Indigenous species, traditional and local knowledge and intellectual property rights

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Abstract: World- or European-wide intellectual property concepts, rules and mechanisms such as Protected Geographical Indications (GIs) represent an option to control access to local and traditional resources and ensure the principles of benefit sharing in the exploitation of these, as promoted in the Convention on Biological Diversity. By means of this paper insight is given in the relationship between different intellectual property concepts, rules and mechanisms protecting farmers' rights and their impact on the preservation of indigenous species and traditional and local knowledge. The analysis of the different legal frameworks shows that most of the systems offer only a minor protection level. At the moment only the European protection scheme for Geographical Indications seems to fulfil the goal to conserve and to support traditional resources and their sustainable exploitation. Nevertheless, even this system has some gaps and pitfalls which the interested farmers and regional initiatives have to be aware of.

Keywords: *geographical indications, local knowledge, traditional knowledge, indigenous species, culinary heritage*

Introduction

Intellectual property rights are temporary legal monopolies which provide the holder exclusive rights. They include for instance patents, trademarks, copyrights, geographical indications, industrial designs and trade secrets. Intellectual property rights, concepts, rules and mechanisms represent for farmers an option to protect indigenous species and traditional and local knowledge.

Genetic Resources and indigenous species are the raw material essential for crop genetic improvement in adapting to future human needs and unpredictable environmental changes. Small scale farmers work with genetic material, so called landraces, evolving under farmer selection for generations. Intellectual property rights and other effective instruments and mechanisms to regulate access to these genetic resources and to guarantee the equitable distribution of benefits generated by their use as promoted in the *Convention on Biological Diversity* and as agreed in the *International Treaty on Plant Genetic Resources for Food* are indispensable to cope with future issues in food and agriculture (IAASTD, 2008).

Traditional and local knowledge is referred by the *UN Convention on Biological Diversity* to knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity. It may include traditional and local knowledge associated with genetic resources, food and agriculture, conservation of biological diversity, medicinal knowledge including traditional medicines and other technical fields. Traditional and local knowledge associated with genetic resources represents a valuable pool of accumulated practical knowledge and constitutes a crucial component in managing the viability and diversity of indigenous species. Key areas for action issues cover innovations to affirm traditional and local knowledge such as knowledge banks; innovations to give value in the marketplace, such as certification, regulation and marketing schemes; and innovations to secure rights as promoted by the *WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* (IAASTD, 2008).

In order to demonstrate the diverse implications of intellectual property rights on indigenous species, traditional and local knowledge, five formal sets of institutional frameworks, TRIPS and the directives and legislations under it, formal rules on GIs, WIPO, the CBD and the ITPGRFA are outlined. In addition the more informal protection system of the International inventory 'Ark of taste' by Slow Food is highlighted to include alternative concepts, rules and mechanisms of intellectual property rights. In order to evaluate the eligibility of these intellectual property rights for farmers and regional initiatives to protect indigenous species and traditional and local knowledge, the above concepts, rules and mechanisms were compared - in respect to their underlying legal framework, respective law/measure, policy objectives & aims, scope of subject matter, conditions of protection, scope of rights, their right holder, the acquisition of rights, expiration and loss of rights, sanctions and enforcement and registration mechanisms & procedures - and finally discussed.

Legal and institutional framework

WTO Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPS)

The *Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) administered by the World Trade Organization* (WTO) provides minimum standards for intellectual property regulation. The TRIPS Agreement obliges WTO member countries to provide for the protection of plant varieties either by patent protection on genetic resources for food and agriculture or by an effective *sui generis* system. The most common system for plant variety protection constitutes the *UPOV Convention* of 1978 or of 1991. Accordingly farmers are not allowed to save exchange or sell seeds of protected varieties or plants, or use them for further multiplication. Only under certain conditions exemptions may be justified under Article 27.3(b) or under Article 30 of the TRIPS Agreement or, with a clearly circumscribed scope, under the farmers' privilege of the UPOV 91. On the issue of traditional and local knowledge the TRIPS Agreement provides no specific provisions. Farmer's exemption and farmers' rights have been subject of various proposals and active debate. In many cases substantive criteria of existing intellectual property rights set in the TRIPS Agreement may not allow to recognise the ancestral role of farmers in developing food crop varieties and preserving biodiversity. In other cases, e.g. trademarks or geographical indications (the latter will be described separately due to their significance in Europe) intellectual property may be represent a suitable option for farmers.

European Biotechnology Directive

The *European Biotechnology Directive* requires EU countries to safeguard biotechnological inventions by patents and thus provide an incentive to innovation. The Directive applies and specifies existing options of patenting biotechnological inventions. Focus of the Directive is to differentiate inventions from discoveries, such as the human being or the decoding of genetic information. Plant and animals species are excluded as well as biological plan and animal breeding methods. However, interspecies or intervarietal inventions may be patented. Compared to previous legislation farmers have been provided with certain privileges such as conserving part of harvested plants to use them as seeding material. The legal protection of biotechnological inventions since 1998 foresees fees for the use of protected varieties. The patent gives its owners the option to forbid the reseeding of patents. Generative or vegetative propagation of plant material by farmers are exempt from this regulation by Article 11 (1) of the regulation on the legal protection of biotechnological inventions, however, only for use on their own farms. Farmers are banned from pass on or exchange seeds, a common practice in traditional farming. Article 11 (2) the regulation on the legal protection of biotechnological inventions contains a reproduction privilege for breeding animals. This includes any form of breeding for agricultural activities but not for sale or with a sales intention or for commercial purposes (Feindt, 2009).

Collective Marks under National Trademark Law

Names of plant or animal varieties may be protected under national *Trade Mark Law* in a number of countries, provided that they are conjoined with indications of geographical origin. Such designations may be registered as collective marks if certain terms are complied and allow the trade mark holder to preclude unauthorised third parties from using the registered name. For instance under German Trade Mark Law, registration is limited to associations, having legal capacity, of producers or processors. The association may enforce its members to comply conditions of use such as defined quality standards and production codes (Brösamle, 2002; Heisrath 2003). An example for the successful use of national collective trade marks to protect names of plant or animal varieties is the registration of Hinterwälder Cattle[1], a rare and endangered cattle breed, which is native to the southern Black Forest in Germany. This case also demonstrates that registration will promote the breed and support marketing only if it goes along with the implementation of defined quality standards and production guidelines in combination with a close cooperation of the producers (Wanke, 2002).

Geographical indications

Regulation (EC) no. 510/06 – Protected Geographical indications

In Europe more than 800 traditional geographical indications for food and agricultural products, as e.g. Bavarian Beer or the cheese Roquefort are protected against misuse and imitation by regulation (EC) no. 510/06 (Profeta and Balling, 2007; Profeta et al., 2010). For the Bavarian Beer this means that only beer that is brewed according to the Bavarian Purity Law and that is produced in the region of Bavaria is allowed to be named with that geographical indication. For all other producers within the region which don`t stick to the production rules and all other producers outside Bavaria the usage of the term Bavarian Beer is forbidden. For either of these groups' even literal or visual imitations as for example "Bavarian Style Beer" or the typical Bavarian white-blue Rhombuses are prohibited. Thus low-quality copycats can no longer benefit from the worldwide high reputation of the traditional product Bavarian Beer. Furthermore the enforcement of this far-reaching denomination protection lies in the responsibility of the public inspection bodies and is not a matter under private law. Therewith a farmer or a food company is allowed to use the geographical indication it must be controlled from an authorized control body. According to regulation (EC) 510/06 only those geographical indications of agricultural or processed food products can be protected that possess a long production tradition (minimum 20 years). The other main criterion is that these traditional products must have a tight quality or reputation connection with their region of production. This link can be climate or soil conditions as well as traditional production processes or indigenous breeds or seeds which have a proved impact on product quality or reputation (Thiedig, 2004). Examples are the use of unpasteurised raw milk and the prohibition of silage fodder for many protected cheese indications as for example Allgäuer Mountain Cheese or Roquefort. In the beef sector there are a couple of PDOs and PGIs that stipulate special indigenous breeds. As mentioned the protection scheme allows the producers to stipulate an artisanal production that excludes industrial producers from the right to use the geographical indication for their low-quality imitations. The applicants of a geographical indication have to be a group of producers of the considered product. At the beginning this group, in Italy it is called Consorzio, has to define the borders of the production area. For the Bavarian Beer the Bavarian Brewery Association for example stipulated that this beer has to be brewed in Bavaria. Then follows the description of the (traditional) production processes and, in the case of processed food, products details about the stipulated quality and origin of the raw materials. Furthermore, it is to mention that the legal framework of regulation (EC) 510/06 consists of two subsystems: the protected designations of origin (PDO) and the protected geographical indications (PGI). Either denominations represent names of a region or a specific place which are used for agricultural products or foodstuff that originates from the respective region or specific place. For PDOs it is obliging that the production, processing and preparation that means all

[1] Association of Hinterwälder Cattle,79677 Schönau, Germany. Internetsite: http://hinterwaelder.com

steps necessary for making the product must take place in a defined geographical area whereas for a PGI it is only necessary that one of these steps there takes place. The applicants have to decide which option they choose. As shown the protection of geographical indications under regulation (EC) 510/06 offers food producers the possibility of maintaining traditional and regional food regulations and subsequently even food culture and customs (Williams and Penker, 2009). National legislation concerning the quality or the production process of specialties has for a long time been under threat of being abolished under Article 28, 30 EC in favour of free trade and competition, and in many cases this in fact came true (Schmidt, 2005). The protection of PDO/PGI however is allowed, since Geographical Indications fall under the scope of "industrial and commercial property" in the sense of Article 30 EC (ECJ, 1992). The protection system offers a co-existence between registered specialties that are based on traditional national food regulations on the one hand and standard products that fulfil the basic requirements of the Codex Alimentarius on the other (Hildebrandt et al., 2002). Since registration under this scope is not limited to small sale producers, industrial producers may try to undercut regulation (EC) 510/06 by applying low quality PDOs and PGIs in order to prevent more restrictive registrations from producers that follow traditional production methods. In fact for some protected products it can be observed that these only have a standard quality and are not produced according to traditional or artisanal rules. A good example for this approach are the Nürnberger sausages. The rules for this PGI do not have much in common with the traditional recipe and production processes of the local butchers. Another example is the case of the Camembert de Normandie, where the global player Lactalis wanted to change the processes so that even cheese produced from pasteurized milk can be named with that PGI. Despite these obvious problems of the system an analysis of the compulsory quality and production processes of all PDOs/PGIs came to the result that more than 90 % of those products have an above average that means a higher quality (Knöferl, 2008). When a Consorzio applies for a PDO/PGI in every member state a national examination authority (in Germany e.g. the German Patent Office) checks if the application fulfils the restrictions of regulation (EG) 510/06. During this process other producers than the applicants or other interested respectively affected parties are able to make a statement or an appeal to the application. In Germany it can be observed that during the application process very often industrial producers claim that traditional production methods are only used by few producers whilst most of the production is manufactured according to an industrial standard. Herefrom they deduce that the strict traditional rules distort the free competition. Another approach is to depict the industrial production methods as traditional. In Germany in contrast to most of the other EU member states there is a strong tendency of the Patent Office to value the factor free competition higher than the protection of traditional processes and high quality. Therefore it recommends traditional producing applicants to lower the quality and artisanal process standards and to open the code of practice as well for the industrial production. At the moment there is a Greenbook discussion about regulation (EC) 510/06 (Profeta et al., 2010). For the year 2011 it can be expected that there is a new version of this regulatory framework. With the forthcoming changes one can hope that the gaps and pitfalls and the different national interpretation of this regulation that at the moment allows undercutting the protection regime will be eliminated.

Regulation (EC) no. 509/06 – Guaranteed Traditional Specialty

As regulation (EC) no. 510/06 regulation 509/06 has the aim to support the production of traditional agricultural and food products and to prevent low quality imitations. Comparable to a PDO/PGI the Traditional Guaranteed Speciality (TSG) is a trademark for an agricultural product or a foodstuff, which has a certain feature or a set of features, setting it clearly apart from other similar products or foodstuffs belonging to the same category. The product or foodstuff must be manufactured using traditional ingredients or must be characteristic for its traditional composition, production process, or processing reflecting a traditional type of manufacturing or processing. In other words, to receive a TSG status and this is the contrast to a PDO or PGI, the product does not have to be manufactured in a specific geographically delimited area. It is sufficient that it be traditional and different from other similar products. Examples of this are the Blackforest Gateau, Gouda, Camembert or Cheddar

(Grienberger, 2000). The applicants of a Traditional Guaranteed Speciality have to be a group of producers of the considered product. The protection scheme allows the applicant group (the producers) to stipulate an artisanal production that excludes industrial producers from the right to use the protected denomination for their low-quality imitations. TSGs recognised at Community level are entered into a register, which is kept by the Commission. They are divided into two lists according to whether or not the use of the name is reserved to those producers who comply with the product specification. That means that registered names may continue to be used on the labelling of products not corresponding to the registered specification, but the indication 'traditional speciality guaranteed', the abbreviation 'TSG' or the associated Community symbol may not be indicated thereon. It is to mention that there are only few (about 30) TSG in Europe. One reason is that many producers do not see an advantage if their product can be made everywhere from everyone. Therefore many prefer instead a PDO/PGI protection. Furthermore some industrial producers apply TSGs that have only standard qualities in order to prevent PDO/PGI-applications with higher qualities and with a restriction of the region of production. Furthermore is doesn't make sense that copycats are still allowed to use a registered name if they do not use the EU-logo or the writing 'traditional speciality guaranteed'.

WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC)

The World Intellectual Property Organization (WIPO) *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* (IGC)[2] constitutes the main forum for intellectual property issues in the context of access to genetic resources and benefit sharing and the protection of traditional knowledge. The IGC, established in 2001, generated significant amount of substantive material on various studies on these issues. In Particular, the detailed draft provisions on the protection of traditional currently under discussion (IGC, 2006). Among the policy objectives listed in the revised draft provision is for instance the provision of incentives to the custodians of the respective knowledge systems. Article 11 of the revised draft provision outlines, that relevant national authorities may establish registries or databases of traditional knowledge which may be associated with specific forms of protection, in order to prevent erosion of traditional knowledge over time and to ensure transparency. At the same time the provision clarifies that general safeguard against misappropriation shall not require any additional resources or capacity for the right to be available but registration shall be rather a condition for acquiring exclusive rights over registered knowledge. Meanwhile a number of countries have already established registration-based systems subject to national law and policies, the most progressive representing the Indian national register of grassroots innovations and inventions (Gupta 2004). The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management established in 2005 an official register of regional or local agricultural products associated with traditional knowledge which are cultivated or processed in Austria[3] for at least 3 generations (75 years). The aim of this database is to expose the traditional knowledge, thereby to create evidence for provision of defensive protection and to notify the existence of the Register to the WIPO. The register contains for each product a description, a brief presentation of the traditional knowledge, the knowledge holder, information about the first historical disclosure, the link to the region, and further information.

Convention on Biological Diversity (CBD)

The *Convention on Biological Diversity* (CBD) entered into force in December 1993 (UNEP 2009). Inspired by the world community's growing commitment to sustainable development it represented a step forward in the conservation of biological diversity, the sustainable use of its components, and

[2] WIPO Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions/Folklore http://www.wipo.int/tk/en
[3] Official Register of Austrian agricultural products and foods with Traditional Knowledge http://www.traditionelle-lebensmittel.at

the fair and equitable sharing of benefits arising from the use of genetic resources. Currently 169 countries and the EU have signed the convention supporting the three objectives i) the conservation of biological diversity, ii) the sustainable use of components of biological diversity, and iii) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. By this the convention covers the aspects diversity of ecosystems, intra and interspecies diversity. The main elements of the CBD are the identification and monitoring of biodiversity, in situ and ex situ conservation of biodiversity, research, education and creating public awareness. Furthermore access to genetic diversity and a fair sharing of the benefits arising out of the utilisation, technology transfer of and scientific cooperation on genetic resources. One of the measures which each contracting party shall develop are national Biodiversity Strategies and Action Plans for the conservation and sustainable use of biological diversity. The EU for example has adapted an action plan for the conservation of biological diversity in Fisheries or the German Agricultural Ministry supports pilot projects to reintroduce underutilised species such as the lettuce "yellow balloon".

FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

The International Treaty (FAO 2009a)[4] originates and replaces the FAO's non-binding 1983 *International Undertaking on Plant Genetic Resources*. The International Treaty which aims at ensuring the conservation and sustainable use of crop genetic resources and the equitable sharing of benefits from their use was adopted in 2001 by the *FAO Commission on Genetic Resources for Food and Agriculture* (CGRFA) and entered into force in 2004. The preamble clarifies that the rights to save, use, exchange and sell farm-saved seed and other propagating material are fundamental to the realization of farmers' rights. In its Article 9 the Treaty (FAO 2009a) lists suggested measures that could be taken to protect and promote these rights which cover the protection of traditional knowledge relevant to plant genetic resources for food and agriculture, the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture and the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture. However, the treaty itself does not define or explicitly provide such a right but gives governments the responsibility for implementing them without any particularly directions (Andersen & Winge, 2008). It does not obligate governments to take actions to guarantee farmers' rights, but rather encourage them to do so (Schaffrin et al., 2006). An example for the implementation of farmers' rights under this treaty represent the Directive *2008/62/EC* of the Commission of the European Communities regarding the acceptance of agricultural landraces as conservation varieties.

EC Directive 2008/62/EC for acceptance of agricultural landraces as conservation varieties

Plant genetic resources, landraces and varieties which are naturally adapted to local and regional conditions do normally not comply in Europe with the general requirements as regards the requirements for certification and marketing (Andersen & Winge, 2008). In order to ensure in situ conservation and the sustainable use of plant genetic resources through growing and marketing the Commission recently provided for the first time in the EU the legal basis for certain derogations for acceptance of agricultural landraces and varieties which are naturally adapted to the local and regional conditions and threatened by genetic erosion. Directive 2008/62/EC of 20 June 2008 provides the right for limited seed production and marketing of conservation varieties. Conservation varieties cover landraces and varieties which owe an interest for their conservation, which have historically been grown in a 'region of origin' to which they are naturally adapted and which seed is only produced and marketed in this 'region of origin'. Application may be made at relevant national authority accompanied by an description of the conservation variety, its denomination, results of unofficial tests; knowledge gained from practical experience and other additional information. An Example for the successful adoption of this Directive is the registration of the old German potato

[4] http://www.planttreaty.org/

variety Bamberger Hörnla as conservation variety in the national variety register. The cultivation of this old landrace, which originates in the Bavarian region Franconia, reaches back to the last decades of the 19th century. Despite its excellent taste and quality characteristic its commercial cultivation is limited to small scale farming due to its low productivity and its high vulnerability to diseases. For this reasons Bamberger Hörnle was also included in the international catalogue Ark of Taste maintained by the Slow Food Foundation (see below). A precondition for its registration as conservation variety was the production of virus-free seed potatoes in cooperation with the Bavarian State Research Center for Agriculture. This case may also be of interest for initiatives which take care of Farmers' Rights to save, use, exchange and sell farmsaved seed like the German seed initiative Dreschflegel[5], the Basque Seed Network or ProSpecieRara[6] (Andersen & Winge, 2008).

Slow Food Foundation for Biodiversity/ Ark of taste

The *Ark of Taste* is an international catalogue of heritage foods in danger of extinction which is maintained by the international Slow Food[7] movement. The Ark—whose name is a metaphorical association with the Biblical tale of Noah's ark—is designed to preserve at-risk foods that are sustainably produced, unique in taste, and are part of a distinct ecoregion. The product must be linked to the memory and identity of a group, and can be a vegetable species, variety, ecotype or animal population that is well acclimatized over a medium-long period in a specific territory (defined in relation to the history of the territory). Contrary to the most literal definition of plant and animal conservation, the Ark of Taste aims to maintain edibles in its purview by actively encouraging their cultivation for consumption. By doing so, Slow Food hopes to promote the growing and eating of foods which are sustainable and preserve biodiversity in the human food chain. Foods included in the list are intended to be "culturally or historically linked to a specific region, locality, ethnicity or traditional production practice", to be of outstanding quality in terms of taste, to source its primary raw material locally or traditional from a specific area, to be linked environmentally, socio-economically and historically to a specific area, to be produced in limited quantities, by farms or by small-scale processing companies and to be threatened with either real or potential extinction. Which foods meet these criteria is decided by an adjudicating committee made up of members of the Slow Food non-profit organization; all candidates go through a formal nomination process which includes tastings and identification of producers within the region. Since the foundation of the Ark in 1996, 800 products from over 50 countries have been included. The list includes not only prepared foods and food products, but a great many livestock breeds as well as vegetable and fruit cultivars. All foods in the catalogue are accompanied by a list of resources for those wishing to grow or buy them. In Germany, there are currently 30 passengers in the Ark of taste. Four of them additionally hold the status of a „presidio" – which means, that they have accepted statutes for quality control and, hence, they are supported by the Slow Food foundation of Biodiversity also with advertising and international networking for a better marketing. An example for the support of the cultivation and preservation of indigenous genetic resources and the traditional knowledge associated with is the sparkling wine out of the old, unique pear fruit variety Champagnerbratbirne. Sparkling wines from the fruits of this tree, some up to 150 years old, have been produced in the German Swabian Alb, Europe's biggest coherent area of Streuobstwiesen, for more than two centuries. Currently, there are some 800 Champagne Bratbirne trees registered. The initial group of producers is represented an association[8], organized to protect the old varieties of fruit from the Swabian Alb and the Streuobstwiesen.

[5] Dreschflegel e.V, Witzenhausen, Germany. http://www.dreschflegel-verein.de/impressum/
[6] http://www.prospecierara.ch
[7] Slow Food Foundation for Biodiversity, Florence, Italy. Available under http://www.slowfoodfoundation.com
[8] Verein für die Erhaltung und Förderung alter Obstsorten e.V. Available under http://www.champagner-bratbirne.de

Implications for farmers and regional initiatives

Indigenous plant and animal varieties may be protected by farmers and regional initiatives by using intellectual property rights. The use of trademark systems like *Collective Marks under National Trademark Law* provides exclusive rights limited to national territory of names of plant or animal varieties with indications of geographical origin with minimum expenses provided the conditions of their use is combined with defined high quality standards and production codes. However, depending on the national *Trademark Law* the specification of higher standards may be abolished in favour of free trade and competition. In addition, it may not prevent other producers from registering similar signs provided he uses them in accordance with honest practices and they do not result in a likelihood of confusion (European Commission 2009). Implementations of the *FAO International Treaty on Plant Genetic Resources for Food and Agriculture* at Community level addressing questions of biodiversity and the conservation of plant genetic resources such as the Directive 2008/62/EC potentially strengthen farmers' rights by providing them limited right to save, use, exchange and sell farm-saved seed. The scopes of rights conferred to the producers in the region of origin include the inclusion of landraces in national catalogues and limited rights for seed production and marketing. However, the registration procedures is quite complex and includes a description of the conservation variety, its denomination, results of unofficial tests and knowledge gained from practical experience and additional information. First experiences indicate promising options for farmers and regional initiatives provided they are supported by their relevant national authorities. In comparison to all analysed legal frameworks GIs under regulation (EC) no. 510/2006 offers producers of traditional agricultural and food products the most straightforward opportunity to protect their traditional processes and qualities if these are linked to a specific region. This regime offers an extensive protection against misuse and imitations for an unlimited period of time conferred to all producers of the area which comply with the specification. An import argument in favour of the EU system of protected designations of origin (PDO) and protected geographical indications (PGI) is that associations of farmers of such products may receive grants for provision and promotion measures for these agricultural products - apart from the fact that events, fairs and information campaigns on the EU system may be co-financed by the European Commission (European Court of Auditors 2009). Nevertheless, the registration procedure is somewhat complicated and transaction costs are rather high (Profeta et al. 2009). In addition there are at the moment some gaps that allow industrial producers to undercut the goals of this regulation. On the other hand it is to state that there are more than 800 PDOs and PGIs demonstrating the high relevance of this system. The promotion of origin-based products which use traditional, endemic or specific locally adapted varieties may enhance small scale farmers to access to markets for certified products, preserve genetic resources, and know-how of farmers while it offers consumers food diversity and a wider choice (FAO 2009). Patents in contrast potentially impede farmer's rights since in the case of *European Biotechnology Directive* they provide stronger exclusive rights than breeder rights but lack farmer's exemption and farmer's privilege, thereby disabling the exchange of seeds and breeding animals and restricting access to valuable genetic resources (Feindt 2009).

Accordingly traditional and local knowledge may be protected by farmers and regional initiatives. Registration-based systems subject to national law and policies under the draft provision of the WIPO *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* may help farmers and regional initiatives help to create evidence of its existence, to provide for defensive protection and to notify the existence to the WIPO. However, the status of hitherto undisclosed knowledge remains unclear. Slow Food: Implications for producers and consumers - or, as Slow Food calls the consumers "co-producers" - are close informal connections about the products and its regional and traditional embeddings. Hence, co-producers get more close to these products as well as to the regional growth specifics like site conditions, traditions etc. The other way round, producers learn about the co-producers valuation of good, clean, and fair products and its preparation. Hence, the main implication might be the enhancement of closer and more transparent feedback between farmers and consumers, on the basis of products and food manufacturing which is of high quality, environmentally sound, and tasty. Traditional specialities guaranteed under regulation (EC) no. 509/2006 are similar to the PDO/PGI products that are

protected according to regulation (EC) no. 510/2006 with the difference that these are not linked to a specific production region. The regime offers the same scope of protection and granting opportunities by the European Commission for provision and promotion measures as for PDO/ PGI products. However, the EU scheme on TSG faces also the same problems - high transaction costs and the risk that industrial producers may undercut the goals of this regulation. Similar to the draft provision of the WIPO *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* the status of hitherto undisclosed knowledge remains unclear under this provision. Due to this and due to the fact that products without the label "Traditional specialities guaranteed" may anyhow use the protected term, only few producers have shown interest in the past in this legislation.

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