

TRIPS and Human Rights: The Case of India

Subramanya Sirish Tamvada*

The Twenty-first century has seen a rapid growth of two regimes: the intellectual property rights regime and the human rights regime. On one hand, growth of multinational corporations has led to a stronger and stricter intellectual property rights regime. On the other hand, human rights have gained primacy in public as well as political debates. Developing countries have argued that intellectual property rights and Human Rights often come into conflict, particularly when implementing their international obligations under TRIPS. Nevertheless, developing countries are forced to provide better intellectual property protection. There is a need to give heed to the voices of the developing countries. This article seeks to understand and bring clarity to this debate. It suggests that intellectual property should be seen through human rights lens and analyzes various approaches.

INTRODUCTION

The Agreement on Trade related aspects of Intellectual Property (TRIPS), adopted in 1994,¹ is one of the most contentious international agreements countries have signed to date. Since its adoption, TRIPS has given a prominent place to intellectual property rights. Strengthening of Intellectual Property Rights (IPR) regime has become a subject of intense scrutiny and debate in many countries.² Developing countries face considerable challenges as they have to make significant changes to their legislation to be in compliance.³ Protection of intellectual property has serious implications on developing countries, particular, with regard to human rights protection. As one example, medicines cannot be excluded from patentability, as TRIPS oblige countries to provide patents in all fields of technology.⁴ However, medicinal patents have a direct impact on accessibility and affordability for people in developing countries.⁵

The Sub-Commission on the promotion and protection of human rights in its resolution 2000/7 has declared that there are conflicts between intellectual property rights regime embodied in the TRIPS agreement and international human rights law.⁶ The Sub Commission noted that the actual conflict is between

* Research Assistant, Intellectual Property Law Clinic at American University Washington College of Law.

1 See Agreement on Trade-Related Aspects of Intellectual Property Rights, Marrakesh, 15 Apr. 1994, 33 I.L.M. 1197 (1994) [hereinafter TRIPS], which, in the 1986-94 Uruguay Round, negotiated and introduced intellectual property rules into the multilateral trading system for the first time.

2. See International Environmental Law Research Center, *Intellectual Property*, available at http://www.ielrc.org/research_intellectual_property.php.

3. *Id.*

4. *Id.*

5. See generally Philippe Cullet, *Human Rights and Intellectual Property Rights in a TRIPS Era*, 29 HUM. RTS. Q. 403, 416 (2007).

6. See *Intellectual Property and Human Rights*, C.H.R. RES 2001/21, UN ESCOR, Sub-Comm'n on Hum.

the implementation of TRIPS and the realization of economic, social and cultural rights.⁷ The Doha Ministerial Conference declaration on the TRIPS agreement and public health recognized the gravity of public health problems afflicting many less developed countries particularly related to HIV/AIDS, tuberculosis, malaria and other epidemics. The declaration stressed the need for the TRIPS agreement to be part of wider international action to address these problems. It recognized that intellectual property protection is important for the development of new medicines but also acknowledged the concerns about its effects on prices.⁸ The main contribution of the Ministerial Conference was that it agreed that the TRIPS agreement should not prevent members from taking measures to protect public health. It affirmed that the agreement should be implemented in a manner that is supportive of World Trade Organization (WTO) member's right to protect public health.⁹ In spite of such a declaration, giant pharmaceutical companies compel governments to strengthen patent protection. Thus, at the core of this debate is the effect of IP rules on the ability of the states to comply with their obligations under international human rights law.¹⁰ WTO members were under obligation to implement TRIPS provision by 2000, 2005, or 2016, depending on their level of development.¹¹

India was given an extended period of time to bring its patent regime up to the standard. India passed the Patents Amendment Act which came into force on 1st January, 2005. India amended its law to incorporate its obligations under TRIPS for the third time in 2005. Prior to this amendment, India allowed for the manufacture of generic versions of many drugs. Through this new legislation it has now implemented a globally harmonized product patent regime and product patents in the pharmaceutical sector. This amendment is expected to have far reaching consequences on the Indian market, and direct implication for access to medicines in India. Product patents tend to increase the prices of the end products by granting monopoly rights to the producer, making medicines unaffordable to millions of people. Pharmaceutical corporations gain by this law and would do anything to maintain their patent rights. For instance, Novartis challenged the

Rts., 26th Mtg., UN Doc. E/2001/23-E/CN.4/Sub.2/RES/2001/21 (2001), which "declares that since the implementation of the TRIPS agreement does not adequately reflect the fundamental nature and indivisibility of all human rights, including the right of everyone to enjoy the benefits of scientific progress and its applications, the right to health, the right to food, and the rights to self determination, there are apparent conflicts between the intellectual property rights regime embodied in the TRIPS agreement, on the one hand, and international human rights law, on the other."

7. *Id.*

8. See WTO MINISTERIAL CONFERENCE, *Declaration on the TRIPS Agreement and Public Health* (Nov. 20, 2001), (WT/MIN(01)/DEC/2), available at <http://docsonline.wto.org/DDFDocuments/t/WT/min01/DEC2.doc>.

9. *Id.*

10. See Davina Ovet, *Intellectual Property and Human Rights: Is the Distinction Clear Now?* (3D POLICY BRIEF 3, October 2006, Geneva), available at http://www.3dthree.org/pdf_3D/3D_GC17_IPHR.pdf.

11. See World Trade Organization, *Intellectual Property: Protection and Enforcement*, available at http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm.

rejection of its patent application for the drug "Gleevec"¹² and is now seeking to challenge the validity and interpretation of the provisions of Section 3 under the Indian Patent Act.¹³ The decision of the Supreme Court of India in this special leave petition will have a tremendous impact on future cases.

IPR and Human Rights regimes will attempt to supersede each other. The problem between TRIPS and Human Rights does not only relate to access to medicines alone, it also extends to traditional knowledge and technology transfer. Traditional communities use their traditional knowledge to make medicines. Sometimes giant pharmaceutical companies commercialize this knowledge without even paying royalty or acknowledging the source. Developing countries have serious concerns about protecting traditional knowledge owned by the traditional communities in their countries. Furthermore, one of the main purposes of TRIPS is to facilitate transfer of technology to foster development in developing and least developed countries. However, multinational companies are not always willing to co-operate. Developing countries have voiced their concerns against the effects of IP system on health, traditional knowledge and technology transfer. This article seeks to clarify the relationship between the two regimes. The main issue it addresses is: Whether Human Rights and Intellectual Property rights can mutually co-exist? The article strives to understand this complex debate by analyzing it in the Indian context.

I. INTELLECTUAL PROPERTY RIGHTS AND HUMAN RIGHTS: VARIOUS APPROACHES

Human rights and Intellectual property rights that were once strangers are now becoming increasingly intimate bedfellows. For decades the two subjects developed in virtual isolation from each other. But in the last few years, international standard setting activities have begun to map previously uncharted intersections between intellectual property laws on the one hand and human rights law on the other.¹⁴

The concept of Human Rights gained importance after many colonies got independence after freedom struggles; the concept became even more prominent after the adoption of the Universal Declaration of Human Rights in 1948. Intellectual Property Rights can be said to have been born in the 19th Century.¹⁵ These two subjects were never treated together until recently when it

12. *The Madras High Court dismissed a petition filed by the Swiss pharmaceutical giant Novartis challenging the constitutional validity of India's Patents Act*, IP WATCH, available at http://www.ipwatch.org/weblog/wpcontent/uploads/2009/09/novartis_v_uoi_and_others_slp.pdf; See also <http://www.ip-watch.org/weblog/2009/09/02/novartis-persists-in-challenge-to-indian-patent-law-india-rejects-more-aids-drugs-patents>; www.twinside.org.sg/title2/intellectual_property/health.reports/IPR.and.innovation.doc.

13. See *point 3*, http://www.patentoffice.nic.in/ipr/patent/patent_2005.pdf.

14. See Laurence R. Helfer, *Human Rights and Intellectual Property: Conflict or Co-Existence?*, 5 MINN. INTELL. PROP. REV. 47 (2003).

15. The first international agreement known as the BERNE CONVENTION FOR THE PROTECTION OF LITERARY

became increasingly evident that these two disciplines affect each other. Many scholars have noted the tensions between these two disciplines especially relating to effect of patents on the rights to public health. They argued that there is a need to bridge the gap between them. Some argue that intellectual property rights have been recognized in human rights treaties under Article 27 of the UDHR¹⁶ and Article 15 (1) ICESCR¹⁷ and consider them as the intellectual property provisions in these treaties. Such arguments make it difficult to strike a balance between the two fields.

It is important to understand that Human Rights and Intellectual property rights have very different nature. While Human Rights are fundamental, intellectual property rights are contractual rights granted to the owners of intellectual property by the society in return of benefits from such invention; while Human Rights never end, the Intellectual property rights are limited in time duration.¹⁸ The High Commissioner for Human Rights in her report reinforced the idea that human rights take primacy over the economic interests of intellectual property and reiterated that human rights protection is the primary obligation of the states.¹⁹ In its general comment the Committee explained:

Human rights are fundamental as they are inherent to the human person as such, whereas intellectual property rights are first and foremost means by which states seek to provide incentives for inventiveness and creativity, encourage the dissemination of creative and innovative productions, as well as the development of cultural identities, and preserve the integrity of scientific, literary and artistic productions for the benefit of the society as a whole.²⁰

In this regard Cullet precisely argues that the existing science and technology provisions in human rights treaties should be understood not as providing a link to existing intellectual property rights but as providing a basis for the recognition of the non economic aspects of intellectual endeavor.²¹

Helfer notes two conceptual approaches to the human rights–intellectual

AND ARTISTIC WORKS was adopted in 1886.

16. UNIVERSAL DECLARATION OF HUMAN RIGHTS, Article 27(2), states that “everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author.” Available at <http://www.un.org/en/documents/udhr/>.

17. INTERNATIONAL COVENANT ON THE ECONOMIC, SOCIAL AND CULTURAL RIGHTS, Article 15 (1)(c) states that “the States Parties to the present Covenant recognize 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.” Available at <http://www2.ohchr.org/english/law/icescr.htm>.

18. See Cullet, *supra* note 5.

19. See INTELLECTUAL PROPERTY RIGHTS AND HUMAN RIGHTS, SUB COMMISSION ON HUMAN RIGHTS RESOLUTION 2001/21, available at <http://www.unhcr.ch/Huridocda/Huridoca.nsf/%28Symbol%29/E.CN.4.SUB.2.RES.2001.21.En?Opendocument>.

20. See COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS, *General Comment 17, 35th Session, 2005, Geneva*, UN Doc. E/C.12/GC/17.

21. See Cullet, *supra* note 5.

property interface.²² Firstly, a conflict approach which sees a strong protection of intellectual property as undermining- and therefore as incompatible with- a broad spectrum of human rights obligations, especially in the area of economic, social, and cultural rights; and secondly, the coexistence approach which sees the intersection of human rights and intellectual property as concerned with the same fundamental question: defining the appropriate scope of private monopoly power that gives authors and inventors a sufficient incentive to create and innovate while ensuring that the consuming public has adequate access to the fruits of their efforts. He suggests that a human rights framework could be used to achieve human rights ends through intellectual property means.²³

Peter K. Yu takes the debate further and recognizes the difficulty in arguing that intellectual property laws and policies should always be subordinated to human rights obligations in the event of a conflict between the two.²⁴ Instead he recommends a careful and nuanced analysis of the various attributes of intellectual property rights. He suggests three approaches: just remuneration approach, the core minimum approach, and the progressive realization approach.²⁵ The just remuneration approach is usually undertaken by the courts in constitutional law cases in which the constitution mandates free access to a work.²⁶ Under the just remuneration approach individuals are free to use their creative works in the enjoyment or exercise of their human rights.²⁷ However, the primary concern about this approach is that the level of remuneration can be set so high that renders human rights protection meaningless. The core minimum approach requires that a country has taken sufficient steps to the maximum of its available resources, to fulfill its treaty obligations of realizing economic, social and cultural rights.²⁸ The progressive realization approach is designed to address the increased allocation of resources to the realization of economic, social and cultural rights as and when these resources become available.²⁹ This approach focuses on how each party can use additional resources to improve its human rights protection.³⁰

In contrast to the above, Giovanetti and Matthews strongly support IP protection. They suggest that,

IP protection has long been recognized as a basic human right and the tension between the rights of the creators and the rights of consumers has been successfully resolved by the development and modification

22. See Helfer, *supra* note 14.

23. See Laurence Helfer, *Towards a Human Rights Framework for Intellectual Property*, 40 U.C. DAVIS L. REV. 971 (2007).

24. Peter K. Yu, *Reconceptualizing Intellectual Property Interests in a Human Rights Framework*, 40 U.C. DAVIS L. REV. 1039 (2007).

25. *Id.*

26. *Id.*

27. *Id.*

28. *Id.*

29. *Id.*

30. *Id.*

of intellectual property protections over the years. Those who want to weaken IP protections are really tapping into a failed and discredited economic theory that the public doesn't benefit from privately owned goods. However, expropriation of others' property not only undermines creation and invention, it also undermines economies and societies. It is, ironically, one of the most "anti-human rights" action governments could take.³¹

They argue that the tensions have been resolved by developing intellectual property laws over the years but in fact this development has itself caused more friction. According to them, a human rights approach to IP would seriously undermine creativity and innovation.

The above proposals do not provide for a forum that effectively considers a Human Rights approach. The above discussion is addressed to academics, NGO's and think tanks but not to institutions that can effectively use the Human Rights approach such as the judiciary. In other words, if the legislature makes laws that affect our rights, the executive will implement such laws. Judiciary is the only place where general public can seek effective recourse for the protection of their rights if implementation of TRIPS agreements through national legislations violates them. For instance, the Indian judiciary has been proactively involved in expanding the scope of human rights. At many instances, judicial activism became a tool that strikes down unconstitutional provisions in the laws violating fundamental rights of the citizens. The adjudicating authorities at WTO also should approach TRIPS through the human rights lens and interpret the TRIPS provisions accordingly. However, it is not clear if WTO is the best place to negotiate TRIPS rules, as it is a platform to discuss trade issues and not human rights. As Frederick Abbot observed, the WTO is not an optimal forum for negotiations of TRIPS rules that have human rights consequences.³² He suggests that, "concrete implementation of TRIPS agreement rules occur at the national level, and it is here that better attention might be paid to rule making."³³

In a federation, Judiciary seems to be most probable place to address the concerns, for it is considered unbiased and judicial. However, a pro-active judiciary could also have a negative impact on foreign investment in various crucial sectors like pharmaceutical industry, and in research and development intensive industries. Hence, there is a need to understand how far the national judiciary could take up the matters that bind a country through multilateral agreements. The following section analyzes how judicial approach could help strike a balance between human rights and intellectual property rights. Indian

31. See Tom Giovanetti & Merrill Matthews, *Intellectual Property Rights and Human Rights*, IDEAS, Sept. 2005.

32. See Frederick M. Abbott, *TRIPS and Human Rights: Preliminary Reflections*, in *INTERNATIONAL TRADE AND HUMAN RIGHTS: FOUNDATIONS AND CONCEPTUAL ISSUES* 5 (Frederick M. Abbott et al. eds., 2006).

33. *Id.*

judiciary is widely known for its activism and is the best example for a case study. It has gained impeccable reputation for playing a dynamic role over the years through its expansive interpretation of fundamental rights in the Indian constitution. It should take special role particularly with regard to the protection of right to health, traditional knowledge, and transfer of technology—the three areas where TRIPS rules have greatest influence.

II. RIGHT TO ACCESS TO MEDICINES IN THE INDIAN CONTEXT

India is a signatory to the International Covenant on Civil and Political Rights (ICCPR), International Covenant on Economic, Social and Cultural rights (ICESCR) and TRIPS. It has adopted international human rights obligations in its Constitution. The Indian Constitution is one of the largest written constitutions in the world. It guarantees fundamental freedoms to every citizen including the right to life and personal liberty.³⁴ India has been arguably one of the front runners in raising issues related to TRIPS and developing countries. Nevertheless, there is immense international pressure on India to provide efficient, effective, and strong intellectual property protection for patents that are owned by multinational corporations in the developed countries. India certainly agrees that a strong IP regime would attract more foreign investment leading to India's development. It also understands the price it has to pay. The Supreme Court of India has held that any legislation passed within the legislative capacity by the legislature cannot override the fundamental human rights provided under the Indian Constitution, particularly the right to life and personal liberty enshrined under Article 21 of the Constitution. The Supreme Court pioneered the expansion of the scope of this right.³⁵ Article 21 of the Constitution provides a right to live with dignity and equality. The expression right to life assured in Article 21 does not refer a mere animal like existence. It has a wider meaning that includes right to livelihood, better standard of living, hygienic conditions in the workplace and leisure. Through its various decisions, the Supreme Court of India has observed that the Right to life includes right to health and "access to medical treatment."³⁶

In the *Paschim Banga* case, the Supreme Court of India directed the state governments to provide basic medical facilities along with the sophisticated medical treatment.³⁷ Financial constraints should not be an excuse for the state to shy away from its basic responsibility.³⁸ It is the prime duty of the state to provide

34. See INDIA CONST. Art. 21 ("No person shall be deprived of his life or personal liberty except according to procedure established by law."), available at <http://lawmin.nic.in/coil/coiason29july08.pdf>.

35. See, e.g., CONSTITUTION OF INDIA (1) 1100 (L.M. Singhvi & Jagdish Swarup eds., 2006) ("The concept right to life and personal liberty as enshrined in the constitution of India Under Article 21 of the Constitution of India, being a guaranteed fundamental right undoubtedly is very wide in its scope and applicability and with the advent of modern strides in jurisprudence, with revolutionary pronouncements by the Apex court in judgment after judgment over the past two decades or so has assumed wider connotations and amplifications.").

36. *Id.* at 1100.

37. *Id.*

38. *Id.*

affordable medicines and drugs, better equipped hospitals with modernized medical technology facilities and these things have to be done by the state in accordance with the international declarations, mandate of the Constitution and the judicial observations.³⁹ Thus, access to medicines is protected by India's international human rights obligations and through law that has resulted from judicial activism.

A. Indian Patent Amendment Act (2005) and Access to Medicines

After passing the recent amendment Act, India met the deadline of January 1, 2005 to comply with WTO requirements, as set out in the TRIPS. However, the new amendment will have repercussions on access to medicines to many who cannot afford them. One news channel reported that India has finally moved from price driven mentality to a proprietary technology driven mentality.⁴⁰ The Amendment Act extended product patents to products from all sectors including pharmaceuticals. It also set the term of patent protection to 20 years.⁴¹ The amendment further closed the option of reverse engineering,⁴² which largely contributed to the growth of Indian pharmaceutical industry. It will not be possible to produce the patented product by adopting a different process.⁴³ The international pressure mounted on India has led to this change. India's commerce minister Murasoli Maran said, "With pointed gun at the temple, the developing countries have no other go but to fulfill the unreasonable obligations which they unwittingly undertook to perform during the Uruguay round."⁴⁴

India was required to provide for product patenting only by 2005 under the TRIPS arrangement. Under TRIPS there are various flexibilities afforded to developing countries. Arguably, for India, the need to use the flexibilities has not arisen yet. The flexibilities, however, like Compulsory Licensing are included in Indian Patent Laws. However, India has not clarified and confirmed the ones under the Doha agreement. It has not protected product patents on medicines in the last 35 years, since it enacted the first Patents Act in 1970. According to one NGO's report, "... India ranks 4th in the world in production of pharmaceuticals by volume and is the world's leading supplier of generic medicines, with 66.7% of its export going to developing countries. In the case of antiretroviral medicines to treat HIV, Indian generic production has slashed by as much as 98%: from

39. *Id.*; see also, 103 A.I.R. J. Sec. 106.

40. See Jeffrey D. Hsi, *Patent Law in India Focuses Strongly on R & D*, 25 GENETIC ENGINEERING NEWS 16 (September 15, 2005).

41. The original Patent Act 1970 provided for a fixed term patent under Section 5 of the Act. With the new legislation this provision has been altogether omitted.

42. Reverse Engineering means: "to disassemble and examine or analyze in detail (as a product or device) to discover the concepts involved in manufacture usually in order to produce something similar," available at <http://m-w.com/dictionary/reverse%20engineering>.

43. See Viviana Munoz Tellez, *Patent Reform in India: The Campaign to Protect Public Health*, available at <http://www.ipngos.org/NGO%20Briefings/Patents%20Act%20amendment.pdf>.

44. See IATP, *India's Commerce Minister Scores Effects of WTO TRIPS Accord*, available at <http://www.iatp.org/tradeobservatory/headlines.cfm?refID=16086>.

approximately \$10,000 per year to as little as \$140 per year for an initial three drug combination.⁴⁵ There is growing concern that with the introduction of the product patent system on medicines, the world's supply of new affordable generic medicines will essentially disappear.⁴⁶

The Amendment Act along with product patents for pharmaceutical inventions, inserted new definitions to the terms, "New Invention", "Inventive Step", and "Pharmaceutical Substances". These definitions are ambiguous with numerous technical loopholes, which will in fact facilitate *evergreening*⁴⁷ of patents.⁴⁸ The corporations can take benefit of such leeway provisions. The Amendment Act provides for compulsory licenses for mail box applications,⁴⁹ and for export purposes, it provides pre and post grant opposition mechanism, and introduces new procedures. The act seriously suffers from lack of clarity. It leaves ample scope for either way interpretation and might lead to increased litigation before the courts. The new applicants may argue even a minor development to the already existing substance as a new substance and demand a patent. This could be repeated again and again and thus, exploit the patent rights. The Act will have serious repercussion on the Indian pharmaceutical sector as well as on millions of people who are not in a position to afford expensive medicines. As Basheer observes, "Insofar as new drugs are concerned, the costs are likely to increase, and in the absence of a nationwide healthcare insurance system, the common man may have to bear the brunt of the new regime."⁵⁰

The Amendment Act provides for "new use of the existing substance, processes, machine resulting in a new product or having at best one new reactant."⁵¹ Section 2(1) (ja) provides a new definition for "inventive step". It states, "inventive step means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in that art."⁵² This new definition further adds to the ambiguity of the new Act. Under this definition the applicant

45. See Press Release, Health Gap Global Access Project, Fact Sheet: Changes to India's Patents Act and Access to affordable Generic Medicines after January 1, 2005, available at http://www.healthgap.org/press_releases/04/121404_HGAP_FS_INDIA_patent.pdf.

46. *Id.*

47. The term is used to describe the common use in the pharmaceutical sector to file patent applications for already known molecules by claiming trivial improvements. This naturally extends their monopoly even after the expiry of the original patent. See also B.B. Singh, *India's Patent Act 2005: Hopes & Disappointments*, Second International Conference on Fermented Foods, Anand Agricultural College, Anand, Gujarat, India, Dec 17-18, 2005, available at www.iprpluslaw.com/.../Anand-2nd%20Int%5B2%5D.%20Conference-manuscript.doc

48. See K.M. Gopakumar & Tahir Amin, *Patents (Amendment) Bill, 2005: A Critique*, 40 ECON. & POL. W'KLY. 1503, 1505 (2005), available at <http://www.epw.org.in/epw/uploads/articles/447.pdf>.

49. *Supra* note 45. (Mail box applications are product patents that were filed with the Indian Patent office from 1995 to present, but were held in limbo (and unexamined) pending resolution of policies and laws regarding treatment of these product patents.)

50. See Shamnad Basheer, *India's Tryst with TRIPS: The Patents (Amendment) Act, 2005*, 1 INDIAN J. L. TECH. 15 (2005).

51. *New Amendments in Patent Act*, SIDBI INNOVATION AND INCUBATION CENTRE, available at <http://www.iitk.ac.in/siic/patent2.html>.

52. THE PATENTS (AMENDMENT) ACT, 2005, available at http://ipindia.nic.in/ipr/patent/patent_2005.pdf.

could argue that a new technical invention has an economic significance and get the patent. Invention should be based on novelty and not on economic significance.

The most controversial provision under the new Amendment Act is Section 3 (d).⁵³ The clause is ambiguous, too broad and potentially allows for new forms of existing substances to become patented. It allows for patenting a new form of a known substance. Sometimes a patent could be obtained by simply adding a salt. Also the phrase “unless they differ significantly in properties with regard to efficacy” offers an entry point in favor of the patentee.

The Act permits generic manufacturers to continue producing generic version of new drugs in the mailbox. However, this only applies if the generic producer has made a significant investment and if he was producing and marketing the generic version prior to 1st Jan 2005. Otherwise, such generic manufacturers will have to withdraw from the market. Furthermore, the Act requires the generic companies to pay the patent holder a reasonable royalty. Again, it could be argued that the term reasonable is ambiguous and gives the patent holder an upper hand for claiming more royalty.

The new Amendment Act is surely a testing case for India. It shows that the pressure levied on India by developed countries resulted in a drastic change of laws to fit the TRIPS frame. Although strong IP rights are said to attract foreign investment, enacting ambiguous IP laws leaves more room for the patent holders to manipulate the market. Common man burdened without proper access to medicines would be a clear violation of the basic right to life enshrined in Article 21 of the Constitution. Right to life has attained the status of *jus cogens* in international law.⁵⁴ Yamin observes that, “given that medications can be indispensable for life, it is foreseeable that state policies likely to lead directly to diminished physical accessibility and affordability of certain medications will, in effect, deprive people of life.”⁵⁵ The Indian judiciary should not accept anti-human rights arguments in the cases that come before it. It should rather make it clear that the Intellectual Property is meant to provide affordable access to medicines and to protect public health. The Supreme Court should not allow big pharmaceutical companies to play with the leeway provisions in their favor.

The provisions mentioned above also lead to the exploitation of the traditional resources of India. The traditional knowledge in India is known to provide

53. See *Id.* at § 3(d). (Stating that, “the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant. For the purposes of this clause, salts, esters, ethers, polymorphous, metabolites, pure form, ...complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy.”)

54. See Alicia Ely Yamin, *Not Just A Tragedy: Access to Medications as a Right under International Law*, 21 B.U. INT'L L.J. 325, 330 (2003).

55. *Id.* at 331.

medicines for many incurable diseases for centuries. The new Act could let the pharmaceutical companies access the Indian traditional knowledge that is largely in the public domain and misuse it. As discussed in the following section, Traditional knowledge and bio-piracy are of major concern for people in the developing countries. This traditional knowledge is a part of an age old medicine system. Hence an in depth understanding of how the new Amendment Act will have its impact on traditional knowledge is important to understand.

III. TRIPS, TRADITIONAL KNOWLEDGE AND BIO-PIRACY IN INDIA

Traditional Knowledge⁵⁶ is the knowledge that is owned by traditional communities in different parts of the world. It is found especially in the developing world. It is passed from one generation to another mostly verbally and is owned by peoples, groups or communities.⁵⁷ In the last few decades this knowledge has been enormously exploited by the big corporations. Big corporations discover the traditional knowledge and convert into products using technology for commercial purposes. Developing countries have realized the effects of these exploitations and have raised concerns at various international levels in particular at the WTO. Thus, many traditional communities are being denied the economic and other benefits that are derived by the corporations from the use of their knowledge.⁵⁸

These communities are further denied the right to use their own knowledge as the multinational corporations have got patents on such use. Traditional knowledge is often used for providing medicines in many communities.⁵⁹ The problem is more aggravated when firms who exploit the traditional knowledge not only “neglect to ask permission to reproduce these items, but also fail to acknowledge the source and even pass off productions and works as authentic expressions or products when they are not.”⁶⁰ Traditional knowledge forms a part of economic social and cultural rights which is either owned by an individual

56. See Convention on Biological Diversity art. 8(j), June 5, 1992, 31 ILM 8182 (defining Traditional Knowledge (TK) as, “knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity”), available at <http://www.cbd.int/traditional/>.

57. “It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Sometimes it is referred to as an oral traditional for it is practiced, sung, danced, painted, carved, chanted and performed down through millennia. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general.”, available at <http://www.cbd.int/traditional/intro.shtml>.

58. See generally Shubha Ghosh, *Globalization, Patents and Traditional Knowledge*, 17 COLUM. J. ASIAN L. 73, 90 (2003-2004) [Hereinafter S.Ghosh].

59. See Gerard Bodeker, *Traditional Medical Knowledge, Intellectual Property Rights & Benefit Sharing*, 11 CARDOZO J. INT’L & COMP. L. 785 (2003-2004) (“WHO has offered the following conceptualization of traditional medicine: On the basis of a community’s or a country’s culture, history and beliefs, traditional medicine came into being long before the development and spread of western medicine that originated in Europe after the development of modern science and technology.”).

60. See Graham Dutfield, *TRIPS Related Aspects of Traditional Knowledge*, 33 CASE W. RES. J. INT’L L. 233, 249 (2001).

or by a group of persons. The ICESCR recognizes the rights of communities to protect their culture and traditions. Under India's new Amendment Act and its leeway provisions, big corporations could patent the traditional knowledge available in the vast Indian bio-diversity. Therefore, it is very important that the developing countries start adopting new measures to defend their own knowledge for their own benefit. However, there are many potential difficulties in protecting traditional knowledge. The difficulties include vague definition to identification of owners of the traditional knowledge and practical protection of traditional knowledge.

The TRIPS agreement does not as such provide any direct provision related to traditional knowledge. Suman Sahai aptly points the five aspects of TRIPS on traditional knowledge namely; a) the TRIPS agreement hinders the preservation of and respect for the knowledge, innovations and practices of indigenous and local communities, b) The TRIPS agreements hinders access to and the fair and the equitable sharing of benefits arising from the utilization of genetic resources, c) It enables bio-piracy since it does not require disclosure of the source of biological materials which are sought to be patented, d) The TRIPS agreement creates conditions that will hinder the transfer of technology to developing countries. e) The TRIPS is likely to be detrimental to the conservation and sustainable use of biological diversity.⁶¹

One of the biggest threats to traditional knowledge is bio-piracy. Bio-piracy generally refers either to the unauthorized commercial use of biological and or associated technical knowledge from developing countries or to the patenting of spurious inventions based on such knowledge or resources without compensation.⁶² The contribution of traditional knowledge cannot be measured per se. However, as Graham Dutfield observes, "the estimated contribution of Traditional Knowledge (TK) for pharmaceuticals itself, the market value of plant based medicines sold in OECD countries in 1990 was \$61 billion. Norman Farnsworth's estimate that of the 119 plant based compounds used in medicines worldwide, 74% had the same or related uses as the medicinal plants from which they were derived."⁶³ Furthermore, a study of the use and value of the traditional crop varieties (landraces) for rice breeding in India has calculated that rice landraces acquired from India and overseas contributed 5.6% or an annual present value of the benefits of \$6.1 million, to Indian rice yields.⁶⁴ Today, the concern over bio-

61. See Suman Sahai, *TRIPS and Human Rights*, available at <http://www.genecampaign.org/Publication/Article/IPR/TRIPS%20&%20humanrights.pdf>.

62. See generally Vandana Shiva, *BIOPIRACY: THE PLUNDER OF NATURE AND KNOWLEDGE* 1-5 (1996), cited in Graham Dutfield, *TRIPS Related Aspects of Traditional Knowledge*, 33 CASE W. RES. J. INT'L L. 233, 237, (2001).

63. *Id.* at 243; see also Peter Principe, *Economics and Medicinal Plants*, in *MEDICINAL PLANTS: THEIR ROLE IN HEALTH AND BIODIVERSITY* 42, 44-45 (Timothy R. Tomlinson & Olayiwola Akerere, eds., 1998); See also Norman R. Farnsworth, *Screening Plants for New Medicines*, in *BIODIVERSITY* 83, 91 (E.O. Wilson ed., 1998).

64. *Id.* at 244; see also Robert E. Evenson, *Economic Valuation of Biodiversity for Agriculture*, in *BIODIVERSITY, BIOTECHNOLOGY AND SUSTAINABLE DEVELOPMENT IN HEALTH AND AGRICULTURE: EMERGING CONNECTIONS* 153, 162 (1996).

piracy has risen so much that countries are considering withdrawing patents that firms have been granted.

A. *The Turmeric, Basmati and Neem Case Studies*

Recent case studies have shown the evolving trend of rising awareness. India has taken the cases of turmeric, neem and basmati to international forums to fight the exploitation of its resources. However, a lot remains to be done.

1. Turmeric

Turmeric is a plant that grows widely throughout India and Pakistan.⁶⁵ It is found in the roots of the *Curcuma longa* plant and has a tough brown skin and a deep orange flesh. It has long been used as a powerful anti-inflammatory in both the Chinese and Indian systems of medicine.⁶⁶ The United States Patent and Trademarks Office (USPTO) granted a patent to Drs. Suman Cohly and Hari Har, two American Indian scientists at the University of Mississippi for "the use of turmeric in wound healing."⁶⁷ The Council of Scientific and Industrial Research in India (CSIR) challenged the patent on grounds that the patent was not novel, citing the prior art in the traditional knowledge. Though the traditional wisdom argument did not prevail, the CSIR had to produce written documentation and it resorted to ancient Sanskrit texts and a paper published in 1953 in the Journal of the Indian Medical Association.⁶⁸ In 1998, the US PTO cancelled the claims in the patent. The USPTO ruled that using the popular spice for medicinal purposes was not a new "invention" but a millennial old Indian practice.⁶⁹ Despite such a cancellation, the UK's Guardian News papers reported that 5000 patents had been issued at a cost of at least US\$ 150 million for medicinal plants and traditional systems.⁷⁰ This clearly violates the traditional knowledge possessed by India by its traditional communities.

2. Basmati Rice

The name Basmati is derived from Hindi and is a unique species of rice grown in India.⁷¹ The rice has its own special fragrance and comprises of 7.5% of

65. See Ghosh, *supra* note 58, at 93.

66. It is traditionally called "Indian Saffron" because of its deep yellow-orange color and has been used throughout history as a condiment, healing remedy and textile dye. See <http://www.whfoods.com/genpage.php?tname=foodspice&dbid=78>.

67. See S. Ghosh, *supra* note 58, at 93.

68. See Danielle Knight, *India Thai Farmers fight US "Bio-piracy,"* available at <http://www.atimes.com/indpak/BE02Df02.html>.

69. *Id.*

70. Randeep Ramesh, *India Moves to Protect Traditional Medicines from Foreign Patents*, THE GUARDIAN, Feb. 22, 2009, available at <http://www.guardian.co.uk/world/2009/feb/22/india-protect-traditional-medicines>.

71. See The George Mateljan Foundation, *Is There a Difference Between Basmati Rice and Regular Rice*, available at <http://www.whfoods.com/genpage.php?tname=george&dbid=190#answer>.

India's total agricultural products export earnings in the year 1998-99.⁷² In 1997, RiceTec, a Texas company, acquired a patent in a novel method of breeding a long grain rice of aromatic rice, in novel method of preparing and cooking the rice, and in the grains themselves.⁷³ RiceTec had made 20 far-reaching claims related to Basmati in Patent No. 5663484. As a result of a Supreme Court case filed by the Research Foundation for Science, Technology and Ecology, the Government of India challenged 3 claims related to rice grain (No.s 15-17) in April 2000.⁷⁴ After much deliberation, India finally, won the battle against RiceTec. The majority of RiceTec's claims have been struck down.

3. Neem

Neem is *one* of the traditional Indian trees that have numerous medicinal properties. The tree has number of potent compounds especially a chemical compound named azadirachtin and it is this astringency that makes it useful in so many fields.⁷⁵ The tree extracts are used to treat wide range of diseases such as, leprosy, diabetes, ulcers, skin disorders, and the oil extracted from the tree is used as a contraceptive.⁷⁶ The tree is also used as a tooth brush in many Indian households and there are even tooth pastes available in the market named "neem". W.R. Grace was granted the patent by the USPTO on products and processes that involve neem extracts.⁷⁷ The Research Foundation for Science, Technology and Environment filed opposition to the patents which argued that the patent lacked novelty and that it belonged to India's traditional knowledge. After a long battle the patents on Neem have been withdrawn in US and in Europe.

Though India has won the legal battles, its traditional knowledge is still being exploited. For example, as Vandana Shiva states:

WTO has so far blocked India's attempts to have Basmati and Darjeeling tea included in Geographical Indicators (GI). While protection is granted for Wines and Spirits, there is no protection for our crops and Ayurvedic Medicines. Domestic laws on GIs are toothless without appropriate amendments in TRIPs. GIs could work for protecting a few export commodities like, Alphonso mangoes, Darjeeling Tea and Basmati Rice.⁷⁸

72. Department of Agriculture & Cooperation, *Basmati Rice in India: Its Export Potential*, available at <http://dacnet.nic.in/Rice/Export%20Potential%20-%2004.htm>.

73. See S. Ghosh, *supra* note 58.

74. *Basmati Patent*, Research Foundation for Science, Technology and Ecology, India, and International Center for Technology Assessment, Washington D.C., available at http://basmaticompany.com/index2.php?option=com_content&do_pdf=1&cid=21.

75. Vandana Shiva, *The Neem Tree- A Case History of Bio Piracy*, available at <http://www.twinside.org.sg/title/pir-ch.htm>.

76. *Id.*

77. W.R. Grace does not have patent on the Neem tree itself but on the process of extraction from the tree.

78. See Shiva, *supra* note 75. Darjeeling tea is a part of Geographic Indications, *Article 22 of the World Trade Organisation (WTO) - TRIPS Agreement of 'Protection of Geographical Indications'*.

Violation of traditional knowledge is also a violation of the rights of the indigenous peoples vested by international declarations, treaties, and conventions.

B. *International Law Provisions Protecting Traditional Knowledge*

It should be noted that there are various international laws that protect the indigenous knowledge and culture of these people. Article 17 of the UDHR is particularly applicable to indigenous people because they usually assert collective, rather than individual ownership of property including intellectual property.⁷⁹ Article 27 of the ICCPR provides that, "In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language."⁸⁰ This provision could also be applicable to traditional communities but, it could be difficult to ascertain that they belong to any minority.⁸¹ Furthermore, Article 15 of the Revised Convention of the International Labour Organization (169 of 1991) provides that, "The rights of the people concerned to the natural resources pertaining to their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources."⁸²

Article 8, 11 and 31 of the UN draft Declaration on Rights of the Indigenous Peoples⁸³ are three interesting provisions. Article 8 provides that indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture. Article 11 provides that, "Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artifacts, designs, ceremonies, technologies and visual and performing arts and literature."⁸⁴ Article 31 provides that, "[I]ndigenous people have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such

79. David J. Stephenson Jr., *The Nexus Between Intellectual Property Piracy, International Law, The Internet, and Cultural Values*, 14 ST. THOMAS. L. REV. 315; see also Article 17 UDHR, *supra* note 20.

80. See International Covenant on Civil and Political Rights art. 27, Dec. 16, 1966, 999 UNTS 171.

81. See Stephenson, *supra* note 80, at 6.

82. See Convention Concerning Indigenous and Tribal Peoples In Independent Countries, Sept. 5, 1991, 72 ILO OFFICIAL BULL. 59 (ILO No. 169).

83. See United Nations Declaration on the Rights of the Indigenous Peoples, Sept. 13, 2007, available at <http://www.un.org/esa/socdev/unpfi/en/drip.html>.

84. *Id.*

cultural heritage, traditional knowledge, and traditional cultural expressions.”⁸⁵

The Convention on Biological Diversity adopted in 1992 at the Earth Summit, Rio De Janerio, Brazil provides provisions for the protection of traditional knowledge. Article 8(j) calls for parties to, “respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.”⁸⁶

C. Does TRIPS accord to TK protection?

The provisions of the TRIPS should be interpreted within its objectives and purposes. Article 27 (1) of the TRIPS requires that only those inventions that are new, involve an innovative step, and are capable of industrial application be eligible for patents. This clearly leads us to ask, how can patent be granted to prior existing knowledge? Since traditional knowledge is public for centuries, it falls within the public domain.⁸⁷ There is no novelty involved as it is already known to public. However, most of the traditional knowledge in its real form will not be able to qualify for patent protection. Prior existing use has to be proved, as India did in the turmeric case. This is often difficult. Article 27.3 (b) of TRIPS provides that while member countries are not required to patent “plants and animals other than micro-organisms,” they “shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system.”⁸⁸ Many developing countries feel that a *sui generis* system as proposed by TRIPS is very similar to a patent system and thus provides no distinct choice.⁸⁹ Geographical Indications (GIs) could be good solution. It echoes a communal sense.⁹⁰ However, many countries do not extend such protection to foreign products. For example, India is presently litigating against the patent given for “Darjeeling Tea” in developed countries such as Japan, France, and the United States. While the Indian system protects French GIs, France does not extend similar or reciprocal protection to Indian GIs.⁹¹

85. *Id.*

86. See Convention on Biological Diversity art. 8(j), June 5, 1992, 31 ILM 8182.

87. Srividhya Ragavan, *Protection of Traditional Knowledge*, 2 MINN. INTELL. PROP. REV. 13 (2001).

88. See TRIPS, *supra* note 1, at art. 27(3).

89. See Meetal Jain, *Global Trade and the New Millennium: Defining the Scope of Intellectual Property Protection of Plant Genetic Resources and Traditional Knowledge in India*, 22 HASTINGS INT’L & COMP. L. REV. 777, 781 (1998-1999).

90. See S. Raghavan, *supra* note 88.

91. S.C. Srivastava, *Protecting the Geographical Indication for Darjeeling Tea*, available at http://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm

D. Suggestions

1. Protecting TK as a Trade Secret:

Trade Secret could be a form for the protection of traditional knowledge amongst the prevailing regimes of intellectual property. A trade secret can consist of any pattern, device, compilation, method, technique, or process that gives a competitive advantage.⁹² Trade secret is also the best form of intellectual property for protecting any kind of undisclosed information. The object is to lawfully prevent information within the control of a person from being disclosed to, acquired by, or used by others without consent, in a manner contrary to honest commercial practices.⁹³

2. Creating a worldwide extensive database

Creating a worldwide extensive database of existing traditional knowledge is one sound option. Such a database will be very useful to patent authorities while conducting prior search before granting a patent. This could help to ease out the process and lessen the litigation costs that arise after the granting of patent. India has recently unveiled its long awaited traditional knowledge database.⁹⁴

3. Evolving a Sui Generis System

Though there have been scholars who have argued on both sides, a *sui generis* system may provide a reasonable protection. Scholars such as Vandana Shiva and others have proposed that, the establishment of a *sui generis* regime outside the IPR framework would create “community IPR” that distribute rights to communities without bringing their resources into the pressures of a market economy.⁹⁵ India enacted the Biological Diversity Act, 2002 and the Biological Diversity Rules, 2004. These provide a legal framework for access to traditional knowledge and benefit sharing. The Act stipulates that, certain persons not to undertake Biodiversity related activities without approval of National Biodiversity Authority. The salient aspects are: (i) access to foreign citizens, companies and NRIs based on “prior approval of NBA”, (ii) access permits to Indian citizens, companies, associations and other organizations registered in India on the basis of prior intimation to the State Biodiversity Boards, and (iii) exemption of prior approval or intimation for local people and communities.⁹⁶ The Act imposes certain restrictions on access for “reasons of preservation, likely adverse effects of the livelihood of the local people, adverse environmental impact on ecosystem function, and purpose contrary to

92. *Supra* note 88, at 20.

93. *Id.* at 21.

94. See Shamnad Basheer, *EPO Gets Access to India's Traditional Knowledge Digital Library*, available at <http://spicyipindia.blogspot.com/2009/02/epo-gets-access-to-indias-traditional.html>.

95. See M. Jain, *supra* note 90, at 781.

96. See Biological Diversity Act, 2002, Ch. III, §§ 3-7.

national interests and other related international agreements to which India is a Party".⁹⁷

4. Judicial Activism

The Supreme Court of India has been playing a significant role in biodiversity conservation related issues. The Supreme Court has made it mandatory to determine Net Present Value (NPV) for the forest land, if allowed to be converted for non-forestry purposes, i.e., for development projects, which goes through Environment Impact Assessment.⁹⁸ The Supreme Court should invite more Public Interest Litigations on Biodiversity protection and evolve a judiciary enabled legislation that protects the interests of traditional communities and their traditional knowledge. It should interpret the cases involving biodiversity not only within the strict meaning of the words mentioned in the Act but also take into consideration India's international obligations under the Convention of Biological Diversity and other related treaties and conventions to which India is a signatory.

5. Disclosure of Information

It is possible for developed countries to regulate the use of traditional knowledge by making it mandatory for companies to make a complete disclosure of information. Most of the time companies do not disclose information. Such a regulation could prevent a possible misuse of traditional knowledge.⁹⁹

Traditional knowledge cannot be patented. It is beyond the scope of IPR regime. Developed countries should also ease their existing patent laws. For instance, complex US laws invalidate the argument of existing knowledge abroad for US patents.¹⁰⁰ What we observe today at WTO is a phenomenon that could be termed as "reverse piracy" in the world. Bio piracy or stealing of traditional knowledge from traditional indigenous communities by multinationals companies is viewed as a mirror image to what the developing countries have done to western companies such as creating inexpensive copies of published books and movies and patented drugs.¹⁰¹ Many argue that WTO has evolved as a reaction to such piracy but now many argue that WTO regime is being used for reverse piracy.¹⁰² WTO was instituted to develop trade among nations and it should enable trade in equitable terms. IPR regime should move in compliance with the international human rights obligations of the developing countries, rather than countering their obligations through a strong IP protection.

97. See also www.cbd.int/doc/case-studies/.../cs-inc-india-workshop2009-en.doc

98. *Id.*

99. See G. Bodeker, *supra* note 59.

100. See M. Jain, *supra* note 90, at 815.

101. Shubha Ghosh, *Traditional Knowledge, Patents and the New Mercantilism*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 885 (2003).

102. *Id.*

As mentioned in the beginning of the paper, conflict between IPR and Human rights regimes extend even to the area of the transfer of technology. Although new, a judicial approach is needed to ensure a cost-effective transfer of technology. The owner of the technology may play a game by placing unfair cards on the receiver of the technology, by asking high royalties or by taking majority control in the stake of the receiving company. Thus, technology transfer could be detrimental to the growth of indigenous companies who are seeking to compete with global companies. One of the provisions of the TRIPS agreement fosters the transfer of technology, for it is pertinent for a nation's development.

IV. TRANSFER OF TECHNOLOGY

Transfer of technology actually means shifting of technology in the form of information, knowledge, skill or instrument from developed countries to developing countries or to the Least Developed Countries (LDC's) for the manufacture of a product or the application of a process to generate a product or service.¹⁰³ In its Trade Analysis series, South Center, an NGO based in Geneva, defines Transfer of Technology as, "a mechanism for the shifting of information across borders and involves effective diffusion into recipient economies, thus involving numerous complex processes, ranging from innovation and international marketing of technology to its absorption and imitation."¹⁰⁴ This transfer of technology is significantly important for the development and modernization of economies in the south. In fact it is much faster and cheaper to acquire technology that has already been found, rather than developing it.¹⁰⁵

Technology transfer can take place in both formal and informal means. Formal means could include Foreign Direct Investment (FDI), joint ventures, wholly owned subsidiaries, licensing, technical-service arrangements, joint R&D arrangements, training, information exchanges, sales contracts, and management contracts.¹⁰⁶ While non market channels include the process of imitation through product inspection, reverse engineering, trial and error, through a study of available patent application, through employees who leave their present firm and join others or form a new one and transfer technical knowledge that they gained earlier.¹⁰⁷ Thus, there are different ways of transferring technology. It would however remain dependent on the local capacity or ability to absorb

103. See John Mugabe and Norman Clark, *Technology transfer and the Biodiversity Convention: issues of conservation and sustainable use*. Science, Technology and Development 14(3) 1-31 (1996), available at http://www.iprsonline.org/unctadictsd/docs/GDutfield_LiteratureSurveyOnIP_April2003.pdf

104. The Working Group of the WTO on Trade and Transfer of Technology, *THE AGENDA FOR TRANSFER OF TECHNOLOGY: TRADE RELATED AGENDA (Development and Equity (Trade) Analysis Series, South Center, 1, October 2005, Geneva) Sc/TADP/TA/Ip/1*.

105. Keith E. Markus & Jerome H. Reichman, *The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods*, 7(2) J. INT'L ECON. L. 279-320 (2004).

106. Graham Dutfield, *Literature Survey on Intellectual Property Rights and Sustainable Human Development (2003)*, available at http://www.iprsonline.org/unctadictsd/docs/GDutfield_LiteratureSurveyOnIP_April2003.pdf.

107. *Id.*

the technology.¹⁰⁸ Many international firms would be more willing to transfer technology through FDI as they perceive that they will retain control on their knowledge.¹⁰⁹

It is obvious that the companies that have invested millions of dollars in developing the technology are unwilling to share the technology without any reward or profit in return. They also hesitate to transfer technology to countries with weak patent systems. If the IP protection is stronger, the companies may be then inclined to transfer or share the technology. They will be in a better position to levy fees or demand more royalties for the technology. A strong patent system will therefore adversely affect the developing countries market as it is expected to raise the costs of the technology. The developing countries would then pay more for the average inward protected technology.¹¹⁰ One of the main goals of the TRIPS as laid out in the preamble is that, the members desired to reduce distortions and impediments to international trade, and the members further desired to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade.¹¹¹

Article 7 of the TRIPS states that,

the protection, and enforcement of intellectual property rights should contribute to the promotion of technological development and innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological and in a manner conducive to social and economic welfare.¹¹²

Article 8 of TRIPS provides,

appropriate measures consistent with the agreement needed to prevent the abuse of IPRs or the resort to practices that may unreasonably restrain trade or adversely affect the international transfer of technology.¹¹³

Despite such a determination, developing countries are forced to implement effective and a strong patent regime. Developing countries have strongly voiced their concerns that, enhanced protection given to IPRs will not effectively promote the development process, but limit the access to technology instead.¹¹⁴

Patents tend to limit the extent of the usage of technology by granting monopoly to the owner of the technology. It should further be noted that the technologies

108. *Id.*

109. Sixty percent of the technology transfer takes place through FDI's. See Mugabe & Clark, *supra* note 104.

110. *Supra* note 106.

111. See TRIPS, *supra* note 1 at pmb1.

112. *Id.* at Art. 7.

113. *Id.* at Art. 8.

114. See Carlos M. Correa, *Review of the TRIPS Agreement: Fostering The Transfer of Technology To Developing Countries*, 2(6) J. WORLD INTELL. PROP. 939 (2005).

are, in majority, held by individuals or corporations and not by governments. The rules of the WTO are applicable to member countries and not to private entities. Therefore, the issue of technology transfer becomes more problematic. There is a need to balance every interest and every stakeholder. Therefore, the best way, as one scholar has suggested, for a developing country's government is to help domestic firms and public institutions to acquire technologies, and ensure that the products derived from these technologies are affordable to smaller companies and poor people, it would be either, keeping them outside the patent system or by allowing compulsory licensing on licensee-friendly terms.¹¹⁵

If technology could not be transferred under the TRIPS arrangement then developed countries are violating their obligations under TRIPS, particularly when it comes to transferring technology related to medical treatment, diagnosis or even medication. If the companies have been able to develop technology to convert a traditional medicine into a modern medicine then they should inform the traditional societies of its use. The companies may be granted royalties by the government. Diffusion of knowledge and technology is important and outweighs private interest when it concerns the public at large.

India has been at the forefront in voicing this important concern. India did not only put forward its concerns but also, the concerns of other LDCs. It often reiterated member's obligation to provide technological help to the LDCs. India also put forward the proposal for environmentally sound technologies.¹¹⁶ It has also pointed out to the main difficulties in such technology transfer which include, the imperfections of the market for technology, lack of experience and skill of enterprises and institutions in concluding adequate legal arrangements for the acquisition of technology and the government practices, both legislative and administrative, in both developed and developing countries which influence the implementation of national policies and procedures designed to encourage the flow of technology.¹¹⁷

However difficult it might seem to transfer technology from developed countries to developing countries, it is more difficult when a nation adopts a strict patent regime. India with its recent amendment has strengthened the position of patent holders. It has implemented a product patent regime which will be exploited to any extent by the technology owners. The costs for technology transfer stands to rise and the patent holder will charge higher royalties or licensing fees for the use of technology and even try to gain control over the company seeking such technology.¹¹⁸

115. DUTTFIELD, *supra* note 106.

116. *See Id.* ("Chapter 34, AGENDA 21, recognized the need of a favorable access to and transfer of EST, in particular to developing countries, including on concessional and preferential terms. The Chapter also incorporates a detailed provision on action to be undertaken to support and promote the access to and use of EST.")

117. *Id.*

118. The case of CFC's in India where the company wanted control over the company before transferring the technology. *See supra* note 115.

CONCLUSION

It may be concluded that there is evidence of a conflict between IPR and human rights. IPR are being used contrary to the goals and obligations of the developing countries. As one example, strong IP protection can have serious implications on access to medicines. There is need to review TRIPS and its provisions must be read and implemented in the light of its aims and objectives. The member countries should also take the full advantage of the flexibilities given under TRIPS, make full use of compulsory licensing procedures, and make disclosure of knowledge and processes in the invention or technology mandatory.

As analyzed above, the Indian judiciary has played a pivotal role in elaborating the scope of right to life under the Indian Constitution. However, many cases have not come before the courts with respect to traditional knowledge and transfer of technology. This is a great option for indigenous communities and new start-ups which are seeking modern technology for their growth. Judiciary in the developing countries should play fundamental role in elaborating the scope of human rights and strike the right balance with intellectual property rights. IP owners have the right to own IP rights but they do not have the right to transgress other fundamental rights. Indian judiciary is regarded highly in the world and it must set an example by expanding the scope of human rights within intellectual property rights.