower levels of price volatility as volumes are limited and quality is fixed by technical standards and practices. From a legal point of view, having a GI allows a defense from others free riding on the existing indication/reputation of a particular product originated or processed in a specific geographical area, and is a means of preventing misleading labelling.

GIs tend to target niche and local markets where the population is willing, due to cultural and consumer preferences and qualitative considerations, to pay a better price for something different.²⁴⁰ The so-called prime price is this marginal difference that the consumer is willing to pay for acquiring a different product if compared with a generic commodity. The main drivers of this willingness are the special quality of the product and the reputation, which is identified and certified by a GI scheme. If GI producers want to ensure a prime price, the application of quality controls

²³⁹ Larson (2007), p. 4.

²⁴⁰ Paz and Pomareda (2009), p.14.

and reputation need to be carefully preserved. Any attack on the reputation may decrease or destroy the prime price margin.

Without market differentiation and a prime price GIs make little sense. For example, Blue Mountain coffee from Jamaica has a prime price of USD14.50 compared with soft Colombian coffees.²⁴¹ In France, the average price of cheeses protected by a PDO in 2007 was 10.42 Euros/kg against an average of 8.11 Euros/kg for all other cheeses (which equates to about a 27 per cent differential). In the case of the Nuoc Mam sauce (a fish sauce from Vietnam), pushes in domestic and foreign demand have brought the price up about 200 per cent since the introduction of GI protection.²⁴²

One of the reasons why GI protected products usually have higher prices is that they have higher costs due to, *inter alia*, investments in quality (equipment, sourcing and grading), standard setting, controls, certification and monitoring.²⁴³ However, GI schemes can provide opportunities for lower costs and economies of scale in inputs acquisition, common manufacture and stock facilities, joint labelling, legal defense and marketing.

2) Organisation of Producers and Protection against De-localization

Cooperative agreements are a fundamental piece of the GI governance structure and their functioning. The fact that GIs cannot work effectively without a minimum level of organisation pushes producers to explore options for cooperative arrangements. In principle, GI offer incentives toward the emergence of cooperative arrangements such as opening niche markets, obtaining a prime price, distributing labour within the value chain and achieving economies of scale.

However, these agreements have not arisen automatically in the experience of many developing countries, especially when dealing with small producers. Technical and financial support by IP offices, ministries of agriculture and industries, regional authorities, enterprise development agencies and research centres has to be present in order to support the building of a governance structure that effectively represents all stakeholders in the value chain and the production reality. For example the Kampong Speu Palm Sugar Producer Association in Cambodia was formed by a task force comprising representatives of producers and government representatives as well as scientific support organizations.²⁴⁴ The task force was responsible for discussing and drafting the by-laws of a future producer association. After several months of work, the association was created in 2007. Today, the association is composed of 142 producers and is proceeding with official registration of Kampong Speu Palm Sugar as a GI product.²⁴⁵ There is also a pilot project lead by the Ministries of Commerce and Agriculture of Cambodia and the French Cooperation Agency seeking to support the development of technical standards and quality control mechanism for the GI²⁴⁶ in order to make it fully functional.

Another advantage offered by GI, is that they assist in preventing the delocalization of production.²⁴⁷ A GI can be produced only in a given area that confers specific characteristics on the

²⁴¹ Paz and Pomareda (2009), p. 14.

²⁴² D. Giovannucci et al (2009), p. 34

²⁴³ *Ibid*, p.33.

²⁴⁴ FAO (2009-2010), p. 100.

²⁴⁵ Ibid.

²⁴⁶ Ministries of Commerce and Ministry of Agriculture, Fisheries and Forestry of Cambodia (2010).

²⁴⁷ Ngo Bagal and Vittori (2011) p. 16.

product. As a result, large corporations are prevented from "capturing" the added value of origin products and related methods through the appropriation of these techniques and production outside the geographical area.²⁴⁸ This type of "capture" can easily occur in the case of companies that rely on trademarks, as they can be acquired as part of the company assets and the production moved to places or countries where production costs are lower. In the case of GIs, the production and value addition is attached to the territory and linked to local practices so the name/sign, qualities and reputation cannot be sold or transferred.

3) Self-Standard Setting and Environmental Management

One particularity of the GI and certification trademarks is that the producers are the ones that design, adopt and implement technical standards. These standards are binding for those producers that want to use the GI name/sign or obtain certification. Technical standards can embody the main features of the production process including the acquisition of raw materials, their treatment, transformation as well as quality specifications.

Environmental management is not always embodied in the technical standards, but may be reflected in the practice and objectives of producer associations. In the case of *Limon of Pica* from Chile, the low use of pesticides and chemicals is a fundamental practice of producers. While the low use of these inputs is not part of the technical standards, in the by-laws of the producers association the preservation of natural resources linked to the production process has been included as an objective.²⁴⁹ The association of producers of *Mezcal Papalote de Chilapán*, within the PDO de Mezcal, has adopted extensive forestry management programmes of a wild species instead of intense cultivation.²⁵⁰ Sometimes environmental regulations determine the use of natural resources by GI producers even if they are not part of the technical standards. For example, part of the production of *Cacao de Chuao* (PDO) in Venezuela is done within the territory of the Henri Pittier National Park. The governing national park regulations allow the production of cocoa as part of the ancestral practices of local communities²⁵¹, but at the same time requires the sustainable management of cocoa trees, the surrounding forest, soil, water and landscape. The surrounding tropical forest provides shade for cacao trees and preserves the soil from degradation.²⁵²

4) Enables the Revalorization of Biodiversity-Derived Products

As GIs seek to bring to the market origin-based special products, they often utilise endemic or locally and specifically adapted races, varieties and species. These diverse uses of plant and animal resources include those that were utilised in the past for food security purposes or for their particular qualities (i.e., nutritional, organoleptic, functional or aesthetical). The utilisation and promotion of products utilizing diverse plant or animal resources can assist in resisting pressures toward increased homogenisation and standardisation, therefore preventing the disappearance and deterioration of the habitat, landscapes, ecosystems and genetic diversity. GIs can then be an interesting platform for marketing products with a wider biodiversity base while allowing the preservation of specific and potentially commercial species. In the case of food products, a wider

²⁴⁸ Ibid.

²⁴⁹ Vandecandelaere and Mery (2007).

²⁵⁰ Larson (2007) p. 44.

²⁵¹ González Jiménez E. (2007), p. 31.

²⁵² *Ibid*, p. 10.

diversity of food products also contributes to food security objectives and a larger nutrition and dietary base.

An example of a traditional variety that has been recently revalorised by GI protection is the case of Mais Blanco Gigante del Cuzco (white giant corn of Cuzco) in Peru. Mais Gigante del Cuzco is an ancient and high altitude variety of maize with important nutritious, tradition and religious functions.²⁵³ Its protection as a PDO since 2005 has allowed the recognition of the value of indigenous agricultural knowledge and has clear synergies with the efforts of the Cuzco region's tourist and restoration services. In Germany, the protection of the Swabian Hall pork meat as a PGI has allowed conservation and increased numbers of a highly endangered population of pig breed.²⁵⁴ The production of meat from this pig bred under the PGI is subject to outdoor management, which has positive environmental benefits compared to intensive pork production. In some cases, GIs can potentially contribute in providing an economic value to a species while facilitating protection and reproduction efforts. The Guanaco wool from Argentina, Chile and Peru, while not yet protected through a GI, could be a potential example in this regard. Guanaco wool is highly appreciated in both local and international textile markets. The *Guanaco* is a camelid protected under Annex II of the CITES Convention²⁵⁵ and the majority of the population is still wild. The use of a GI strategy for Guanaco wool that includes the protection and management of populations as part of the technical standards could facilitate the involvement of locals in the conservation and production efforts, allow income for their survival and protection for the species.

5) Preservation of Traditional Methods of Production

GIs, jointly with copyrights and industrial designs, may be the most relevant existing category of IP that may be directly applied to the protection of TK, including production methods and traditional cultural expressions (TCEs).²⁵⁶ All these IP categories may allow the protection of distinctive and creative aspects of signs, expressions and designs that could be present in traditional practices. Also, TK holders could in many cases meet the requirements for protection (i.e., distinctive, original or aesthetic features)²⁵⁷. Other categories of IP protection such as patents and breeders' rights are more difficult to obtain due to the certain limitation in the criteria for protection including novelty and industrial application in the case of patents, and novelty and homogeneity in the case of breeders' rights.²⁵⁸

In this regard, GIs can capture the distinctive aspects that emerge from a *terroir* and its associated traditional methods of production and processing that are often difficult to duplicate in other regions or countries.²⁵⁹ More specifically, GIs can provide the legal, governance and marketing structure needed to affirm and protect the unique intellectual or socio-cultural property embodied in indigenous knowledge or traditional and artisanal skills that are valued forms of expression for a particular community. Locally unique farming, harvesting, selection and preservation practices plus

²⁵³ FAO (2009-2010), p. 24.

²⁵⁴ Larson (2007), p. 39.

²⁵⁵ Convention on the International Trade of Endangered Species of Wild Fauna and Flora of 1973.

²⁵⁶ Vivas and Muller (2001b).

²⁵⁷ *Ibid.* Nevertheless, these IP categories may need some adaptation in order to facilitate protection or registration. WIPO is currently negotiating a new set of instrument(s) that would seek to protect traditional knowledge and cultural expressions.

²⁵⁸ Chapter 3 of the Handbook defines and explains with more detail the potential advantages and limitations that the IP system offers to TK as a mean of protection and why stakeholders consider there is a need to a sui generic system more suitable to indigenous and local communities needs and expectations.

²⁵⁹ *Ibid*.

processing procedures, designs and packaging embody key aspects of differentiation in GI products. Traditional processes also give quality value (i.e., handmade) and generate consumer interest due to qualitative features of final output.

An increasing and successful strategy to use GIs to protect and promote traditional techniques and knowledge is the case of GIs for textile products in India. By 2010, India had already 53 textiles GIs protected, showing the increasing importance of GI in the developing country context. It also shows that GIs can go well beyond traditional farming knowledge, including skills and practices in manufactured goods such as textiles.²⁶⁰ All these textile GIs incorporate as part of their production process traditional techniques for input harvests (e.g., flower and mineral selection), spinning, weaving, colour preparation, dyeing, knitting, processing, printing and labelling. Part of the process may also include different dressing techniques that bring additional aesthetic effects and societal recognition. Examples of famous Indian textile protected by GIs include *ochampalli ikat* (fabric), *Chanderi sari* (textiles) and *Mysore* silk (fabric). It has been reported that in these cases, GI protection has helped the producers to boost their economic returns significantly.²⁶¹ According to T.C. James, former Director of the Department of IP of India:

"[g]etting products on the GI registry was only the first step towards realising their economic potential. Even this itself has been a major challenge. Most of the people engaged in the production of such products are small households or small units, although in the same area. Convincing them to organise into associations to move the application for registration was and continues to be a Herculean task in many instances. It is also necessary to draw up standards and inspection mechanisms to ensure quality. These, however, are just teething troubles; once the system gets organised it should be able to take care of itself".²⁶²

In many cases, local supply chain actors, including ILCs, play a key role in utilizing and preserving TK systems. Actors within this supply chain can be diverse. In many cases, key aspects of the process are entrusted to women, elderly people, shamans and families. In fact, the local community members may see the product as an element of their local culture and at the core of local activities.²⁶³ An example of the role of particular members of the community in adding value can be found in cocoa of *Chuao* where women dry cocoa beans in the traditional way in front of the village church. The particular type of flooring in the church gives special drying conditions and facilitates the fermentation process, thereby improving quality and aroma.

It is important to note that TK practices and techniques are not always codified. The use of a GI scheme can assist in the codification of these practices and sustain their continuity. In cases where practices are "secret or sacred", additional forms of *sui generic* TK protection will be needed (see chapter 5 on TK protection).

²⁶⁰ Based on data from the Government of India and Intellectual Property India (2010). *Geographical Indications Journal*.

²⁶¹ James (2009).

²⁶² *Ibid*.

²⁶³ FAO (2009-2010), p. 14.

Key Points

- \Rightarrow While GIs and other forms of distinctive signs were not directly designed to support sustainable use of GRs or protect TK, they can be used for the identification and promotion of biodiversity-derived products.
- \Rightarrow GIs can facilitate the market differentiation of biodiversity-derived products in the market and to move away from the commodity market. Due to the special features of GI products, they can ensure consumer acceptance and allow a better margin of benefit (also called prime price).
- \Rightarrow GIs can be a means to promote the creation of new productive and organisational structures focusing on origin and quality. This would allow producers to move up in the value chain and to create market niches.
- \Rightarrow GIs can incorporate sustainable harvest, production and management practices. While not mandatory, these practices can become the base for differentiation.
- \Rightarrow GIs allow self-regulation leaving to the producers the selection of the best technical standard for ensuring quality and safeguarding reputation.
- \Rightarrow GIs allow the use of a wider variety of inputs including products linked to biodiversity and food security in the local context. They can also allow the revalorisation and sustainable reproduction of biological resources not being used any more or endangered.
- \Rightarrow The fact that GI implies production within a particular locality or region creates disincentives for delocalization and mass production.
- \Rightarrow TK and other traditional methods can be transferred into the production process and technical standards of the GI allowing their preservation and economic sustainability. GIs can also facilitate the protection and promotion of cultural goods such as textiles and handicrafts, as well as the preservation of livelihoods.

B. Costs

1) Distinction between costs and effects on welfare

The implementation of schemes for the protection of GIs has resource effects which can be grouped in two different categories. On the one hand, it is possible to identify the value of additional resources required to implement new obligations and frameworks for the protection of GIs. This is the investment that needs to be made to implement the GI scheme. Although GI protection is essentially a public policy, some of the investments needed can either be borne by the public authorities or left to the producers or collectivities. On the other hand, the impact or effects of GI protection on the economy and on society can be observed, and sometimes quantified. In this second category, impact may be defined as effects on public goods, prices, consumption, production and, ultimately, on welfare.²⁶⁴ This second group of resource effects can be both positive, for instance in terms of employment protection and growth, and negative, a dimension that has to do with aspects such as restriction of access to goods and negative environmental externalities.

Moreover, it is not uncommon in the literature dealing with GIs to use of terminology that

²⁶⁴ The same distinction has been made as regards IP enforcement obligations. *Vid.* X. Seuba *et al.* (2011).

distinguishes between direct and indirect costs.²⁶⁵ In this regard, "[t]he costs of developing a GI extends far beyond the direct costs of actually filing for registration; there are greater indirect costs to consider and to weigh against the benefits."²⁶⁶ Various costs and effects on welfare can be identified. With respect to costs, one could start by classifying among the direct costs those incurred to perform basic activities such as laying down the criteria and standards, developing information and education programs, establishing a system of quality control, promoting the GI, and setting up the infrastructure for the management of the GI. As far as examples of the effects on welfare are concerned, mention must be made of the probable impact on prices of GI exclusivity, the potential decrease of innovation or improvement of products under GI protection and the reduction of competition.

2) Institutional and organizational structures

Setting up institutional and organizational structures is a vital task for any GI scheme. The strength, management and adequacy of the institutional and organizational framework will largely have an impact on the probability of success of the GI. Institutional and organizational structures are necessary for some of the most essential aspects of the GI system. They will determine which products are eligible for the GI, since the established councils or authorities are in charge of the recognition of producers' membership. These authorities also have the responsibility to ensure that regulations are followed, and usually perform activities aimed at marketing the product, basically through the strengthening of goodwill.

It has been rightly stated that, for the GI to be successful, the existence of strong institutional structures bears as much importance as does the GI reputation and quality achievements.²⁶⁷ For instance, *Antigua Café*, in Guatemala, has been successful thanks to the existence of a local association of exporters and producers (*Asociación de Productores de Café de Antigua*) that planned a multi-year effort that led first to register domestically the trademark "Genuine Antigua Coffee", and in 2008 to obtain GI protection. By contrast, in the case of the Gobi desert camel wool "difficulties in participatory organization have resulted in only a few stakeholders grasping the rights and obligations of the GI."²⁶⁸ In this regard, governance structures must be designed to attain a fair distribution of benefits, so that these reach producers and do not concentrate in distributors or other middlemen.

In establishing the institutional and administrative settings, the point of departure will be very different in the case of developed and developing countries. In developing countries, a significant share of the economic activity is of informal nature, production is atomised, and products are sold in many cases directly to consumers. Constructing a GI implies the creation of cooperative governance structures. Without such structures it not possible to obtain formal GI protection and make the GI scheme functional. This cooperation suggests common agreements over the delimitation of the territory, treatment of the raw material, harmonization of production processes, standards setting, quality and verification controls and joint labelling and marketing strategies. The institutional framework will probably be weaker and underdeveloped in many developing countries. Developed countries, by contrast, have a large tradition of cooperative institutions, such as farmers or artisans

²⁶⁵ The categories may not always be coincidental. For instance, the costs associated to reorganize production have been considered indirect costs, while in this case would be considered an investment and, therefore, a direct cost.

²⁶⁶ Giovannucci *et al.* (2009), p. 20

²⁶⁷ Larson (2007), p. ix.

²⁶⁸ Giovannucci *et al.* (2009), p. 2.

cooperatives. These cooperatives can often be more readily transformed in the new institutional structure in charge of administering the GI.

3) Costs of Establishing and Enforcing Standards

The aforementioned institutional and organizational frameworks are closely related with the establishment of legal and administrative structures for the protection of GI.²⁶⁹ At the same time, this activity implies a prior endeavor, which is the demarcation of the formal geographic area of the GI. This area is, in fact, the territorial jurisdiction of the institutions created, and the area of application of the legal and administrative standards adopted.

Given the interests at stake and the envisaged outcomes, the demarcation of the GI physical boundaries can be a contentious and resource consuming activity. Many stakeholders will be positively or negatively affected by the outcome, hence the decision must be well-grounded, something which commonly requires investing time and money. Probably not only the first step but also the final goal is to clearly define the area that matches with the claimed characteristics of the product. This activity will require meetings with representatives of the economic sectors involved, naturalists, geographers and maybe even sociologists.

While the design and implementation of standards is necessary to generate a certain level homogeneity among GI products and to ensure the fulfillment of safety regulations, the transfer of TK into a standard can generate tension with TK knowledge systems. TK systems are evolutionary, so standards will imply a codification and harmonization of relevant practices. In this regard, local and other communities involved in the value chain need to be clear that such codification and harmonization is only applicable to the production process. Also, standards can be periodically changed so the evolutionary aspect can be introduced in the standard review in order to maintain the authenticity of the process and the outcome.

From the institutional point of view another needed investment arises from the adoption of the administrative standards derived from GI rules. Because of the need to adjust the product to the organoleptic properties claimed, and to keep with the features claimed, standardization becomes a key feature of GI frameworks. Empowering local communities when setting up standards and achieving a sense of ownership of the adopted standards are important to avoid exclusions of legitimate producers. Following the adoption of the relevant standards, further investment will be needed to keep a record of their fulfillment, for instance trough the establishment of a registry and through inspections. Moreover, both producers and collectivities will necessarily incur costs associated with the fulfillment of the adopted standards, and the former will probably be obliged to pay fees for activities such as certification. In this regard, the institutional design of the GI "should have a transaction cost adequate to the economic scale of the production process and the product."²⁷⁰ Activities undertaken by a GI framework to guarantee the claimed characteristics must be as effective and as simple as possible. ²⁷¹

Both the adoption of administrative standards and the design and implementation of a legal strategy for the protection of the GI are "steps to protect the reputation inherent in the GI from

²⁶⁹ See infra.

²⁷⁰ Larson (2007), p. 72.

²⁷¹ *Ibid*.

devaluation."²⁷² Legal protection to avoid misuse of the GI name is central for the success of any GI. This protection can consume a significant amount of money if the product is sold in numerous countries and protection overseas is sought in many jurisdictions. For instance, it has been reported that Parma DO spends approximately USD 1 million per year in prosecuting infringements.²⁷³ Another example is the conflict over the registration of *Rooibos* as a trademark in the United States. In order to achieve recognition of the "genericness" of the term, and therefore to cancel the trademark registered in the United States, South African producers and stakeholders spent approximately 750,000 Euros to date.²⁷⁴

Legal protection does not only imply litigating, but also prevention. This is why bigger GIs pay institutions that function as sentries in different countries: these institutions visit both formal and informal markets and conduct regular inspections of products in search of illicit versions. While strong GIs can pass these costs on to the final market price of the good, neither the strength to undertake global surveillance activities nor to transfer its costs to the products' price is possible for the small GI. Hence, small producers necessarily assume standardization and certification costs that end up affecting their competiveness in terms of price.

4) Higher production costs and targeted marketing strategies

The investment made to develop a GI and the costs associated to produce goods distinguished and protected by its origin and particularities have an impact on the final price. Studies in Europe show that some GI protected products' production price can be as much as 300% higher in comparison with non-protected GIs.²⁷⁵ These differences may be a positive factor in terms of assuring a good return to GI producers, but in some instances may also become a barrier to economic accessibility. Furthermore, selective marketing techniques may also restrict the availability of the product, and an overall impact on accessibility may arise.

As mentioned above, GI protected products usually have higher costs, including due to investments in quality, standard setting, controls, certification and monitoring. More labour hours, different machines, more expensive equipment and other basic factors of production contribute to higher or distinctive quality traits. In fact, even raw materials tend to become more expensive, since the technical specifications of the GI may oblige the consumption of a specific product, hence limiting options for the producer and diminishing competition. The characteristics of numerous GIs imply lower levels of production and productivity, since automation, industrial and agro-industrial techniques are usually excluded and new standards exclude the market goods that do not meet the criteria. Regarding certification, international standards govern the accreditation of qualified certification bodies, which increasingly are private organizations. Certification has become a business inextricably connected to product distinctiveness, and it has, obviously, a price. The costs associated with certification may be relevant: in 80% of cases, certification costs range from 0.6% to 0.8% of the turnover (excluding organizational costs).²⁷⁶

²⁷² Josling (2006), p. 4.

²⁷³ Giovannucci *et al.* (2009), p. 22.

²⁷⁴ Larson (2007), p. 48.

²⁷⁵ London Economics (2008).

²⁷⁶ Data provided by ECOCERT, a French control and certification body working in several developing countries. *Cfr.* M. Ngo Bagal and Vittori (2011), p. 18

These costs can be both at the collective and at the individual level. A varying number of local producers may be forced to adapt their methods, facilities and skills to the new GI technical standards and specifications. The adaptation may imply changes of a very different nature and impact. For instance, local producers wishing to benefit from the new GI may need to change the raw materials currently in use, or to undertake courses on hitherto neglected aspects. The investment may be more important, and imply a change in manufacturing process that also requires important changes either in the construction or in the machinery used for land or cattle-management. In the end, the certification costs are closely linked with the code of rules and the control plan, which will largely condition the direct certification costs.²⁷⁷ For instance, in the case of the *Pecorino Toscano* cheese, a code of rules was adopted that was not very prescriptive so that the different typologies of cheese that were produced could easily fit in the PDO.²⁷⁸

The quality and distinctive characteristics of products belonging to a GI enables one to charge a premium price and target high end markets. Competition in terms of price ceases to be a central issue, since the product is allegedly unique. The usual focus on quantity and volume is substituted by an interest in quality. Moreover, it is very probable that mass distribution will be substituted by selective marketing. Overall, these characteristics permit higher turnover, since the product will be probably sold in high-end niches or, at the least, in better off markets.

GIs also have the potential of negatively affecting access to "nutritious and culturally valuable resources by local and low income populations"²⁷⁹. This may be caused either by a rise in exports and concomitant undersupply of the domestic market, or by large-scale conversion of agriculture in the GI area leading to a neglect of production of local products and food, a situation that may occur when prices become higher and availability of the GI products or inputs lower as a consequence of an increase in demand and the success of the GI brand. Allowing the production of unbranded versions of exactly the same product at a lower price for the local consumption, incentivizing sustainable production of inputs or creating input quotas for local populations could be of assistance in addressing these problems.

5) Environmental degradation

Environmental factors such as land and climatic conditions can have a significant impact over quality. However, GIs do not necessarily generate positive environmental externalities if the production process does not include environmental management practices. Even in some cases, especially when the GI becomes a large-scale operation, it could have negative effects over the surrounding environment. In this regard, breed and landrace specialization may result in loss of genetic diversity, while intensive agriculture, either by means of irrigation or fertilization, may change the original links between the product and territory that make up the GI.²⁸⁰

A notorious example can be found in the use of agave stems to produce Tequila. Only one of the varieties of *Agave tequiliana* can be used in the Tequila DO. The introduction of green biotechnology has allowed massive reproduction of *Agave* plants, while also enabling the standardization of the quality and the control of the maturation periods. The success of tequila sales has also generated a very low level of diversity in the inputs used, as only one *Agave* variety is required by technical standards for the production of Tequila. This has not been the case of *Mezcal*

²⁷⁷ Belletti *et al.*, (2007).

²⁷⁸ Ibid.

²⁷⁹ Larson (2007), p. 58.

²⁸⁰ *Ibid*, pp. 39 and 56.

as it allows a wider use of *Agave* varieties in the production process. Besides this, the intensive use of pesticides, some agricultural techniques and the deforestation caused in order to gain cultivable hectares, has made the Tequila production a criticised example environmentally.²⁸¹

Sustainable practices, based or not on traditional practices, (i.e., selective harvesting, organic production, or soil and water management) can be incorporated in the technical standard or practices but they need to be clear, explicit and to some extent homogenous. There is always a risk that environmental management considerations do not make it into the technical standards, as they may reflect the power relations within the supply chain and some producers may not be willing to introduce additional costs into the price structure.²⁸²

Key Points

- \Rightarrow Resource effects of GI protection can be grouped in two different categories: the investment that needs to be made to implement the GI scheme, and the effects that its protection may pose on public goods, prices, consumption, production, and ultimately, on welfare.
- \Rightarrow The strength and management of the institutional and organizational structures are vital for the success of any GI scheme. Developing countries generally have more difficulties to ensure the adequacy of those structures, both in terms of funding and traditions.
- \Rightarrow A number of important activities imply significant costs: the demarcation of the geographic area of the GI, the enactment of the administrative standards derived from GI rules, setting up legal and administrative structures for the protection of GIs, the creation of a registry, the conduction of inspections and engaging in legal protection.
- \Rightarrow Economic accessibility to goods that become GI protected may become more difficult. The investment made to develop a GI, the costs associated to produce goods distinguished and protected by its origin and particularities, the increase in demand and selective marketing techniques may increase the overall price of the product.

III. A Checklist of Issues for Sustainable Use of Biodiversity and TK Protection

When making use of GIs and other distinctive signs, stakeholders need to take into consideration several key issues regarding GI protection and an "origin" based business model in order to ensure that the potential for sustainable use of biodiversity and TK protection is maximised. These issues include an enabling regulatory environment, administrative capacity, organisational aspects, verification and quality control mechanisms, and marketing and labelling strategies. All these issues need to be considered and integrated from the beginning with environmental and social criteria. Such criteria²⁸³ could include:

- conservation of ecosystems, wild populations and genetic variety to the extent possible;
- management of natural inputs (water, land, biological resources and raw materials);

²⁸¹ *Ibid*, p. 43.

²⁸² *Ibid*, p. 56.

²⁸³ These minimum environmental and social criteria are inspired in existing principles and criteria of the UNCTAD's Biotrade Initiative (2007).

- involvement of all relevant stakeholders in the design and creation of the GI governance structure;
- introduction of sustainable agriculture and manufacturing practices, including traditional ones, into the technical standards;
- inclusiveness and sharing of benefit throughout all the GI value added chain; and
- fulfillment of all relevant environmental and social regulations.

This section will analyze key aspects of GI protection and "GI" business model with the purpose of introducing some entry points to ensure that environmental and social criteria are included in the GI and its governing policies. Relevant stakeholders in this process include, *inter alia*, governmental authorities (IP offices, ministries of agriculture, industry and environment and sanitary authorities), producers associations and ILC organizations.

A. Enabling regulatory environment

Clear, transparent and enforceable GIs and/or distinctive signs regulations must be in place in order to ensure the possibility of protection over the sign/name that identifies the origin-based product. As mentioned above, countries may have the option of choosing a *sui generis* system, a collective/certification trademark system or both. In the absence of the first two modalities of protection, laws against unfair competition can be of assistance, but this usually implies litigation to obtain protection (e.g., passing off). For countries that have signed free trade agreements with the United States and/or the European Union, the parallel protection of both GI and certification/collective trademarks is an option.

When defining the criteria of protection, countries may choose to accord specific value to environmental (e.g., climate, land, and the use of certain biological resources) and social factors (e.g., traditional methods of selection, production and packaging) that have a fundamental impact over the quality and specificities of the product in question.

Countries also need to choose the level of IP protection to be given. The minimum level of protection at the multilateral level is provided in Articles 22 and 23 of the TRIPS Agreement. In general terms, GIs must be protected against false statements of source and acts of unfair competition (Article 22, TRIPS). A higher level of protection is given to wines and spirits, which must be protected against misuse and imitation (use of terms such as "kind", "style", "imitation" or "like" even if the information written in the label is accurate). Countries may choose a two-layer level of protection as mandated in the TRIPS Agreement. However, if there is great interest in protecting biodiversity-derived products or products with TK content, the provision of a higher level of protection to other products other than wines and spirits need to be evaluated, as the great majority of these products are neither wines nor spirits. Countries may also go beyond the TRIPS Agreement and provide for exclusive rights to the authorised users (e.g., the possibility to exclude any commercial use of the sign). This latter option is a default one when the modality for protection chosen is collective or certification trademarks.

Countries need also to clarify the incorporation of GI exceptions and limitations in light of Article 24 of TRIPS Agreement²⁸⁴. Those exceptions include the following:

- prior use for at least 10 years;
- prior trademark registry;
- genericness;
- wine variety names;
- personal names; and
- the lack of national protection.

Beside these exceptions, in the European Union and Switzerland there is a prohibition to register GIs that could enter into conflict with plant varieties and animal breeds names and that can generate confusion over the true origin of the product.²⁸⁵ Typical cases of confusion under this provision would be those where the plant variety or the animal breed indications does not originate in the territory covered by the GI request. An example of a case of animal breed name that has been registered as a GI as it did not generate confusion over the true origin of the product would be the Portuguese PDO Carnalentejana for meat²⁸⁶.

In some other cases, granting protection to a plant variety name has been used to protect the product against misappropriation, as is the case of "Basmati" for rice and other agricultural products.²⁸⁷ Another important limitation for GI protection at the international level is to ensure domestic GI protection before seeking protection abroad. No country will protect foreign GIs that are not already protected in the country of origin.

Regulations may also include incentives for facilitating or promoting GI registration including waiving fees for associations of small or artisanal producers, financial support for the preparation of business plans and support documentation for making the GI request, as well as tax exemptions for a limited period of time in order to absorb the initial cost of setting the GI governance system and quality control systems.

B. Administrative Capacity

There are important needs for trained personnel and equipment in the IP office in order to examine GI requests. In cases where trademark registers are already in place, administrative and infrastructural costs to introduce a GI system are usually lower. IP offices and ministries of agriculture and industry may also need to play a role in facilitating the "creation" of the GI, especially in countries where the experience is limited. These authorities may need to actively engage in supporting the request for protection and facilitate the transfer of practices into technical standards.

Once the GI regulation is in place, national authorities also need to ensure the existence of verification systems in order to avoid fraud regarding the origin of products, volumes produced and the fulfilment of technical standards. In case technical standards include environmental

²⁸⁴ For more information on the scope, interpretation and specific use of these exceptions, see UNCTAD-ICTSD (2005).

²⁸⁵ See article 6 .2 of the EU Regulation No 1151/2012 of 21 November 2012 and article 4b) of Swiss ordinance 910/12 of 28 of May of 1997 regarding the protection of appellations of origin and protected geographical indications for food products.

²⁸⁶ EU/China IPR2 Project (2011). *Q&A Manual on the EU Legislation on Geographical Indications*.

²⁸⁷ Government of India and Intellectual Property India (2010).

considerations, involvement by agriculture and environmental authorities will be required to certify the soundness/impartiality of the private control/inspection bodies when they are in place or to undertake directly the verification when that falls within their competencies. The capacity to verify implies the availability of laboratories and other quality control facilities.

C. Organisational and Infrastructural Aspects

The creation of a producers' organization and the delimitation of the geographical area are challenging activities in the preparation of the request for protection. Many producers of biodiversity-derived products are not fully organized and might face difficulties in filing an application for GI protection. Also in many cases, products are of an "informal" nature as they might not be registered with sanitary authorities and taken directly into popular markets. Land issues can also be a problem, especially in areas where property or rights of indigenous peoples are not clearly defined.

Associations of producers may use different models for "incorporation" including the formation of cooperatives or professional corporations (created under public or private law depending on the country). In some countries, these associations are named "regulatory councils". Important aspects in the creation of the association are open and transparent consultations, inclusiveness and ensuring the self-financing of the association. In some cases, the participation of governmental and technical authorities in the creation of the producers association can generate trust and avoid the *de facto* capture of the association by bigger producers.

The main functions to be entrusted to the producers association include:

- delineation of the geographical area;
- standardization;
- verification and quality controls;
- certification and labelling;
- maintenance of a list of authorised producers and statistical data; and
- possible promotion of the GI, collective marketing and tourism management.

In the case of biodiversity-derived products, preservation of land and ecosystems and traditional methods should also be part of the key functions, especially when they have not been included in the technical standards. Recording and review of sustainable practices does not have to be a static function but can be managed proactively in order to attain the highest possible quality and performance.

Self-financing of activities by the producers association is also a challenge, especially for small producers' associations. There are different models for financing activities including members' contributions that can be linked to levels of sales or production, or by setting a label fee. The label fee model has been used in the case of *Tequila* in Mexico leading the creation of a very successful

regulatory council²⁸⁸, which achieved USD 725 million in export sales by 2007²⁸⁹. The *Tequila* regulatory council has also been successful in attracting financing related services activities such as tourism. In 2010, the *Tequila* regulatory council obtained USD 3 million support from the Inter-American Development Bank for the development of the *Tequila* touristic route.²⁹⁰ This example also shows how GI producers' associations can also become local development engines and assist in economic diversification.

D. Technical standards

Setting technical standards (also called "technical specifications") is a core aspect of the "GI" business model. Technical standards harmonize production processes and ensure the emergence of the particular qualities of the product. The application of technical standards jointly with verification and labelling schemes assist in reducing information asymmetries between producers and consumers. They also give confidence to consumers on the maintenance and preservation of the quality and traditional methods of production.

Technical standards tend to include the following elements²⁹¹:

- *Description of the product:* The main physical, chemical, microbiological or organoleptic characteristics of the product, focusing on features that can be easily monitored.
- *Inputs and raw materials:* The inputs and raw materials that should be used or avoided in the production process. This aspect is very relevant in the case of biodiversity-derived products.
- *Definition of the process:* The method for obtaining the GI product in all the phases of the production process (agricultural production, transport, processing, conditioning, seasoning/maturing and final packaging), including, if needed, an explicit prohibition for using some production methods.
- *List of the specific quality linked to geographical origin:* Focus on the objective elements justifying the link between the specific quality and the resources in the geographical area (natural and human).
- *Environmental and social considerations:* These include sustainable use, environmental/social management and TK practices. Depending on the case and especially when there are R&D activities surrounding a particular genetic resource, there is a need to observe the CBD and Nagoya Protocol provisions, as incorporated into national ABS regulations (see below).

Producers set technical standards in a voluntary manner, as the standards do not comprise a regulatory act by the state. However, they are "mandatory" for producers within the association in order to enjoy GI protection and be able to use the GI signs and labels. Today, there is a proliferation in international trade of various forms of "voluntary standards" (e.g., fair trade, organic farming, good agricultural practice, etc.) that are used by producers to provide consumers

²⁸⁸ See http://www.crt.org.mx/

²⁸⁹ Data from the Ministry of Economy of Mexico (2008).

²⁹⁰ "Empresas Jalicenses diversifican servicios hacia el sector turístico". *La Jornada*, 31 May 2010.

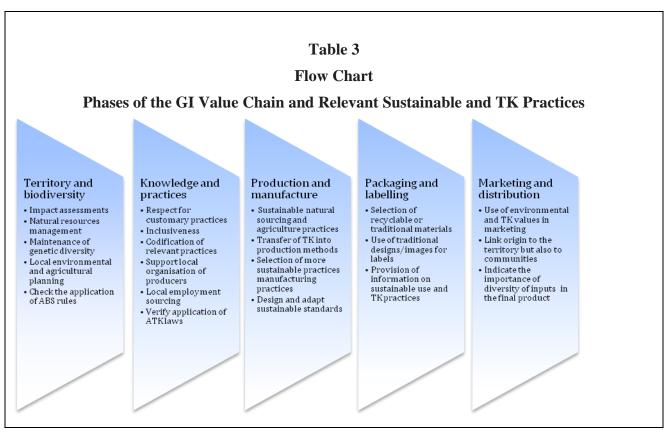
²⁹¹ Partially taken and adapted from FAO (2009-2010). List of main contents of the code of practice.

with information concerning certain qualities of products and the way they are produced.²⁹² Within this context, the GI model has been raising particular interest among developing countries since the implementation of the TRIPS Agreement has advanced among developing countries.

To provide credibility, technical standards have to be objective, measurable, verifiable and available to the public. They also have to be approved collectively by the association of producers so they are a form of self-regulation. While standards may seek to respect tradition and authenticity, they are not static. Standards setting need certain innovation and adaptation to achieve specific or diverse qualities, introduce more efficient/healthy production processes and respond to evolving local needs. Traditional and new techniques can coexist when they do not affect the main qualities of the product. As a form of self-regulation, standards can always be reviewed and adapted to the evolving conditions including environmental conditions and consumer choice. Also, there can be several standards within a GI that reflect different qualities and a variety of products. For example, in the production of spirits, GIs such as various Caribbean rums, the age and level of maturation generates products that are quite different in qualitative terms and are consumed in a different manner. White rums are used for cocktail preparation (e.g., daiquiris) and aged rums are usually consumed in a similar manner as *Brandy/Jerez* and enjoyed with cigars (e.g. *Habanos*, which is another GI in Cuba).

When seeking to use GIs for promoting sustainable use of biodiversity and to protect TK, the role of the technical standards is essential. Technical standards embody intangible aspects of the production process and apply to all phases of the value chain from harvesting to labelling. Environmental and social considerations as well as TK practices can be perfectly incorporated in the design of GI standards. Table 3 below illustrates the different phases of the GI value chain and what type of sustainable and TK practices can be incorporated in a GI standard.

²⁹² Ngo Bagal andVittori, (2011) p.10.



Source: Vivas and Seuba (2012) based on the simple GI value chain model recognising biological and cultural inputs proposed by Larson (2007).

However, the transfer of environmental and TK practice considerations is neither automatic nor without cost. Introducing environmental and social considerations and TK practices (e.g., by only using hand labour) into the standards will make their implementation binding for participants and will probably raise production costs. Depending on the GI in question and the consumer response, the level of incorporation of these considerations and practices into the standards can be higher. This is why some GI associations have introduced them within the functions of the producer association and not into the standards themselves. Also, the selection of relevant environmental and social considerations may depend on the quality and specificity of the final product and consumer acceptance. So the higher the impact on quality and consumer acceptance, the more incentives there will be for their incorporation into the final standards.

E. Quality controls and verification systems

Setting quality controls and verification systems are essential GI requirements and should not be overlooked when setting up a GI scheme. As mentioned above, they provide the base for ensuring minimum levels of homogeneity and maintaining reputational value. Quality controls are not specific to GIs as they can apply to all products. The particularity of quality controls in the GI scheme is to ensure that qualities sought are safeguarded during the entire production process. Quality controls also include hygiene, safety, traceability and environmental considerations. For example in the case of *Miel Corse* PDO (honey from Corsica), quality controls go all the way to the specific locality and date of collection, and samples of each are analysed for compliance with health,

quality and sensorial standards, before marketing.²⁹³

Verification systems seek to ensure that all technical standards are property applied in the production process. Verification systems also provide information over the total and partial outputs and difficulties faced in the production process. There are different modalities for verification systems. Some of the most common include:²⁹⁴

- *Self-verification:* consists of guarantees provided by producers themselves based on auto controls (by individual producers) or internal controls (association of producers).
- *Participatory guarantee system*: based on the active participation of stakeholders, both internal and external to the GI value chain (even consumers) and built on a foundation of trust, social networks and knowledge exchange. This system can be particularly attractive for GIs where the association of producers also hold the TK knowledge and practices.
- *Third-party certification system*: involves an independent and external body (private, public or joint public-private) without direct interest in the economic relationship between the supplier and the buyer and which provides assurance that the relevant requirements have been followed. For example, standards for certified products are now recognized worldwide (independent third party certification ISO/IEC 65 or the European standard for PDOs and PGIs EN 45011). This system can be particularly useful when the producer wants to also certify other aspects of the product (e.g. organic and fair trade standards).

F. Labeling and marketing

GI labelling allows producers to differentiate themselves in the market and to communicate such differences to consumers in global, national and regional markets. In this regard, labels are the main means to transmit to consumers the product specificities including origin and production methods and to reduce information asymmetries. Labels can include a variety of information including mandatory regulatory information (such as ingredients), but also relevant information contained in the technical standards.

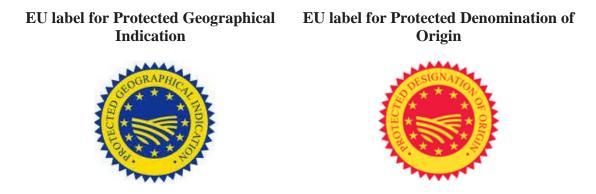
Labels also have aesthetical and marketing functions making the differentiation easier for consumers. Signs within labels can also covey messages regarding the territory and its resources, as well as the work, knowledge and practices of the people whose livelihoods are linked to the particular product. Differentiation can also be demonstrated through packaging (e.g., different bottle forms).

Governments can design specific labels to certify the product conformity as a registered GI by public authorities as well. This is the case of the EU were specific labels accompany the producers association ones when the GI is registered and protected under EU regulations (see Figure 1).

Figure I

²⁹³ Larson (2007) p. 32.

²⁹⁴ Partially taken and adapted from FAO (2009-2010) p. 74.



Collective marketing and financing mechanisms for producers' associations need to be operational to optimise benefits and ensure wider consumer acceptance. Collective marketing by the producers' association allow economies of scale and wider label outreach. Finally, unified labelling and collective marketing helps when undertaking joint legal defense of the GI signs/names in third country markets. This involves a continuous effort by producers' associations in order to maintain the value of the GI even if the GI is already well positioned. Perhaps, the best example of a successful collective marking and branding strategy (including its GI and organic brands) is *Café de Colombia*. The Federación Nacional de Caféteros of Colombia, an organisation representing more than half a million producers, estimates that since it started its differentiation strategy the additional revenues obtained surpass USD 3.3 billion.²⁹⁵

Key Points

- \Rightarrow Developing a checklist of issues for maximizing the potential of GIs is a dynamic and evolving process. While there is no one-size-fits-all solution, a checklist is useful and can take on board the local knowledge and the national context.
- \Rightarrow The GI business model can integrate social and environmental criteria. Such criteria may include conservation practices, sustainable management, inclusiveness, benefit sharing, and the fulfillment of all applicable social and environmental regulations.
- \Rightarrow A clear, transparent and enforceable GI and/or distinctive signs regulation must be in place in order to ensure protection over the sign/name that identifies the origin-based product. As mentioned above, there are different modalities for GI protection available to producers including *sui generis* models, certification marks and collective marks.
- \Rightarrow Administrative capacity by relevant authorities is key in order to be able to register, protect, and verify GIs.
- \Rightarrow The creation of an organizational structure is an essential aspect for the success of the GI business model. The creation of such structures may require technical assistance, guidance and support during the initial phase of the organization, especially in relation to farming communities in developing countries. Measures to promote competition and avoid capture by bigger producers may need to be in place in order to avoid abuses.

²⁹⁵ Ngo Bagal and Vittori, (2011) p. 17.

- \Rightarrow The design of technical standards is fundamental to ensure the quality and particular features of the final product. Technical standards may also embody biodiversity conservation and sustainable use considerations throughout the value chain.
- \Rightarrow Quality controls and verification systems ensure that technical standards are fulfilled. They also provide credibility for the GI scheme and generate confidence on the consumer side. There are different models of verification systems available that need to be considered by producers in light of their own needs and capacities.
- \Rightarrow Labeling is a fundamental aspect of product differentiation, consumer recognition and public acceptance. They are developed by the producers and can be used to convey the particular qualities of the product, the origin and links to biodiversity and TK.
- \Rightarrow Governments can introduce institutional certification schemes to guarantee to the public conformity and to facilitate protection nationally and internationally.

IV. Conclusion

GIs and related distinctive signs have the potential to be both offensive and defensive tools for provider countries and ILCs. Such signs are a way to add value to an underlying product, signifying to a potential buyer that certain standards have been met in its production (organic, traditional, fair trade, etc.). Buyers may therefore be willing to pay a premium, which moves the underlying good up the value chain. The marks do not, however, protect the underlying product *per se*, but only the goodwill associated with it.

In order to preserve the potential value added, communities must manage the distinctive sign/GI, delineating the geographical boundaries of a product, and carefully ensuring that collectivities follow a prescribed methodology in production so as to maintain the added value associated with the sign. This is not always easy given the constraints faced by ILCs and communities in poorer developing countries. They nonetheless remain one option, within the existing framework of IP, to provide a measure of protection to traditional methods of production in realms such as agriculture. On the defensive side, GIs help make the case that others are attempting to misappropriate the goodwill of a provider community through the use of marks, as in the case of Ethiopian *Sidamo* coffee.

The use of marks developed without consideration of overall CBD objectives of environmentally sustainable access, benefit sharing and use of genetic resources and associated TK. Certain practices can be built into the GI management practices that help to ensure compatibility and preservation of sustainable practices, however, including international certification schemes. By moving up the value chain into more niche markets, it is also hoped that the underlying products are also protected economically from mass consumption.