

Human Rights, Knowledge and Intellectual Property Protection

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Human rights and intellectual property protection are two distinct areas of law and have largely evolved separately over time. Nevertheless, a number of links between the two can be identified. On the human rights side, the question of recognition of a human right to intellectual property has been a topic of increasing debate since the adoption of TRIPS Agreement. This falls within the context of the increasingly visible impacts of intellectual property rights on the realization of human rights such as the right to health and in the context of Article 15(1) of the Covenant on Economic, Social and Cultural Rights (ESCR) which provides a framework for addressing the place of knowledge and intellectual development in a human rights context. This article focuses on recent developments concerning the understanding of Article 15(1) of the Covenant and focuses on the need to find a balance between the claims of intellectual property rights holders and all other actors making contributions to intellectual development, such as traditional knowledge holders.

Keywords: ESCR Covenant, human right to intellectual property, traditional knowledge

Significant debates have arisen in recent years concerning the links between intellectual property rights (IPR) and human rights. On the one hand, there have been concerns with regard to the impacts of IPR on the realization of human rights, for instance, with regard to the impacts of medical patents on access to drugs. On the other hand, recognition of a human right to intellectual property at the international level has been increasingly debated.

The interest in the relationship between intellectual property and human rights is not completely new. However, it is the adoption of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) that has made it a topic of wide debate.¹ It is in particular the crisis concerning access to HIV/AIDS drugs in sub-Saharan African countries that has brought the links between human rights and intellectual property to the forefront. This has led to renewed interest for clauses concerning the protection of knowledge in a human rights context.

Knowledge Protection in Human Rights Instruments

The most important international law provision concerning knowledge protection in a human rights

context is found in the Covenant on Economic, Social and Cultural Rights (ESCR Covenant). Its Article 15(1) reads as follows:

The State Parties to the present Covenant recognize the right of everyone to:

- (a) take part in cultural life;
- (b) enjoy the benefits of scientific progress and its applications
- (c) benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.²

The two provisions of Article 15(1) that are of specific importance here are sub-sections (b) and (c). The right to enjoy the benefits of scientific progress and its applications needs to be understood in its national and international dimensions. At the national level, there is a duty for governments to ensure that everyone has access to all technologies that contribute to the fulfilment of human rights. An additional duty of governments is to ensure, as required by Article 2(2), that the benefits of scientific progress and its applications are available to all without any

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discrimination. Article 15(1)b also has an important international dimension. The right to enjoy the benefits of scientific progress implies that everyone in all countries should be able to benefit from all the latest scientific advances. Given the highly skewed distribution of technology around the world, the realization of this right in most developing countries necessitates 'international assistance and co-operation'.³ The realization of the right recognized at Article 15(1)b therefore necessitates significant technology transfers in favour of developing countries.⁴ In other words, Article 15(1)b is a provision which seeks to promote the diffusion of science and technology both at the national and international levels.

Article 15(1)c is a much more narrowly drafted provision which focuses on the interests of authors. It emphasizes their moral and material interests in their creation. The recognition of the author's moral interest relates to the idea that there is an inherent identification between authors and their creations.⁵ The desire to reward individual or collective authors for their creation by recognizing a moral interest is a concept which is shared by many countries. The recognition of the material interests of authors fits much less easily in a human rights context. In any case, this provision does not guarantee a 'monopoly' right but only minimal material interests such as the effective costs incurred in developing a new scientific, literary or artistic production.

Article 15(1) leaves open a number of important questions. Firstly, it does not indicate how the balance between the enjoyment of the fruits of science and incentives for innovation has to be achieved. Secondly, sub-section (c) which deals with the reward for individual contributions does not indicate with any specificity the type of contributions which are covered. As a result, it has sometimes been argued that sub-section (c) refers to existing IPR. IPR as currently materialized in most legal systems around the world are based on the premise that there must be a balance between the rights granted to the property rights holder and society's interest in having access to novel developments in the arts, science and technology. This is related but much narrower than the scope of Article 15(1). While IPR frameworks introduce rights for individual contributors, they only balance it with what can be generally seen as recognition of the broader public interest of society in

generally benefiting from artistic or technological advances. IPR frameworks do not recognize everyone's right to enjoy the 'benefits of scientific progress and its applications' as an individual and/or collective right. As such, there is nothing which indicates that Article 15(1)c is concerned only with existing categories of IPR. In fact, it recognizes intellectual contributions in general without making any special reference to one or the other category of existing IPR.

The analysis of Article 15(1) of the ESCR Covenant is usefully complemented with an examination of the situation in India and South Africa, two countries that have made specific contributions to the understanding of the place of property in the context of fundamental rights. In India, a fundamental right to property was included in the Constitution. This was deemed to include IPR in some early judgments.⁶ The fundamental right to property remained a controversial right in the decades following the adoption of the Constitution. Eventually, in the late 1970s, a constitutional amendment was passed to remove the right from the list of fundamental rights.⁷ Today, there is a still a constitutional right to property but it is not part of the basic structure of the Constitution which implies, for instance, that the constitutional remedies available under Article 32 to foster enforcement are not available any more. In practice, the existing concept of property which is protected in India is substantially similar to the original notion developed after independence.⁸ Nevertheless, the Indian experience is important with regard to the balance between different rights. In India, a decision was taken to provide for a balance between rights which puts property below inherent rights such as the right to health or food.

Another more recent experience with regard to the place of IPR in a constitution can be gleaned from the experience of South Africa in the context of the adoption of its new Constitution which does not recognize a right to intellectual property. This was challenged in the context of the certification of the Constitution as being not in compliance with the constitutional principles outlined in the Schedule 4 to the Constitution of the Republic of South Africa Act of 1993 (Interim Constitution).⁹ The rationale put forward was that the Interim Constitution called for all universally accepted fundamental rights to be included in the new constitution.¹⁰ This was rejected

by the Constitutional Court which determined that there is no universally accepted trend towards the protection of IPR in human rights instruments and bills of rights.¹¹ The South African Constitutional Court's statement constitutes an apt summary of the situation. Different countries and different regions of the world have different positions on the place of scientific and cultural contributions in human rights frameworks. Most countries protect the economic interests of authors through IPR such as patents and copyrights. However, most countries fail to protect the moral and economic interests of intellectual contributions which cannot be protected under existing IPR. This is, for instance, the case for traditional knowledge.

Towards a General Comment on Article 15(1)c of the Covenant

The past decade has seen tremendous changes in the international legal framework that provides a framework for trade and economic relations among states. This includes, among many other instruments, the adoption of the TRIPS Agreement. On the human rights side, the major treaties that have been in place for several decades have not been modified but supervisory bodies such as the Committee on Economic, Social and Cultural Rights (ESCR Committee) have ensured that the content of the rights recognized has become progressively more specifically known, for instance, through the adoption of 'General Comments'. On the one hand, IPR treaties like the TRIPS Agreement have not contributed at all to a better understanding of the relationship between IPR and human rights since they are largely conceived as stand-alone legal instruments. On the other hand, human rights bodies have progressively addressed the question of the impacts of existing IPR on the realisation of human rights, in particular, the right to health, and are still grappling with the question of the science, technology and culture related provisions in the ESCR Covenant. They have addressed to a certain extent the question of relationship between Article 15(1) and IPR but they are yet to give consideration to the broader question of the place of intellectual contributions in general in a human rights context and the respective place of IPR protected knowledge and all other knowledge under Article 15(1).

WIPO and the WTO, which are two of the main

international forums where IPR policy is defined, are constantly rethinking the legal frameworks that have been adopted, largely with a view to strengthen them in favour of IPR holders. For a variety of reasons, it cannot be expected that significant contributions on the relationship between IPR and human rights will be made in the context of either institution. On the human rights side, a variety of bodies are concerned with the question of intellectual property protection. This section focuses on Article 15 of the ESCR Covenant and the role of the ESCR Committee in fostering its implementation.

The ESCR Committee's Draft General Comment

The ESCR Committee has been considering for several years the implications of the TRIPS Agreement for the realization of cultural, social and economic rights and the need to give a more specific interpretation to Article 15(1) in the wake of changes over the past few decades. The ESCR Committee first put out a Statement on intellectual property and human rights which largely focused on the implications of the TRIPS Agreement for the realization of human rights in view of ongoing debates over the relationship between medical patents and the realization of the human right to health.¹² Following this Statement, the ESCR Committee decided to develop a General Comment. The draft General Comment was introduced but not adopted in 2004 because of the controversy it raised within and outside the ESCR Committee.

The first general characteristic of the draft General Comment is that it adopts a narrow focus which does not take into account all relevant elements in the debate. Instead of focusing on the whole of Article 15 or at least on the whole of Article 15(1), the draft General Comment carves itself a narrow niche by focusing exclusively on sub-paragraph (c) of Article 15(1). In other words, it focuses on the interests and rights of the individual author and inventor and leaves aside the other parts of Article 15(1) which focus on everyone's right to benefit from the development of science and to enjoy their own culture.

Several interesting features can be identified. Firstly, the Committee clearly argues that the individual right to intellectual property protection is a human right and one that can be deemed to be inherent in human beings. In the words of the Committee, the right of everyone to benefit from the protection of the moral and material interests in their

works derives from the inherent dignity and worth of all persons.¹³

Secondly, the Committee interprets the words 'scientific production' at Article 15(1)c as including scientific inventions. In terms of existing IPR, this implies that Article 15(1)c is meant to include not only 'authors' who get protection through copyright but also 'inventors' who are protected under existing IPR by patent rights. This raises the question whether Article 15(1)c is to be interpreted as referring only to existing categories of IPR. Firstly, the draft General Comment specifically indicates that certain types of IPR such as trademarks which bear no personal link to a creator are excluded from the protection under Article 15(1)c.¹⁴ Secondly, debates preceding the interpretation of Article 15(1)c are at best inconclusive with regard to the inclusion of inventors within the scope of the provision. This confirms that there is no correspondence between the rights recognized at Article 15(1)c and rights recognized in IPR frameworks.¹⁵ There are no doubt overlaps in certain situations but the content of Article 15(1)c is not circumscribed by existing IPR frameworks.

Thirdly, the link made between the rights recognized at Article 15(1)c and existing IPR imposes on the Committee the need to address the tension between the recognition of individual claims to intellectual property protection and the fact that today individuals are not the main beneficiaries of intellectual property protection. The draft thus seeks to emphasize the distinction between human rights and IPR regimes. It accepts that human rights are fundamental, inalienable and universal entitlements while IPR are statutory rights granted by the state which are temporary, can be traded and whose enjoyment can be curtailed. The draft General Comment further indicates that while IPR also protect business interests, human rights do not and there is consequently no necessary correspondence between the two.¹⁶ The main issue, however, is that the draft does not set any boundaries between the rights of the individual author and the rights that may accrue to businesses under IPR. In the context of innovations protected by patents, for instance, it is becoming increasingly difficult to dissociate 'individual' inventors from institutions with which they are associated. The draft General Comment does not seem to take into account the fact that today, there are

few, if any, patented inventions which are commercially exploited by the individuals which can be identified as 'inventors' from the point of view of patent laws and that most patents are owned by big businesses.¹⁷ The draft's response is to provide that it is only the 'basic material interests' of authors and inventors that are protected under the Covenant.¹⁸ This constitutes an attempt to distinguish the monopoly rights provided through IPR from the protection available under the Covenant. This is not a sufficient analytical response because in practice, it is difficult to distinguish the material benefits of individuals having contributed to an innovation from those of a company exploiting the innovation.

Besides issues related to the interpretation of Article 15(1)c itself, the draft General Comment is also noteworthy for the treatment it reserves to other rights of Article 15(1) and to other human rights protected under the ESCR Covenant. With regard to the relationship between different parts of the Article 15(1), the draft attempts to dismember it by proposing to analyse sub-sections (a), (b) and (c) separately. While some issues are indeed specific to each section, there is without doubt an overall structure to Article 15(1) which cannot be ignored. Article 15(1)c falls within the context of the first two sub-sections which provide individual rights to benefit from culture and scientific development. Even if no hierarchy is put between these sections, the claims of individual authors and inventors cannot trump everyone's right under sub-sections (a) and (b). In other words, Article 15(1)c can only be meaningfully interpreted, if its interpretation takes into account other rights recognized at Article 15(1).

Another important issue concerns the links between the rights recognized at Article 15(1)c and other human rights such as the rights to food and health. In this context, it is necessary to go back to 2001 Statement which indicated the need for taking into account, impacts that IPR have on the realisation of human rights. As opposed to the Statement, the draft General Comment focuses most of its attention on the rights of intellectual property holders, thereby indirectly indicating that the focus of the 2001 Statement has not been integrated into the General Comment. This is of concern given that IPR can have significant impact on the realisation of human rights. A General Comment on intellectual property-related issues should therefore take this into account.

Towards an Alternative Perspective on Human Right and Intellectual Development

Article 15(1) of the ESCR Covenant provides a basis for addressing issues related to culture, science and technology in a human rights framework. This should be taken as an opportunity for human rights to make a contribution to some of the important ongoing debates concerning the protection of intellectual contributions like traditional knowledge which cannot be protected under existing IPR but warrant some form of protection.

The approach taken by the ESCR Committee is to focus on the place and the understanding of the protection of individual contributions to knowledge in the broader context of the Covenant. This is insufficient because Article 15(1)c is not a stand-alone provision but part of Section (1) which provides for a balance of rights and interests. This balance needs to take into account that there is a dialectical relationship between the desire to promote culture, science and technology for the benefit of society in general and each individual in particular and the desire to reward individual contributors to knowledge expansion. An increased scope of the rights of enjoyment of scientific progress has as a direct corollary, a more restricted scope of the rights of contributors to new knowledge. Under Article 15(1) the balance which needs to be struck has to provide for more or less equal rights of enjoyment and rights of reward. In other words, there is no space under the Covenant for the recognition of monopoly or near-monopoly rights of the kind granted under IPR frameworks. This clearly indicates that existing IPR are not an appropriate basis for understanding Article 15(1) which must be understood as a human right provision. There is in fact nothing surprising about the fact that IPR have no contribution to make to the understanding of Article 15(1) since they focus mostly on incentives and economic rewards for natural or legal persons whose intellectual contributions qualify for protection under the criteria of protection.

A human rights approach to scientific and technological development further needs to take into account other elements. Thus, in striking a balance between the claims of individual contributors to knowledge and the claims of everyone to benefit from the development of science and technology, human

rights bodies and state parties must first of all focus on the impact that their policies have on the most marginalised and disadvantaged people. This has at least two broad implications.

Firstly, where a conflict of rights arises between the rights of a large pharmaceutical company holding a patent on an HIV/AIDS drug and the rights of individuals suffering from HIV/AIDS to benefit from the existence of such a potentially life-saving drug, the priority has to be given to individual patients in the balancing of rights.¹⁹

Secondly, in today's international law framework, the rights and interests of holders of IPR are more than adequately protected by IPR instruments. In fact, as noted above, the balance which needs to be struck under Article 15(1) implies that their rights under a human rights approach are much more circumscribed than under IPR. In such a situation, the contribution that a human rights approach to science and technology can make is to provide protection to 'contributors to knowledge' whose rights and interests are presently not adequately protected under international law. Traditional knowledge holders who represent one significant category of people who are not recognized as contributors to knowledge under IPR instruments also happen to be in most countries among the most disadvantaged economically and socially. The protection of the rights of traditional knowledge holders under Article 15(1)c would go a long way to making sub-section (c) relevant in the twenty-first century for the majority of contributors to knowledge whose rights are currently not recognized.

Traditional knowledge protection in a human rights framework needs to be put in a broader context. Debates over traditional knowledge conservation and protection have taken place in several forums in recent years, in particular, in the context of the Biodiversity Convention and the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of WIPO. Two main conceptual issues have arisen. Firstly, it is debated whether traditional knowledge can be at all compared to knowledge which is protected by IPR because it is often not individually held and because it progresses incrementally. This is why a number of proposals focus on providing incentives to traditional knowledge holders to conserve existing knowledge rather than providing incentives to further develop their knowledge.²⁰ The

concept of benefit sharing is one instrument that is being used to implement a strategy focusing on conserving existing traditional knowledge which is seen mostly as a reservoir of knowledge for other applications, such as in the biotechnology sector which can then be protected by existing IPR.²¹ Secondly, there is a parallel debate which questions whether attempts to fit traditional knowledge within existing categories of IPR is at all an appropriate strategy to pursue given that IPR have over time been inimical to the conservation and protection of traditional knowledge because they proceed from a completely different logic.²² These ongoing debates from a conservation and protection point of view have not found a solution at the international level but some states have already attempted to introduce what are known as *sui generis* protection systems which seek to provide intellectual property-like protection to traditional knowledge holders in a context which takes into account at least some of the specificities of traditional knowledge.²³

Traditional knowledge protection through Article 15(1) is a proposition which has not been given significant visibility yet. While it has not been widely debated in the context of the Covenant, it is not a completely new proposal. In fact, the draft Declaration on the Rights of Indigenous Peoples recognizes that '[i]ndigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property'.²⁴

In the context of Article 15(1), traditional knowledge protection does not need to be equated with protection in an intellectual property context. In other words, a human rights perspective on traditional knowledge provides an opportunity to conceive protection in a broader sense which takes into account not only new contributions to knowledge but also existing contributions. Further, while Article 15(1) phrases rights as individual rights in accordance with the general orientation of the ESCR Covenant, human rights are generally more easily adaptable to notions of collective rights than IPR instruments even though there remains considerable opposition to such a broader perspective.

A human rights perspective on traditional knowledge constitutes a step forward compared to an IPR-based discussion insofar, as it provides scope for an understanding of rights which are not based on a hierarchical difference between knowledge that can

be protected through IPR and knowledge that cannot and is therefore in the public domain and freely available to all. In this sense, a human rights perspective to contributions to knowledge constitutes one way to reconceive the place of different bodies of knowledge and put them on par, something that the IPR system is unable to achieve.

The protection of traditional knowledge is not necessarily welcomed by all, including by traditional knowledge holders, where it is seen as clashing with cultural or spiritual values which favour the sharing of knowledge rather than its individual or collective appropriation. A protection perspective through human rights may therefore not be the best solution to existing shortcomings in traditional knowledge policies. Nevertheless, it is an alternative worth considering for two reasons. Firstly, it seems improbable that states will revert in the near future to a system privileging the sharing of all knowledge as a way to foster scientific and technological development. In a context that favours appropriation, the lack of protection of traditional knowledge has the unfortunate consequence of making it part of the public domain and therefore freely available.²⁵ Secondly, Article 15(1)c as a provision of the ESCR Covenant now ratified by 151 states cannot be wished away. Article 15(1)c constitutes a good basis for strengthening the claims of marginalised traditional knowledge holders and Article 15(1) in its entirety constitutes a good basis for rethinking the balance of rights between the users of science and technology and contributors to knowledge. In fact, this fits with the ESCR Committee's own views where it argues that

[b]ecause a human right is a universal entitlement, its implementation is evaluated, particularly, by the degree to which it benefits those who hitherto have been the most disadvantaged and marginalized and brings them up to the mainstream level of protection. Thus, in adopting intellectual property regimes, States and other actors must give particular attention at the national and international levels to the adequate protection of the human rights of disadvantaged and marginalized individuals and groups, such as indigenous peoples.²⁶

Traditional knowledge protection through human

rights can be operationalised in a variety of ways. Firstly, member states to the ESCR Covenant could take the initiative of formally recognizing, for instance, in the context of a General Comment on Article 15(1), their commitments to protect the most disadvantaged sections of the society, and recognize that traditional knowledge is to be considered as falling under the scope of Article 15(1)c. Secondly, States could make sure that all negotiations on traditional knowledge, including negotiations on related issues such as access and benefit sharing, that traditional knowledge is not conceived mostly from the perspective of its economic uses but from a broader perspective. Thirdly, even if the previous proposition is successfully implemented, States still need to take action at the national level to give content to this recognition. This can, for instance, be undertaken in the context of the variety of legal instruments being developed to provide *sui generis* protection to traditional knowledge. In recent years, *sui generis* protection has usually been associated with a modified form of intellectual property protection specifically designed to ensure that it benefits traditional knowledge holders.²⁷ A human rights perspective to *sui generis* protection would ensure that the rights of traditional knowledge holders are not trumped by the rights granted to research institutions or private companies.

Conclusion

Contributions to intellectual development are important to human societies all over the world. Different types of rewards have been introduced in law to take into account the effort expended on developing new ideas or on evolving art forms. The legal framework can today be seen as providing two largely separate types of recognition for contributions to intellectual development.

On the one hand, there are IPR which are meant to protect the commercial interests of individuals, and increasingly institutions and companies, for their contributions to intellectual development. On the other hand, there are interests of individual human beings contributing to intellectual development. These are not *per se* related to commercial activity and may in fact be aimed at restricting the commercial use of certain ideas, technologies or products. IPR are inherently unable to provide protection which is not geared towards commercial or trade advantages. Human rights, however, provide a better forum to

recognize the much broader array of claims which individuals may wish to make on their intellectual contributions. Further, IPR are generally geared towards the protection of a limited array of ideas and products by, for instance, taking only western science and technology as a measure of development.

In principle, the idea that human beings should have a human right to their intellectual contributions may be open to debate. In the context of the ESCR Covenant, it must be acknowledged that this protection is part of existing international law. Since IPR already provide more than sufficiently strong protection to actors who can benefit from the protection offered, for instance, by patents and copyright, a human rights perspective should focus on people and activities which do not benefit from this regime and on people and activities which are not commercially-oriented. Article 15(1) of the ESCR Covenant provides a coherent perspective on the question of the rights and duties of all individuals with regard to the development and the enjoyment of scientific and technological development. One of its central contributions is to provide a framework for delimiting the rights to benefit from scientific and technological development and the rights of individual contributors to knowledge creation without framing this debate within an IPR context. In other words, Article 15(1) provides an appropriate basis for broadening debates concerning knowledge creation beyond the narrow framework provided by intellectual property rights.

References

- 1 Agreement on Trade-Related Aspects of Intellectual Property Rights, Marrakesh, 15 April 1994, *International Legal Materials*, 33 (1994) 1197.
- 2 Article 15(1), International Covenant on Economic, Social and Cultural Rights, New York, 16 December 1966, *International Legal Materials*, 6 (1967) 360.
- 3 Article 2(1), ESCR Covenant, *International Legal Materials*, 6 (1967) 360.
- 4 Committee on Economic Social and Cultural Rights, General Comment No. 3, 'The Nature of States Parties' Obligations (Art. 2, para. 1 of the Covenant)', in *Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, UN Doc. HRI/GEN/1/Rev.7 at paragraph 14 where the Committee indicates that international cooperation for development 'is particularly incumbent upon those States which are in a position to assist others in this regard'.
- 5 Article 6bis, Berne Convention for the Protection of Literary and Artistic Works, 9 September 1886.
- 6 *Dwarkadas Shrinivas v Sholapur Spinning & Weaving Co.*

- AIR (38) 1951 Bom 86.
- 7 Article 300A introduced by the 44th Amendment to the Indian Constitution in 1978.
 - 8 Jain M P, *Indian Constitutional Law*, 5th edn (Wadhwa. Nagpur), 2003.
 - 9 Constitution of the Republic of South Africa Act 200 of 1993.
 - 10 Dean O H, The case for the recognition of intellectual property rights in the bill of rights, *Tydskrif vir Hedendaagse Romeins-Hollandse Reg*, 60 (1997) p. 105.
 - 11 Paragraph 75, *Certification of the Constitution of the Republic of South Africa, 1996*, Constitutional Court of South Africa, Judgement of 6 September 1996, Case CCT 23/96.
 - 12 Statement by the Committee on Economic, Social and Cultural Rights on Human Rights and Intellectual Property, November 2001, Annex XIII, Committee on Economic, Social and Cultural Rights Report on the Twenty-Fifth, Twenty-Sixth and Twenty-Seventh Sessions, UN Doc E/2002/22-E/C.12/2001/17.
 - 13 Paragraph 1, Draft General Comment No. 18, The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author, Article 15 (1) (c) of the International Covenant on Economic, Social and Cultural Rights (on file with the author, 2004).
 - 14 Paragraph 12, Draft General Comment (Ref 13).
 - 15 Ricketson Sam, Intellectual property and human rights, in *Commercial Law and Human Rights* by Stephen Bottomley & David Kinley, (Ashgate, Aldershot), 2001, p. 187).
 - 16 Paragraphs 2 and 8, Draft General Comment (Ref 13).
 - 17 Steven Cherenky, A penny for their thoughts: Employee-inventors, preinvention assignment agreements, property, and personhood, *California Law Review*, 81 (1993) 597 and Peter Drahos, Who Owns the Knowledge Economy? – Political Organising Behind TRIPS (The Corner House, Sturminster Newton), Briefing 32, 2004.
 - 18 Paragraph 41(c), Draft General Comment (Ref 13).
 - 19 Cullet Philippe, Patents and medicines: The relationship between TRIPS and the human right to health, *International Affairs*, 79 (2003) 139.
 - 20 Article 10(6), Costa Rica, Biodiversity Law 1998.
 - 21 Philippe Cullet, *Intellectual Property Protection and Sustainable Development* (Butterworths/Lexis-Nexis, New Delhi), 2005, p. 155ff.
 - 22 GRAIN, 'Community Commodity: What Future for Traditional Knowledge?', *Seedling* 1 (July 2004).
 - 23 Peru, Law Introducing a Protection Regime for the Collective Knowledge of Indigenous Peoples Derived from Biological Resources, Law N 27811, *Official Journal*, 10 August 2002.
 - 24 Article 29, Draft Declaration on the Rights of Indigenous Peoples, Sub-Commission on Prevention of Discrimination and Protection of Minorities, Forty-sixth session, UN Doc E/CN.4/Sub.2/1994/2/Add.1 (1994).
 - 25 On questions related to the appropriation of public domain knowledge, *see* Cullet, Ref 21 at 295-305.
 - 26 Paragraph 8, 2001 Statement, (Ref).12
 - 27 Gopalakrishnan N S, Protection of traditional knowledge – The need for a *sui generis* law in India, *The Journal of World Intellectual Property*, 5(5) (2002) 725.