3 RE-EXAMINING THE PUBLIC INTEREST COMPONENT OF IPRs WITH SPECIAL REFERENCE TO PLANT BREEDERS' RIGHTS

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ABSTRACT

Intellectual Property Rights (IPRs), especially in the field of biotechnology, are currently a major North and South conflict. This article illuminates the theoretical background of IPR protection to better understand this debate. It suggests that IPRs are awarded primarily to achieve total social welfare rather than securing the private rights of an IPR holder. Whenever the grant of an IPR diminishes social welfare the IPR should be curbed.

Keywords: *biotechnology, IPR theory, UPOV, public interest, developing countries*

I. INTRODUCTION

The proliferation of intellectual property rights through international treaties, including TRIPS or bilateral treaties (TRIPS-Plus), has sparked a heated debate between the North and the South. The North eager to see increased enforcement of IPRs, while the South normally sees the tightening of IPRs as a process of further enhancement of the North's dominance in the field of IPRs. Many voices from the South as well as some voices from the North see this process as an uneven process that helps the North get richer while the South gets poorer.

It is beyond the scope of this paper to re-examine the conflict between the North and the South; this paper thus aims to uncover the roots of this debate by focusing on the policies that underlie the grant of IPRs. Revisiting the policies that exist beneath the body of rules governing IPRs will help shed some lights on the North versus South debate. To that end, we probably need to ask why IPRs are granted, for what purpose and how they are enforced, rather than asking whether IPRs are good or bad.

This paper aims to illuminate the issue of the policies underlying IP law by highlighting the issue of the grant of IPRs in the field of biotechnology in the agricultural sector. Intellectual property rights in the field of biotechnology are an excellent example to examine the policies underlying Intellectual Property (IP) Law in a wider context. This is because biotechnology is indeed a field where IP Law conflicts with other legal and ethical norms such as food safety, biodiversity, food security and public health.

Recently, the Global Congress, a group of over 170 policymakers and advocates from approximately 35 countries, who came together at the American University Washington College of Law on 25-27 August 2011, issued the Washington Declaration on Intellectual Property and the Public Interest (the Washington Declaration) on 5 September 2011. The Washington Declaration outlines a series of specific recommendations for action by the international IP public interest community. In the relevant part, the Washington Declaration makes two broad statements:

> International intellectual property policy affects a broad range of interests within society, not just those of rights holders. Thus, intellectual property policy-making should be conducted through mechanisms of transparency and openness that encourage broad public participation. New rules should be made within the existing forums responsible for intellectual property policy, where both developed and developing countries have full representation, and where the texts of and forums for considering proposals are open. All new international intellectual property standards must be subject to democratic checks and balances, including domestic legislative approval and opportunities for judicial review.
>
> Markets alone cannot be relied upon to achieve a just allocation of information goods — that is, one that promotes the full range of human values at stake in intellectual property systems. This is clear, for example, from recent experiences in the areas of public health and education, where intellectual property has complicated progress toward meeting these basic public needs.[1]

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[1] The Washington Declaration on Intellectual Property and the Public Interest

This paper aims to examine the tension between IPRs and public policy in the field of biotechnology in the agricultural sector. It argues that IPRs are mainly given to achieve public interest, yet the policy objective of granting IPRs is masked under the excessive enthusiasm of private IPR holders to further strengthen their IPRs.

This paper is divided into five sections: section two outlines the tension between IPRs and food security; section three provides a brief overview of the current international norms to protect biotechnology in the field of agriculture, focusing on policy analysis rather than technical analysis; section four deals with the theoretical foundations justifying the grant of IPRs in the first place; section five discusses the relationship between the protection of IPRs and public interest; and section six is the conclusion.

II. THE TENSION BETWEEN INTELLECTUAL PROPERTY RIGHTS AND FOOD SECURITY

Before addressing the topic, it is useful to define what biotechnology is. Biotechnology is defined by the Convention on Biological Diversity (CBD) as 'any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.'

In the past, biotechnology was based on traditional natural selection. In the 1970s biotechnology was revolutionized by scientific innovation coupled with the discovery of DNA. These scientific innovations allowed scientists to create 'new' plants, animals and micro-organisms.[2] Modern biotechnology raises a host of socio-economic issues, including biodiversity, protection of the environment, biosafety and food security. The focus of this section is on food security.

Food security can be defined as follows:

> a situation in which all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.[3]

It goes without saying that food security is still a paramount issue in the developing world where malnutrition as well as dependency on food supplies from developed countries are common problems.'

Proponents of biotechnology argue that biotechnology could contribute to food security through producing crops with higher yields, and disease and drought resistance.[4] In order to harness the benefits of biotechnology, the IPRs of producers of biotechnology have to be secured. The two most common forms of protection of biotechnology producers are patents and plant breeders' rights. This article shall focus on plant breeders' rights.

III. INTERNATIONAL LEGAL NORMS FOR THE PROTECTION OF PLANT BREEDERS' RIGHTS

TRIPS Article 27(3)

The protection of new plant varieties is an obligation of all WTO Members. However, Article 27(3) of the TRIPS Agreement gives WTO Members the choice of protecting new plant varieties either through the patent system or through a *sui generis* system or a combination thereof.[5]

The TRIPS Agreement does not give further guidance on what is considered an effective *sui generis* system for the protection of new plant varieties.[6] Although there is no formal obligation to join the Union for Protection of New Plant Varieties (UPOV), an international convention which is dedicated to the protection of innovations in plant breeding, many nations have adopted UPOV as a *sui generis* system to fulfil their TRIPS obligation for the protection of new plant varieties.[7]

Nevertheless, while UPOV is being promoted as the standard system for new plant variety protection, UPOV is seen by many commentators as skewed towards the protection of the plant breeders' rights, since issues other than the intellectual property rights of plant breeders are generally underestimated in the UPOV Convention. Specifically, Article 18 of the UPOV Convention states:

<http://infojustice.org/wp-content/uploads/2011/09/Washington-Declaration-Print.pdf> accessed November 2013.

[2] Debbie Collier and Charles Moitui, 'Africa's Regulatory Approach to Biotechnology in Agriculture: An Opportunity to Seize Socio-Economic Concerns' (17(1) African Journal of International and Comparative Law 29-56, 32. 2009.

[3] The Rome Declaration on Food Security, World Food Summit (1996) <www.fao.org.docrep/003/w3613e/w3613e/w3613e00.htm> accessed November 2013.

It must be noted that there are several definitions of food security, see for instance Michael Blakeney, *Intellectual Property Rights and Food Security, (*CABI2009), 2.

[4] See, for example, UPOV Report on the Impact of Plant Variety Protection (2005), 24.

[5] TRIPS Article 27(3).

[6] World Trade Organization, *A Handbook on the WTO TRIPS Agreement* (Antony Taubman, Hannu Wager and Jayashree Watal (eds), (Cambridge University Press 2012) 104.

[7] ibid.

> The breeder's rights shall be independent of any measures taken by a Contracting Party to regulate within its territory the production, certification and marketing of material of varieties or the importing or exporting of such material. In any case, such measures shall not affect the application the provisions of this Convention (the UPOV Convention).

As Correa elaborates:

> Intellectual Property Rights (IPRs), including on plant varieties, need to be viewed as instruments that a society puts in practice in order to attain certain goals. They do not constitute an end by themselves.

He further points out that the goals of a plant breeders' right regime may include broader objectives such as sustainable development, food security, stimulation of local research, and preservation of traditional knowledge.[8]

However, UPOV contends that public interest issues, including food security and farmers' rights should be separated from the commercial rights of breeders.[9] The UPOV position is not supported by persuasive arguments. The UPOV position, in the author's view, has resulted in tension with other international instruments that aim to achieve wider public policy goals such as the CBD. Thus, many developing countries endeavoured to accommodate broader policy goals into their legislative instruments. For example, the African Union in an effort to create an equitable *sui generis* plant breeders' rights system, while securing the rights of traditional farmers, issued the 'African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources'.[10] The Model Law emphasizes the rights of local communities over their biological resources and traditional knowledge and asserts that **these rights are *a priori* rights which take precedence over rights based on private interests.** [11] **(emphasis added)**

With the current Egyptian IPR Law[12], to give another example, in an effort to strike a balance between private IPR rights and other public interest goals such as farmers' rights and the protection of traditional knowledge, Egypt adopts a *sui generis* system for the protection of plant breeder's rights, yet it imposes disclosure requirements and equitable sharing obligations on plant breeders seeking protection in Egypt.[13]

Furthermore, Article 199 of the Egyptian IPR Law gives the Minister of Agriculture, subject to certain formalities, the right to restrict the rights of a plant breeder in order to achieve public interest in cases of adverse effects on the environment, biodiversity, the Egyptian agricultural sector or plant, animal and human health. Adverse effects on the national economy and social and moral considerations are also grounds for restriction of Breeder's rights.

Nevertheless, the recent years have seen a proliferation of bilateral treaties imposing high international standards of IP protection. For instance, the United States imposed on its trade partners in free trade agreements the obligation to adhere to UPOV 1991, which contains strict provisions for the protection of plant breeders' rights. About 90 countries who agreed free trade agreements with the United States are required to adhere to UPOV 1991.[14] In addition, the European Union has followed the US trail in requiring its trade partners in bilateral treaties to adhere to the highest standards of IP protection, including UPOV 1991. Egypt is subject to such requirements of implementing the 'prevailing international standards

[8] Carlos M Correa, 'Elements for the Protection of Farmers' Plant Varieties', in P C Mavroidis and Thomas Cottier, T 2003, *Intellectual Property: Trade, Competition, and Sustainable Development* (Ann Arbor: University of Michigan Press) eBook Academic Collection (EBSCOhost), EBSCOhost, viewed 16 May 2014 pp. 359-360.

[9] E Opoku Awuku,' Intellectual Property Rights, Biotechnology and Development: African Perspectives' in Daniel Wuger and Thomas Cottier (eds), *Genetic Engineering and the World Trade System*: World Trade Forum (Cambridge University Press 2008) 113.

[10] African Union, 'AU Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources' (Algeria, 2000); available at: <www.grain.org/brl_files/oau-model-law-en.pdf> accessed October 2013.

[11] Emmanuel Opoku Awuku, 'Intellectual Property Rights, Biotechnology and Development: African Perspectives' (n 9) 112.

[12] Law No. 82 of 2002 on the Protection of Intellectual Property Rights (Egyptian IPR Law).

[13] Article 200 of the Egyptian IPR Law stipulates that:

> The Breeder shall disclose the genetic source which he used to develop the new plant variety. In order to confer protection to the Plant Breeder the Breeder must have obtained this source in a legitimate way under the Egyptian Law.
>
> This obligation shall extend to traditional knowledge and know-how accumulated over time by local groups which the Breeder used to develop the new plant variety.

Article 200 further reasserts the disclosure requirements for plant varieties developed using Egyptian traditional resources as it further stipulates:

> [The Breeder] shall respect the Egyptian traditional resources used to develop his (the Breeder's) achievement by disclosing the Egyptian Genetic origin used by the Breeder and by sharing the benefits achieved by him (the Breeder) with the stakeholder.

[14] Blakeney (n3) page 87.

of IP protection' in the European Union/Egypt Association Agreement, including the standards set by UPOV 1991. As a result, Egypt has issued an initial version of a law to comply with Egypt's obligations under the AA Agreement which abolished Article 200 (disclosure and benefit-sharing requirements).[15]

The approach of industrialized countries of imposing high standards of IP protection, especially in the field of plant varieties, towards their developing countries counterparts is controversial. While industrial countries seek to protect the interests of their plant breeders on one hand, developing countries on the other hand experience severe consequences as a result of adhering to high IP standards in the field of plant varieties. Specifically, plant breeders who spent huge investments to develop a new plant variety need to recover the proceeds of their investment. This is because otherwise they would not have the incentive to develop new varieties, especially given the fact that the cost of developing a new variety is substantial, while the cost of reproducing a new plant variety is usually trivial. Breeders need to secure their IPRs before introducing their products into a new market.

Nevertheless, the effect of enhanced breeder rights does not match this textbook notion. Developing countries suffer from the dire consequences of imposing highs standards of plant variety protection. On account of those standards, plant breeders tend to focus on industrial crops rather than staple food crops.[16] Biopiracy has occurred where traditional biomaterial is protected by IP rights with little evidence of any real innovation by the plant breeder.[17] In addition, while innovation in agricultural biotechnology is led by the private sector in industrial countries, in developing countries this task is mainly entrusted to a network of public research centres.[18] Therefore, a UPOV system with emphasis on private IPRs may be ill-adapted to the needs of developing countries. Accordingly, the factual application of the current UPOV-based system leads to the concentration of IPRs in the hands of a few market players, leading to the curtailment of knowledge and technology, rather than enhancing knowledge and transfer of technology. It is clear that IP protection based on the UPOV model may produce adverse effects on the environment, public health and food security to name just a few.

However, the tension between plant variety protection and food security needs to be addressed in a broader context of the tension between IPRs and other public interest goals. This is what this article aims to discuss. This article shall not go into technical details of the UPOV system. However, it shall focus on the policy issues.

IV. WHY INTELLECTUAL PROPERTY RIGHTS?

Before discussing the tension between IPRs and public interest goals, it is useful to look at the main rationales that justify the grant of IPRs in the first place. After briefly outlining the main theories justifying IPRS, we conclude that the dominant theory, which we shall refer to as the 'Utilitarian Theory', justifies the grant of IPRs on public interest grounds of providing an incentive for innovators to produce and share their innovations with the society.

The most significant work on theories underlying IPRs is the work of William Fischer.[19] According to Fischer, there are four major approaches to IPRs, the Utilitarian Theory, the Labour Theory, the Personality Theory and the Social Planning Theory.

Under the 'Utilitarian Theory', the grant of IPRs should be to maximize net social welfare. Accordingly, when designing IP policy, law-makers should strike a balance between exclusive rights granted to IPR holders to stimulate innovation and the right of the public not to curtail access to knowledge.[20]

Under the Labour Theory, 'a person who labours upon resources that are either un-owned or '"held in common" has a natural property right to the fruits of

[15] Article 4 of Decree No. (497) of 2011 amending certain provisions of Book Four (Plant Varieties) of the Law on Protection of Intellectual Property (Law No.82 of 2002).

[16] Genetic Resources Action International (GRAIN), 'Plant Variety Protection to Feed Africa? Rhetoric versus Reality' (October 1999), <http://www.grain.org/article/entries/plant-variety-protection-to-feed-africa-rhetoric-versus-reality> accessed October 2013. See also the Study of the UK Commission on Intellectual Property Rights (CIPR), 'Integrating Intellectual Property Rights and Development Policy', Report of the Commission on Intellectual Property Rights (CIPR), London (2002).

[17] To illustrate, two species of chickpea were misappropriated from the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT). International Centre for Trade and Sustainable Development (ICTSD), 'Bio-Piracy: Australian Case Highlights Debate on Intellectual Property', Bridges Weekly Trade News Digest, Vol. 2, No. 3, 2 February 1998, <http://ictsd.org/i/news/bridgesweekly/91792/> accessed October 2013.

[18] C Fink and C A Primo Braga, 'Technology Transfer in Agricultural Biotechnology: The Developing Country Perspective' in Thomas Cottier and Petros Mavroidis, T 2003, *Intellectual Property: Trade, Competition, and Sustainable Development* (Ann Arbor: University of Michigan Press) eBook Academic Collection (EBSCOhost), EBSCOhost, viewed 16 May 2014 407.

[19] W Fischer, 'Theories of Intellectual Property' <http://cyber.law.harvard.edu/people/tfisher/iptheory.pdf> accessed November 2013.

[20] ibid 2.

his or her efforts – and that the state has a duty to respect and enforce that natural right'.[21]

The third approach views innovations as products in which their creators have expressed their will, a feature of their personality, therefore these innovations must be shielded from appropriation and modifications or by the fact that IPRs create social and economic conditions important for human flourishing.[22]

Finally, the 'Social Planning' approach contends that IPRs should, like any property right in general, serve to achieve a just and attractive culture.[23] However, we see this approach as a strand of the 'Utilitarian Theory'.[24]

It is beyond the scope of this work to provide a thorough discussion of the various theories justifying IPRs. Suffice to say in this context that the most accepted theory justifying IPRs is the 'Utilitarian Theory'. To illustrate, the *Handbook on the WTO TRIPS Agreement* describes scientific innovation as a public good which can be stimulated through the IP system.[25] It states explicitly that '[t[he Intellectual Property (IP) system is a tool of public policy: generally it is intended to promote economic, social and cultural progress by stimulating creative work and technological innovation'.[26] The policy objectives of the UPOV system align with the reasoning for granting IPRs, namely, that Plant Breeder's Rights are needed to promote innovation in the agricultural sector.[27]

The Constitution of the United States justifies the copyright and the patent system as providing an incentive for creative intellectual efforts that will benefit society at large.[28] The United States Supreme Court, when interpreting copyright and patents statutes, takes the view that these statutes are important to stimulate the creation and dissemination of works of intellect.[29]

Thus, we shall focus on the mainstream justification of IPRs, namely the 'Utilitarian Theory'. Specifically, the next section argues that the public interest component of the 'Utilitarian Theory' is underestimated. The balance is skewed in favour of private IPRs holders.

V. INTELLECTUAL PROPERTY RIGHTS AND PUBLIC INTEREST

This section argues that IPRs are in general legal monopolies granted to achieve public interest. The mainstream policy objective underlying IP policy goals is stimulating innovation through the IP system to achieve the net social welfare of a given society. Indeed, one can argue that stimulating innovation is a public interest goal. May and Sell stress the fact that the protection of IPRs has always been a form of public policy, an intervention in the markets to transform their functioning.[30]

Nevertheless, it must be recognized that the IP system, including the UPOV system, does not always foster innovation as claimed. Merges in his book *Justifying Intellectual Property* has stated that law and economic scholars have never established an efficiency-based (or utilitarian) justification for IP protection.[31] He further states that: 'There is no rock-solid proof that overall social welfare would decline if IP protection were suddenly removed.'[32] Merges refers to a study conducted by the well-known economist, Fritz Machlup, for the US Senate, where Machlup concluded that it is not clear that we would estabish IPRs if we started from scratch today, but it would be unwise to get rid of them. Furthermore, Merges admitted he could not jusitify IPRs based on effeciency.[33]

Another important point that may underestimate the theortical jusitification of the current IP system can be found in Robert Nozick's 'Anarchy, State, and Utopia,' which, after endorsing Locke's Labour

[21] ibid 4.
[22] ibid 6.
[23] ibid.
[24] Lemley groups IP Policies into 'ex-ante' policies, in the case of the utilitarian/public goods justification, and 'ex- post' policies in the case of the romantic/private justifications. Lemley views the ex-post justifications as anti-market. Mark Lemley, 'Ex-Ante versus Ex-Post Justifications of Intellectual Property'(2 February 2011) University Chicago Law Review Vol. 71, 129, UC Berkeley Public Law Research Paper No. 144, available at SSRN: <http://ssrn.com/abstract=494424>.
[25] World Trade Organization, *A Handbook on the WTO TRIPS Agreement* (n6) 3.
[26] ibid 2.
[27] UPOV Report on the Impact of Plant Variety Protection (2005), 24; UPOV official website: <www.upov.org/overview/en/impact.html> accessed November 2013.
[28] Clause 8 of the United States Constitution, known as the Copyright Clause, empowers the United States Congress: 'To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries'.
[29] Fischer (n19).
[30] Christopher May and Susan Sell, 'Forgetting History is Not an Option! Intellectual Property, Public Policy and Economic Development in Context', presented at the Intellectual Property Rights for Business and Society Conference, Birkbeck College, University of London, Friday, 15 September 2006 <www.dime-eu.org/files/active/0/MaySell.pdf> last accessed 5 November 2013; May and Sell further expose the historical origins of IP protection. They claim that IPRs emerged during the early mercantilist period as a means for nation States to unify and increase their power and wealth through the development of manufactures and the establishment of foreign trading monopolies.
[31] R P Merges, 'Justifying Intellectual Property', (Harvard University Press, 2011), <http://ssrn.com/abstract=192456> accessed 6 November 2013.
[32] ibid 6.
[33] ibid.

Theory of Property, discusses Locke's famously ambiguous 'proviso' **– the proposition that a person may legitimately acquire property rights by mixing his labour with resources held 'in common' only if, after the acquisition, 'there is enough and as good left in common for others.'[34] (emphasis added)** Although, the comment is made in the context of the Labour Theory, it is equally applicable to the Utilitarian Theory.[35] The grant of a private property right, including IPRs, must not jeopardize the commons.[36]

On the doctrinal level, the notion that IPRs may not always contribute to innovation and technology transfer is recognized by the International IP system through a host of exceptions to and flexibilities in IPRs. While it is beyond the scope of this paper to go through the whole system of exceptions and flexibilities in the IP system, suffice to mention some of the major exceptions and flexibilities in the current IP system.

To illustrate, theories may be excluded from patentability despite their high innovative value.[37] The formal requirement of lack of industrial step is usually considered as the main hurdle of patenting theories, yet the policy reason behind the ban on patenting theories is that patenting them will reduce the 'commons' available for innovation and as result stifle innovation rather than fostering it.[38]

Another example of fact that private IPRs have to be balanced against the public interest is that the term of protection of many IPRs, such as patents and copyright, is limited. The limitation of the term of protection is provided so as to prevent the perpetual ownership of knowledge. The IP system is rife with other examples of limitation of IPRs to achieve public interest, such as the fair use doctrine and compulsory licences.

Indeed, the notion that private rights may be constrained to achieve public interest is widely accepted with respect to classic property rights. Particularly in civil law countries, the doctrine of abuse of right[39] and the rights of servitudes are clear examples. By way of illustration, the Egyptian legislator in certain cases provides for the restriction of a private right not only to achieve a public interest, but also to achieve a superior private interest by curtailing the private right e.g. the right to have access to water to irrigate agricultural land. Sanhouri, the prominent Egyptian jurist, despite acknowledging private property rights, argues that property rights have a social function and that private property rights can be restricted under certain conditions to achieve public interest or even a superior private interest.[40] Sanhouri further contends this is because of social solidarity. A private property owner is a member of the society who shares rights and obligations within his society. A private property owner has acquired his private property right not solely due to his labour, the society has also given him the resources to acquire his property.[41] The contribution of the society to acquiring an IPR, especially in the field of biotechnology, is clear.

Anti-trust rules that prohibit certain behaviour of dominant firms, even if, in some cases, no clear fault can be attributed to them, when their behaviour affects the functioning of the market is also another example of this notion. In *United States v. Aluminum Co. of America* the Court declared that 'It is possible, **because of its direct social or moral effects (emphasis added)**, to prefer a system of small producers, each dependent for his success for his own skill and character, to one in which the great mass of those engaged must accept the direction of a few'.[42] This case can be read to entail that superior

[34] John Locke, *Two Treatises of Government* (P. Laslett, ed., Cambridge: Cambridge University Press, 1970), *Second Treatise*, Sec. 27.

[35] A practical example of IPRs halting innovation instead of fostering it is the example of the development of the steam-driven engines industry where the grant of patent protection to James Watt, who refused to license his invention, halted the spread of engine steam technology for about a generation. May and Sell (n28) 8.

[36] It is worth mentioning that Sanhouri, the prominent Egyptian jurist and the godfather of most of the modern Egyptian and Arab laws, based on a decision of the French Court of Cassation, does not consider IPRs as property rights since property rights are perpetual in nature while IPRs are time-limited exclusive rights. Abd Al Rzaak al Sanhouri , *Al Waseet on Civil Law*, *Property Right* (Ahmed el Maraggy ed., Vol. 8, Dar Al Shrouk 2010) 240.

[37] TRIPS Article 27.3.

[38] As *Funk Brothers* explains, such discoveries 'are part of the storehouse of knowledge of all men … free to all men and reserved exclusively to none'.
Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948).

[39] Article 5 of the Egyptian Civil Law provides that:

The use of a right is considered illegitimate in the following cases:

(a) If the right was only used to inflict a damage on third parties;

(b) if the interests sought to be achieved by the right holder are of little significance compared with the damage inflicted on third parties;

(c) if the interests sought to be achieved by the right holder are illegitimate.

[40] Sanhouri (n36) 479-497.

[41] ibid.

[42] In *United States v. Aluminum Co. of America* the Court declared that:

> It is possible, because of its direct social or moral effects, to prefer a system of small producers, each dependent for his success for his own skill and character, to one in which the great mass of those engaged must accept the direction of a few.

private interests may be preferred over a competing private interest to achieve social welfare.

The fact that private property rights are constrained when they conflict with the interests of the society entails that private property rights, including IPRs, should be subordinate to the public interest of achieving total social welfare. Turning to UPOV, if transparent empirical studies show that UPOV rules and enforcement are skewed towards the protection of private plant breeder's rights, without adequate regard to other public interest goals such as biodiversity, biosafety and food security, then the current UPOV system needs to reformed to the extent it conflicts with the public interest.

Another point that merits consideration when discussing the public policy goal of IPRs is that innovation is a result of the accumulation of knowledge. According to Merges, citing Rawl, 'much individual action is the result of pervasive social influence, so that society too has a legitimate interest—but not a coequal right—in the results of individual initiative'.[43] This point is clearly applicable to plant variety protection. Many innovations in plant biotechnology are based on traditional knowledge. Traditional knowledge in this field has been accumulated by farmers through generations. Yet those farmers who shared the innovation process are severely restricted through the UPOV system from sharing the fruits of their labour. This issue is further complicated by the insistence on treating UPOV and other public interest goals such as food security as separate tables. Intellectual property rights, including Plant Breeders' Rights, are granted to promote the public interest goal of innovation, thus the grant of these rights must be weighed against other public policy goals such as farmers' rights and food security to achieve a net social welfare gain.

Finally, we turn to yet another side of the story, the development component. The debate on IPRs and public interest must be addressed through a developmental context. Many authors argue that 'one size does not fit all' in the field of IPRs. Optimal IP policy for an industrialized country is not necessarily suitable for a developing country.[44] Finding the right balance between conflicting interests is likely to be more productive than pressuring developing countries to accept IP norms that may not suit their developmental needs.

United States v. Aluminum Co. of America, 148 F.2d416 (2d Cir.1945).

[43] Merges (n31) 19.

[44] May and Sell (n30).

VI. CONCLUSION

Intellectual property rights, including Plant Breeders' Rights, are granted to promote innovation. If rigorous protection of IPRs stifles innovation rather than promoting it, then IPR doctrine needs to be readdressed. Sound empirical studies are needed to know the effect of a certain IPR in a given market. Currently, studies on both sides are not very reliable. If resources of farmers in developing countries are demolished they may not be able to afford IPRs from industrial countries at a given point of time. It is suggested that IPR creators need to be adequately rewarded, although a more coherent theoretical basis for IPR protection needs to be developed, but let us not forget why IPRs were created in the first place: IPRs are not themselves an end; they are given to promote innovation. If they stifle innovation, then the boundaries of IPRs need to be redrawn.

BIBILOGRAPHY

African Union, 'AU Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources' (Algeria, 2000); available at: <www.grain.org/brl_files/oau-model-law-en.pdf> accessed October 2013

Al Sanhouri A , *Al Waseet on Civil Law*, *Property Right* (Ahmed el Maraggy ed., Vol. 8, Dar Al Shrouk 2010)

Awuku E O, 'Intellectual Property Rights, Biotechnology and Development: African Perspectives' in Daniel Wuger and Thomas Cottier (eds)., *Genetic Engineering and the World Trade System*: World Trade Forum (Cambridge University Press 2008)

Blakeney M, *Intellectual Property Rights and Food Security*, (CABI2009)

Collier D and Moitui C, 'Africa's Regulatory Approach to Biotechnology in Agriculture: An Opportunity to Seize Socio-Economic Concerns, (2009), 17(1) African Journal of International and Comparative Law 29-56

Correa M C, 'Elements for the Protection of Farmers' Plant Varieties, in Mavroidis, P and Cottier, T 2003, *Intellectual Property: Trade, Competition, and Sustainable Development* (Ann Arbor: University of Michigan Press) eBook Academic Collection (EBSCOhost), EBSCOhost, viewed 16 May 2014

Fink C and Braga A P, 'Technology Transfer in Agricultural Biotechnology: The Developing Country Perspective' in Mavroidis P and Cottier T, T 2003, *Intellectual Property: Trade, Competition and*

Sustainable Development (Ann Arbor: University of Michigan Press) eBook Academic Collection (EBSCOhost), EBSCOhost, viewed 16 May 2014

Fischer W, 'Theories of Intellectual Property' at: <http://cyber.law.harvard.edu/people/tfisher/iptheory.pdf> accessed November 2013

Genetic Resources Action International (GRAIN), 'Plant Variety Protection to Feed Africa? Rhetoric versus Reality' (October 1999) <http://www.grain.org/article/entries/plant-variety-protection-to-feed-africa-rhetoric-versus-reality> accessed October 2013.

International Centre for Trade and Sustainable Devleopment (ICTSD), 'Biopiracy: Australian Case Highlights Debate on Intellectual Property', Bridges Weekly Trade News Digest, Vol. 2, No. 3, 2 February 1998, <http://ictsd.org/i/news/bridgesweekly/91792/> accessed October 2013

Lemley M, 'Ex Ante Versus Ex-Post Justifications of Intellectual Property' (2 February 2011). University Chicago Law Review, Vol. 71, 129, UC Berkeley Public Law Research Paper No. 144, available at: SSRN <http://ssrn.com/abstract=494424>

John Locke, *Two Treatises of Government* (P Laslett, ed., Cambridge: Cambridge University Press, 1970), *Second Treatise*, Sec. 27

May C and Sell S, 'Forgetting History is Not an Option! Intellectual Property, Public Policy and Economic Development in Context', Presented at Intellectual Property Rights for Business and Society Conference, Birkbeck College, University of London, Friday 15 September 2006 <http://www.dime-eu.org/files/active/0/MaySell.pdf accessed November 2013

Merges RP, 'Justifying Intellectual Property', (Harvard University Press, 2011), <http://ssrn.com/abstract=192456> accessed 6 November 2013

The Rome Declaration on Food Security, World Food Summit (1996) http://www.fao.org/docrep/003/w3613e/w3613e00.HTM> accessed November 2013.

The Study of the UK Commission on Intellectual Property Rights (CIPR), 'Integrating Intellectual Property Rights and Development Policy', Report of the Commission on Intellectual Property Rights (CIPR), London (2002)

UPOV Report on the Impact of Plant Variety Protection (2005)

The Washington Declaration on Intellectual Property and the Public Interest at <http://infojustice.org/wp-content/uploads/2011/09/Washington-Declaration-Print.pdf> accessed November 2013

World Trade Organization, *A Handbook on the WTO TRIPS Agreement* (Antony Taubman, Hannu Wager and Jayashree Watal (eds) (Cambridge University Press 2012)

Cases

Funk Bros. Seed Co. v Kalo Inoculant Co., 333 U.S. 127, 130 (1948)

United States v Aluminum Co. of America, 148 F.2d416(2d Cir.1945)