Weak IPRs as Impediments to Technology Transfer- Findings from Select Asian Countries

Indrani Barpujari† and Nitya Nanda

The Energy & Resources Institute, Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi 110 003, India

Received 21 January 2013, revised 30 August 2013

Intellectual property rights (IPRs) are a contentious aspect of the international negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) on technology transfer to developing countries for dealing with the problem of climate change. The debate on IPRs has been quite polarized; while developing countries want IPRs to be addressed as a barrier within the technology transfer discussion, developed countries assert that weak IPRs in developing countries constitute the major impediment to technology transfer. This paper examines broadly the IPR regimes of five emerging Asian economies - China, India, Indonesia, Malaysia and Thailand, with the aim of having a broad, objective overview of the state of IPRs in the Asian region. The IPR regime in each of these countries is objectively assessed on the basis of three parameters- TRIPS compatibility, enforcement and TRIPS plus provisions to determine the ‘strength’ of the regime in each country. On the basis of these findings, it can be concluded that the contention that weak IPRs in developing countries constitute the biggest barrier to technology transfer seems to be untenable. It however, acknowledges that developing countries still have a long way to go in terms of enforcement and building administrative capabilities as they lack necessary financial and human resources.

Keywords: Intellectual property rights, technology transfer, climate change, TRIPS compatibility, TRIPS plus

Intellectual Property Rights (IPRs) and access to climate friendly technologies for developing countries have continued to be at the forefront as a very contentious issue in the international climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). Even after years of negotiation, the UNFCCC continues to grapple with the issue with no easy solutions in sight. The issue was keenly debated at the recently concluded 6th meeting of the UNFCCC’s Technology Executive Committee (TEC) in Bonn, Germany in June 2013, with no tangible results. The TEC, mandated to facilitate the effective implementation of the Technology Mechanism of the UNFCCC, took a decision to defer discussion to a later date, so as to give sufficient time to organizations to prepare on the matter.1

The debate on IPRs has been quite polarized till date. Developing countries want IPRs to be addressed as a barrier within the technology transfer discussion, with China leading this discussion, along with the G77 developing countries, at the climate change negotiations. In a proposal put forward by the G77 and China for a technology mechanism under the UNFCCC at the Accra climate talks in August 2008, it noted that the barriers to transfer inhibit the adoption of technologies in developing countries.2 The proposal particularly makes the case for privately owned patented technologies to be made available on an affordable basis. Compulsory licensing is proposed as an important measure towards this end. In later negotiations too, China has stressed on the need for innovative arrangements and removal of barriers to enable technology transfer and to find a way to share IPRs in technology development and research.3 It has also reiterated its proposal for a Multilateral Technology Acquisition Fund to support regional and national R&D in developing countries. India has consistently taken a strong stand along with China and other G77 countries to address IPRs within the technology discussions, stressing on the need for global public procurement of IPRs and for developed country governments to take a more proactive role in facilitating technology transfer by compensating private sector owners of technologies in their countries.3 Indonesia, Malaysia and Thailand have also extended support to this position of developing countries. For instance, the Malaysian submission on

† Corresponding author: Email: indrani.barpujari@teri.res.in
the elements of the Bali Action Plan exhorts for enhanced global action to set up the Multilateral Technology Fund in order to access patented technologies as well as to develop future technologies. On the other hand, developed countries maintain that strong IPRs are indispensable to ensure innovation for technology development and deployment through transfer. The primary contention of developed countries has been that weak IPRs in developing countries constitute the biggest impediment to technology transfer, though the evidence to this effect is very limited. A World Bank study, in particular context of technology transfer for dealing with climate change, arrived at the finding that weak IPR regimes in developing countries undermine technology transfer by developed country firms who transfer little knowledge along with the product, thus impeding widespread dissemination of the much needed technologies. Barton has also arrived at similar findings that weak IP regimes provide disincentives for foreign investors to transfer their technology. According to the Stern Review, there are a number of measures that governments can take to create a suitable investment climate for energy investment and the adoption of new technologies, such as … strengthening intellectual property rights’ (thus implying that present IPR regimes are weak). Many observers in the developing world (and even some researchers in the developed world) contend that this assessment of the ‘weakness’ of IPR regimes in developing countries is not based on objective criteria or standards. Ideally, with the TRIPS Agreement being the primary multilateral agreement governing IPRs in the world, the minimum standards prescribed by TRIPS should remain the benchmark for determining the strength/ weakness of the IPR regime. Most developing countries have TRIPS Agreement compliant regimes and some have even adopted TRIPS plus provisions, owing to pressure from developed countries through Free Trade Agreements (FTAs). With respect to the allegation that IPR enforcement is slack in developing countries, Nanda and Srivastava assert that in the particular context of clean technology transfer, companies in developing countries are not infringing patents either because they are respecting the patent rights or are not capable of using the patented knowledge. Harvey and Morgan, in the particular context of China, go a step further in asserting that not empirical evidence but a number of unfounded myths colour the western world’s perceptions about IPRs in China. One such myth is that Chinese IPR laws are unsophisticated (which they point out is not the case); another being that IPRs in China are of poor quality (which they point is not generally true with patents issued to foreigners being of high quality examined by the best examiners in the country). Also, if one takes a critical look at the Special 301 Reports brought out by the Office of the United States Trade Representative of the US government as an annual review of the state of IPR protection and enforcement in trading partners around the world, it emerges that this assessment is not based on the standards proposed by TRIPS. For instance, India continues to be on the Priority Watch List and it is criticized for continuing to have Section 3(d) or the ‘efficacy test’ (which is TRIPS compatible) and the absence of provisions to protect data exclusivity (which goes beyond the TRIPS requirement). Perhaps, Ockwell et al. sum it well when they say that the North-South divide on the relationship between IPRs and clean technology transfer can be basically traced to the existence of two conflicting political discourses of economic development and clean technology diffusion that underpin developing and developed countries’ respective motivations for engaging in such technology transfer. In their opinion, while developing countries see clean technology transfer as a means of enhancing their technological capacity and contributing to their economic development, developed nations’ motivation is to achieve rapid and widespread diffusion of these technologies to reduce emissions.

Objective

In the light of the mixed evidence on the ‘weakness’ of IPRs in developing countries, this paper objectively examines the IPR regimes of five emerging Asian countries - China, India, Indonesia, Malaysia and Thailand. These countries, according to the 2012 Report of the Global Intelligence Alliance, figure among the top 20 emerging markets for 2012-2013 (ref. 13). According to the International Energy Outlook 2013, energy use in Asian countries, led by China and India, is expected to rise by 112 percent from 2010 to 2040, driven by strong economic growth. At the same time, they host more than half of the world’s population, comprising much of the world’s poor and energy-starved people. It is, thus, a big challenge for these countries to meet energy needs comprehensively while keeping the
green house gases emissions low, in addressing which transfer of clean technologies could play a big role.

The IPR regime in each of these countries is empirically assessed on the basis of three parameters-TRIPS compatibility, enforcement and TRIPS plus. TRIPS compatibility in the select Asian countries is sought to be studied in terms of history of IPRs, legal provisions, changes brought about by membership of TRIPS, and membership of major multilateral agreements. It seeks to examine the problems for enforcement of IPR laws in each of these countries and enumerates the steps being taken to remedy the situation. The paper then analyses whether these countries are going beyond the requirements laid down by TRIPS and adopting TRIPS plus provisions, through FTAs. The findings under these three parameters together contribute towards objectively assessing the ‘strength’ of the regime in each country and on this basis, draw general conclusions about the state of IPR regimes in the Asian region, which could play a role in transfer of technologies to mitigate the harmful effects of climate change.

TRIPS Compatibility in Select Asian Countries

As far as compatibility with the TRIPS Agreement is concerned, all the countries dealt with in this paper are members of the World Trade Organisation and have adopted a number of measures to bring their IPR regimes in line with the minimum standards laid down by the TRIPS Agreement. With the exception of China, all the other countries are founding members of the WTO and thus, party to the TRIPS. China became a member in 2001.

Even prior to joining TRIPS, countries like India and Malaysia had an elaborate IPR regime modelled on the British system while the Indonesian regime carried the influence of the Dutch colonial law. In India, for instance, the earliest legislation in this context is the Act VI of 1856 on Protection of Inventions based on British Patent Law of 1852 which provided exclusive privileges to inventors for 14 years. This was followed by the Patents and Designs Protection Act, 1872 and the Protection of Inventions Act, 1883. In 1911, the Patents and Designs Act was enacted to replace all the previous legislation pertaining to patents and designs. Post-independence, need was felt for a new patent law taking into account the changed political economy of the country. Following the recommendations of the committees instituted specially for the purpose such as that under the chairmanship of Justice Tek Chand in 1949 and the Ayyangar Committee of 1959, the Patents Act of 1970 was passed.

The Malaysian IPR regime, pre-TRIPS, has been heavily influenced by the adoption of the common law system as the base of its legal system, but adjusted to the unique Malaysian context. According to the Report of the European Business Organisation’s Regional IPR Protection Project, the reliance on common law has had two practical consequences on the IPR regime in Malaysia: basic laws on IPRs are inspired to a large extent by their matching English corresponding set of regulations and also that precedents from other common law country courts can be relied upon by Malaysian judges.

The Indonesian legal system, on the other hand, is a mix of indigenous customs, some remnants of Dutch colonial law and the new laws enacted since independence. As far as intellectual property is concerned, some treaties had been signed by the Netherlands on behalf of Indonesia, such as the Berne Convention for Protection of Literary and Artistic Works which Indonesia had denounced on 19 February 1959 (effective date 19 February 1960) but to which Indonesia had reapplied as an independent state at a later date. Indonesia then started adopting its own set of laws dealing with intellectual property issues, namely, the 1961 Trademark Law followed by the 1982 Copyright Law, 1989 Patent Law - all of which were significantly influenced by a civil law approach.

The case of China is a little different. IPR traditions, particularly trademarks, in China can be traced back to the seventh century A.D. However, according to Crane, copyright and patent laws never developed in Chinese antiquity, owing to the Chinese philosophy of always putting community interest over the individual. In the modern times, during the period from 1949 to 1982, under the Communist regime, China did not have any IPR laws. Under pressure from the US and European countries, China enacted a number of intellectual property laws from the 1980s onwards. The Chinese Trademark Law was passed in 1982 followed by the 1985 Administrative Regulations on Technology-Introduction Contracts. The latter required inventors, businesses and foreign investors to register contracts for technology transfers and associated intellectual property rights with the Chinese Ministry of Foreign Trade and Economic
Cooperation or relevant local authorities for approval. The Patent Law was also enacted in 1984. According to Harvey and Morgan, Chinese laws of this time were modelled on the German civil law IP system and there is still an on-going collaboration with the German Ministry of Justice (Table 1).

In preparation of and on becoming party to the TRIPS, all the countries surveyed have enacted a series of amendments to existing laws and brought into force new laws, so as to be TRIPS compliant. With respect to the patent regime, China has made a series of amendments to the Patent Law of 1984- in 1992 and further in 2000-2001. Closely modelled on the US patent regime, the Patent Law of the People’s Republic of China, 2001 provides protection for ‘inventions-creations’ which includes patents, utility models and designs. The definition of novelty is, however, slightly different in that while the US definition only precludes patentability if the invention was known, used, sold or described in the US or patented or described in a printed publication elsewhere, in China, novelty means that ‘no identical invention or utility model has been disclosed in China or anywhere in the world or made known to the public in the country before filing’ (Article 22).

In India, three sets of amendments were made to the Patent Act-in 1999, 2002 and 2005, in order to achieve TRIPS compliance before 2005 (i.e., the transition period granted to India for introducing product patent protection). The Patents (Amendment) Act of 2005 repealed Section 5(1) of the old Act, which provided for process patents alone in pharmaceuticals, food and chemical based products and went about providing protection to product patents in these fields as well. The definition of ‘inventive step’ was amended in order to raise the standard for inventiveness. Thus, under the new amendment, for patent eligibility, an invention must involve an inventive step and technical advances as compared to existing knowledge, or it must have economic significance, or both. The term for both product as well as process patent is now 20 years. With respect to exceptions to patentability, the effect of Section 3(d) is that patents would not be available on new forms of a known substance, unless it differs significantly in ‘efficacy’. This is a measure designed to prevent ‘ever greening’ or the practice of extending the term of protection of a patent about to expire, by making minor changes or improvements. The amended Patents Act also has other notable provisions which help serve the public good such as additional grounds for compulsory licensing, government use and a strong ‘Bolar’ exemption. Observers like Basheer point out that the Indian Patents Act attempts to balance competing interests of a variety of stakeholders, including domestic generic medicine producers, foreign multinational pharmaceutical companies and civil society groups.19

In Indonesia, patents under the TRIPS compliant regime are governed by the Law No. 14 of 2001. Two kinds of patents are granted in Indonesia. The first is a full patent, which must fulfil all the requirements set out in the law, granted for a period of twenty years commencing from the filing date. This is also valid

<table>
<thead>
<tr>
<th>Country</th>
<th>Trademark protection dates to 7th century A.D.</th>
<th>Enacted trademark law in 1984 and patent law in 1984, modelled on the German civil law IP system</th>
<th>Key enactments dates back to British rule (pre 1947)</th>
<th>Act VI on Protection of Inventions, 1856, the Patents and Designs Protection Act, 1872; the Protection of Inventions Act, 1883; the Patents and Designs Act, 1911, the Patents Act of 1970, the Trade and Merchandise Act of 1958; Copyright Act of 1914, 1957</th>
<th>Inherited its legal system from the Netherlands</th>
<th>1961 law on trademarks; 1982 Copyright Law, 1989 Patent Law</th>
<th>Closely modelled on the British common law system</th>
<th>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Trademark protection dates to 7th century A.D.</td>
<td>Enacted trademark law in 1984 and patent law in 1984, modelled on the German civil law IP system</td>
<td>Key enactments dates back to British rule (pre 1947)</td>
<td>Act VI on Protection of Inventions, 1856, the Patents and Designs Protection Act, 1872; the Protection of Inventions Act, 1883; the Patents and Designs Act, 1911, the Patents Act of 1970, the Trade and Merchandise Act of 1958; Copyright Act of 1914, 1957</td>
<td>Inherited its legal system from the Netherlands</td>
<td>1961 law on trademarks; 1982 Copyright Law, 1989 Patent Law</td>
<td>Closely modelled on the British common law system</td>
<td>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</td>
</tr>
<tr>
<td>India</td>
<td>Key enactments dates back to British rule (pre 1947)</td>
<td>Act VI on Protection of Inventions, 1856, the Patents and Designs Protection Act, 1872; the Protection of Inventions Act, 1883; the Patents and Designs Act, 1911, the Patents Act of 1970, the Trade and Merchandise Act of 1958; Copyright Act of 1914, 1957</td>
<td>Inherited its legal system from the Netherlands</td>
<td>1961 law on trademarks; 1982 Copyright Law, 1989 Patent Law</td>
<td>Closely modelled on the British common law system</td>
<td>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Inherited its legal system from the Netherlands</td>
<td>1961 law on trademarks; 1982 Copyright Law, 1989 Patent Law</td>
<td>Closely modelled on the British common law system</td>
<td>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Closely modelled on the British common law system</td>
<td>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Trademark Act, B.E. 2534 (1991), Thai patent law of 1979</td>
<td>The Patents Act of 1983; the Trademarks Act, 1976; the Copyright Act, 1987; the United Kingdom Design (Protection) Act 1949 of West Malaysia, United Kingdom Designs (Protection) Ordinance Chapter 152 of Sabah; the Designs (United Kingdom) Ordinance Chapter 59 of Sarawak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
for PCT and Paris Convention applications. In Indonesia, there is also the concept of simple patent for which the requirement regarding novelty extends only to inventions used within Indonesia and granted for a non-renewable period of ten years. A simple patent does not require inventiveness and shall only be granted for one invention. It is a kind of utility model patent.

To comply with the TRIPS Agreement, in Malaysia also, a number of changes were affected through amendments to the Patent Act of 1983 which was amended in 1986, 1993, 2000 and 2006. Under this Act, besides patent, a utility innovation certificate is granted for an innovation ‘which creates a new product or process, or any new improvement of a known product or process…’ (Section 17). The latter does not have to satisfy the more stringent requirement of inventiveness required by a patent. A utility innovation, unlike a patent, is protected for 10 years from the date of filing of an application and may be extended for another 5 years, subject to use. Compulsory licence, under Section 49 of the Act, is granted under certain circumstances such as when there is no production without any legitimate reason, or sold at unreasonably high prices and does not meet public demand without any legitimate reason. Under Section 84, the government has the right to exploit a patent under circumstances of national emergency, public interest or where the patentee or the licensee have been anti-competitive in their exploitation. In fact, Malaysia was the first country to implement compulsory licensing provisions since the Doha Declaration on the TRIPS Agreement and Public Health (2001) when it allowed three cheaper generic medicines to be imported from India to treat AIDS patients in 2003 (ref. 20).

Similarly, Thailand went about revamping its patent law to make it TRIPS compliant and led to the enactment of the Patent Act B.E. 2522. The Act enables the potential owners of patents to file for patent protection for inventions, designs and petty patents. It is, however, worth noting that the Thai patent law of 1979 did not recognize patents for pharmaceutical products. But this had to be changed even before TRIPS was signed, due to tremendous US pressure and a threat of trade sanctions.21

Besides changes to the patent law, the select Asian countries also amended and brought into force other new IPR legislation in the wake of TRIPS (Table 2). As far as membership of multilateral intellectual property agreements are concerned, all the countries—China, India, Indonesia, Malaysia and Thailand—are members of the major ones (Table 3).

** Enforcement Issues in the Select Asian Countries **

Enforcement of intellectual property law has comparatively been a weak area in the Asian region, with the countries continuing to figure prominently in the Priority Watch List and Watch List of the Special 301 Report brought out by the USA.

---

**Table 2 – IP legal reform after joining TRIPS in the select Asian countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Reforms/Amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>China</strong></td>
<td>Three sets of amendments to the Patents Act in 1999, 2002 and 2005</td>
</tr>
<tr>
<td></td>
<td>Amendments to the Copyright Act in 1999</td>
</tr>
<tr>
<td></td>
<td>New legislation—Trademarks Act, 1999; the Geographical Indications of Goods Act</td>
</tr>
<tr>
<td></td>
<td>Regulations for the Protection of New Plant Varieties in 1999</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td>Amendments to existing legislations—Law No. 14 of 2001 on Patents,</td>
</tr>
<tr>
<td></td>
<td>Amendment No. 19 of 2001 on Trademarks, 2001 on Copyright</td>
</tr>
<tr>
<td></td>
<td>New laws—Law No. 30 of 2000 on Trade Secrets; Law No. 31 of 2000 on Industrial</td>
</tr>
<tr>
<td></td>
<td>Design; Law No. 32 of 2000 on Integrated Circuits Design</td>
</tr>
<tr>
<td><strong>Indonesia</strong></td>
<td>New legislation—the Industrial Designs Act of 1996 (amended in 2000); the</td>
</tr>
<tr>
<td></td>
<td>Geographical Indications Act, 2000; Lay-out Designs of Integrated Circuits Act</td>
</tr>
<tr>
<td></td>
<td>Protection of New Plant Varieties Act, 2004</td>
</tr>
<tr>
<td><strong>Malaysia</strong></td>
<td>Amendments to the Patent Act B.E. 2522</td>
</tr>
<tr>
<td></td>
<td>GI Ministerial Regulation B.E. 2547; GI Protection Act B.E. 2546; Manufacture of</td>
</tr>
<tr>
<td></td>
<td>Optical Disc Act B.E. 2548; Patent Act B.E. 2522 of 1999; Protection of Layout-</td>
</tr>
<tr>
<td></td>
<td>Designs of Integrated Circuits Act B.E. 2543; Trademark Act B.E. 2534 consolidated</td>
</tr>
<tr>
<td><strong>Thailand</strong></td>
<td>Changes to bring IP regime at par with commitments—Copyright Act B.E. 2537; GI</td>
</tr>
<tr>
<td></td>
<td>Ministerial Regulation B.E. 2547; GI Protection Act B.E. 2546; Manufacture of</td>
</tr>
<tr>
<td></td>
<td>Optical Disc Act B.E. 2548; Patent Act B.E. 2522 of 1999; Protection of Layout-</td>
</tr>
<tr>
<td></td>
<td>Designs of Integrated Circuits Act B.E. 2543; Trademark Act B.E. 2534 consolidated</td>
</tr>
</tbody>
</table>

---
about the ability of western companies to compete must be set in context with many non-IPR concerns it is equally important that the ‘IPR in China’ debate western world like Harvey and Morgan point out that number of observers, including those from the domestic innovators in protecting their IPRs. While owing to the interest of the growing number of be met without a far more credible IPR regime and aspirations for indigenous innovation are unlikely to the case of China and Malaysia, that the country’s stems in large part from the official recognition, as in problem in almost all the countries, they have been engaged in substantial efforts to remedy this. This stems in large part from the official recognition, as in the case of China and Malaysia, that the country’s aspirations for indigenous innovation are unlikely to be met without a far more credible IPR regime and owing to the interest of the growing number of domestic innovators in protecting their IPRs. While enforcement of IP remains a problem for China, a number of observers, including those from the western world like Harvey and Morgan point out that it is equally important that the ‘IPR in China’ debate must be set in context with many non-IPR concerns about the ability of western companies to compete with Chinese ones or fears about the outsourcing of production to take advantage of cheap labour being mis-categorised as IPR issues. The myth that Chinese IP laws and poor enforcement favour domestic interests is also not true as in the developed areas of China, the court system is of good quality, the cost of IP litigation is low by international standards and litigation is very fast, and also the government funded administrative system remains a cheap and quick option. Nevertheless, as they point out, despite advances, a number of challenges and problems continue to exist with respect to implementation of IPR laws in China, such as a continuing backlog of patent applications, lack of qualified patent examiners and high prevalence of counterfeiting. Interestingly, there was not much data on the question whether patent abuse is as serious an issue as counterfeiting in China. Another major problem for Chinese enforcement of IPR law arises from the fact that much of the reforms have taken place only at the centre and yet to have an impact at the provincial and local levels where a high level of local protectionism exists.

In India, IPR enforcement is subject to the provisions of the Code of Civil Procedure, the Indian
Penal Code, and the Civil and Criminal Rules of Practice. The Code of Civil Procedure provides for civil remedies and enforcement through civil courts, while penal remedies are provided in the Indian Penal Code. India adheres to the common law tradition with judicial precedents of the Supreme Court being binding on the lower judiciary. Statutory enforcement mechanisms are provided in the laws governing patents, trademarks, copyrights, etc. Post-TRIPS, in 2002, a significant amendment was introduced with respect to enforcement of patents in the form of Section 104 A. This section effects a reversal of the burden of proof to the defendant in case of process patents, which is believed to lead to a higher rate of success for the patent holder and acts as a deterrent to potential infringers. Despite these attempts at reform, enforcement of patents in India is believed to be constrained by lack of awareness about patent basics in the judiciary, no prescribed time frame for disposal of cases, non-availability of criminal remedy for infringement of patents, etc. Nevertheless, Indian courts in their decisions have shown remarkable dexterity in reconciling competing needs, with the key focus on safeguarding the public interest and ensuring access to medicines in a number of high profile cases such as the Novartis decision (Novartis AG v Union of India and others, W.P. No. 24754 of 2006 and W.P. No. 24759 of 2006). The United States has acknowledged that India has made incremental improvements in enforcement, and its IP offices continued to pursue promising modernization efforts but criticizes India for continuing to have Section 3(d) or the ‘efficacy test’, absence of provisions to protect data exclusivity and for the lack of a criminal enforcement regime. Indian observers point out that this is a way of enforcing TRIPS plus on India to the detriment of the national interest and hence, should be refused acknowledgement by the Indian government.

Coming to the case of Indonesia, rather than relying on precedents in the same way as in the common law system as the ultimate source of law, the country restricts the power vested in the judges to the role of interpreting the Codes, laws and regulations with respect to a specific situation, which is typical of a civil law system. It does not have specialized courts for IP laws. But most IP laws come under the jurisdiction of the Commercial Court (within the General Court). Alternative dispute resolution mechanisms like mediation, arbitration and reconciliation are available. Developed countries and multinational companies have expressed concerns about Indonesia’s lack of enforcement of IPR obligations under TRIPS. However, it is also argued that most ordinary Indonesian citizens do not deliberately violate or resist IPR, but, rather, are not fully aware of what IPRs represent. Such violations happen mostly in the areas of copyright and trademark but not patents which cannot be infringed upon by ordinary people. Lack of enforcement may also be a result of inadequate administrative capabilities. In fact, there have been cases where the staff at the Directorate General for Intellectual Property (DGIP) has approved the registration of well-known international labels by domestic entities.

In the case of Malaysia, there have been substantial efforts to make improvements. Most remarkable in this context is the setting up of a specialized IP Court in 2007 consisting of 15 Sessions Courts in every state to handle IP cases and 6 High Courts in the 6 states with the highest number of IP infringement cases, namely Kuala Lumpur, Selangor, Johor, Perak, Sabah and Sarawak. According to Kadir, prior to its establishment, IP disputes in Malaysia were brought before the criminal and civil courts presided over by judges who were not very knowledgeable on IP, leading to inefficient and slow proceedings, a severe backlog as well as not very sound decisions. The special IP court is expected to address this problem, though it is still very early to judge its effectiveness.

Thailand has a specialized IP court, namely, Central Intellectual Property & International Trade Court. It also has the provision for alternative dispute settlement mechanism in case of civil cases related to intellectual property issues but not for criminal cases. The Thai Department of Intellectual Property (DIP) has in recent years taken several initiatives on public education designed to raise awareness on IPR issues and discourage people from trading in pirated and counterfeit goods. However, it is difficult to stop supply of counterfeit products because of low level of awareness, high rate of unemployment and availability of cheap labour. Thailand is also known for skilled workers able to manufacture high quality imitations that are often quite difficult to detect. Between November 2006 and January 2007, Thailand issued compulsory licences for two AIDS drugs: efavirnz and combination of lopinavir+ritonavir and
one antihypertension drug (clopidegrel). In 2008, the Thailand Ministry of Public Health also announced compulsory licences for three cancer drugs that include Novartis’ breast cancer drug letrozole, Sanofi-Aventis’ breast and lung cancer drug docetaxel and Roche’s lung cancer drug erlotinib. The pharmaceutical industry vehemently objected to these compulsory licences, and sought the US government’s assistance in the matter. Though the US has been careful not to claim that the Thai government had violated the TRIPS Agreement, it did place Thailand on the Special 301 Report’s Priority Watch List as a censure measure.

TRIPS Plus in the Select Asian Countries
While the TRIPS Agreement introduced the principle of minimum intellectual property standards, TRIPS plus refers to both those activities aimed at increasing the level of protection for right holders beyond that which is given in the TRIPS Agreement and those measures aimed at reducing the scope or effectiveness of limitations on rights and exceptions. Such rules and practices have the effect of reducing the ability of developing countries to protect public interest and may be adopted at the multilateral, plurilateral, regional and/or national level. Along with the multilateral approach, TRIPS plus obligations have also been sought to be imposed upon developing countries through bilateral, plurilateral or regional approaches. FTAs and Regional Trade Agreements (RTAs) have been one way of accomplishing this, with some of the most recent ones containing certain provisions or a chapter on IPRs.

China has committed itself to TRIPS plus obligations going quite ahead of the minimum standards to protect IPRs in its accession to the World Trade Organisation and the TRIPS. In fact, the China Accession Protocol in a first of its kind initiated the idea of TRIPS plus obligations prior to which very few WTO plus obligations existed for the several WTO acceding Members. Wu points out that the China Accession Protocol has highly elevated standards with respect to the TRIPS requirements for transparency, uniform administration and independent judicial review, the effect of which has been remarkable changes in both legislative efforts and judicial practices. Case law indicates that there have been considerable changes in terms of procedural requirements such as right to be heard and right to defend, examination of evidence, and more effective administrative review. Wu further noted that Chinese domestic courts are acting cautiously and sensitively while responding to claims of foreign IPR holders.

According to certain observers, the process of going beyond TRIPS in India commenced right from the time when the government issued an ordinance on 26 December 2004 to amend the Patents Act of 1970, in order to honour the requirements of the TRIPS Agreement. While technically, only one further amendment was required under TRIPS, that is, introduction of product patents for pharmaceutical inventions, the ordinance carried out a further 74 amendments to the Patents Act, thus taking it much beyond the TRIPS requirements. Owing to severe criticism, the government was forced to withdraw or re-draft several of the amendments, thus resulting in the Patents (Amendment) Act of 2005, which sought to balance a number of competing interests. India could also end up accepting TRIPS plus protection through FTAs such as EU-India FTA, unless India is able to negotiate and address the IPR issues in a manner consistent with its own interests. The negotiating texts so far known indicate that India is resisting many aspects of the EU demands of higher IPR standards such as extension of patent term and data exclusivity. There is also pressure on India from the United States, as evident from the Special 301 Report to protect undisclosed test or other data generated to obtain marketing approval for pharmaceutical and agricultural chemical products, which is a TRIPS plus measure.

Indonesia is yet to sign a trade agreement with TRIPS plus provisions. There have been talks of an FTA with the US but it did not progress much. An FTA between ASEAN and the EU, however, is a possibility which might bring some TRIPS plus commitments. Indonesia has already taken a step towards this. It signed a Partnership and Cooperation Agreement (PCA) with the EU in 2009. The agreement covers diverse areas of cooperation such as trade, investment, human rights, climate change, migration, as well as efforts to address organised crime and communicable diseases. The PCA with Indonesia is the first such agreement signed by the EU with an Asian country. The PCA is not a FTA. While it enhances cooperation in various trade matters, it does not include specific trade concessions by either party. However, it talks about strengthening IPR regime as well which, some observers believe, might be leveraged to restrict the use of TRIPS flexibilities.
Coming to the case of Malaysia, the country could be on its way to accepting TRIPS plus standards, as required by certain FTAs it is trying to negotiate. Though Malaysia has a number of FTAs with countries like Japan, New Zealand, Pakistan, Chile and in the process of negotiations with Turkey, India, Australia, the negotiations with the United States has been the most contentious in the context of IP. This is because of the fact that the US has used FTAs generally as a tool to introduce tighter patent provisions in developing countries much beyond what is stipulated by TRIPS. 36 Strongly opposed by the Malaysian public, namely, health activists, human rights groups, consumers and people living with HIV-AIDS, it is apprehended that the US-Malaysia FTA would result in very stringent TRIPS plus standards in the form of greater exclusivity rights to drug originator companies and a weakening or elimination of the compulsory license provision. 37 TRIPS plus has also been imposed through the Japan-Malaysia FTA signed in 2006, with the Japanese particularly inclined towards TRIPS plus protection for plants through patents, requiring commitment to provide adequate protection for as many genera or species as attainable within the shortest possible time period (Article 123 of the Agreement).

Thailand is yet to take any TRIPS plus obligation. However, its negotiation with the US for a bilateral FTA has been quite controversial as it has been speculated that such an FTA will include TRIPS plus provisions. It is also negotiating bilateral trade agreements with Japan and the European Free Trade Association which might also insist on including TRIPS plus provisions. It is also discussing an FTA with EU as a part of the ASEAN.

Conclusion
The above findings, thus, indicate that all the countries studied have fully TRIPS complaint regimes. Even prior to joining TRIPS, most had an IPR regime in place, which was influenced by the law of their colonial rulers. With accession to TRIPS, all countries have enacted a series of amendments to existing laws and brought into force new TRIPS compliant IPR laws. Enforcement of IPR has been acknowledged to be a problem by all the countries though all have been engaged in substantial efforts to remedy this. As some studies indicate, there are a lot of myths surrounding the issue of IP enforcement in developing countries and a tendency in the Western world to mis-categorize other issues as IPR issues. This particular study of the five countries indicates that most IPR violations have been in the context of copyright infringement, trademark violation, and piracy while instances of patent abuse are limited. Assessment of patent regimes in these countries by the developed world is often made by using their own standards which these countries have not yet accepted. Thus, patentability criteria adopted by these countries are often questioned even though they are TRIPS compatible. India is criticized for its patentability criteria which are TRIPS compatible. Similarly, Thailand is criticized for making use of compulsory licensing which is also TRIPS compatible. One worrisome trend is the imposition of TRIPS plus obligations by developed countries on the developing countries, which could go against the public interest in the latter. China had to accept some TRIPS plus obligations during its accession to the WTO. Among others, only Malaysia has accepted TRIPS plus obligations in its FTA with Japan. While the other countries are resisting such obligations in FTAs being negotiated, it is a big question as to how long they can do so in the face of sustained pressure on them to go for TRIPS plus.

Thus, the contention that weak IPRs in developing countries constitute the biggest barrier to technology transfer seems to be untenable. As observed earlier, myths about the IPR regimes in developing countries continue to persist in the western world, despite a number of changes and reforms being initiated by the former to address these concerns. Also, there are a few studies indicating that there are other reasons impeding technology transfer. For instance, Lewis’s study shows that developing country firms are likely to encounter barriers to international technology, owing to the ‘unlikelyness’ of leading companies in the industry to license information to companies that could become competitors. 38 It must, however, be admitted that developing countries still have a long way to go in terms of enforcement and building administrative capabilities as they lack the necessary financial and human resources. Nevertheless, the clubbing together of all types of IPRs often creates a perception that patent enforcement is weak in developing countries though actual violations are mostly in copyrights and trademarks. Such misperceptions can, of course, play an adverse role in technology transfer.
Acknowledgement

This paper is part of the research findings of a project IPR roadmap for technology transfer in developing countries for mitigating and adapting to climate change under the Program of Activities, Framework Agreement between the Norwegian Ministry of Foreign Affairs (MFA) and The Energy and Resources Institute (TERI), briefly referred to as the Norwegian Framework Agreement (NFA). It derives inspiration from a working paper based on the research findings under this project by the authors entitled ‘Are weak IPRs acting as barriers to transfer of climate friendly technologies: Assessing IPR regimes in five Asian countries?’ (2012), TERI-NFA Working Paper Series No. 2.

References
1 UNFCCC Technology Committee debates IPR issue, TWN Info Service on Climate Change, 9 July 2013.
2 Proposal by the G77 and China for a Technology Mechanism under the UNFCCC, 2008 http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/technology_proposal_g77_8.pdf (11 February 2011).
11 Office of the United States Trade Representative, 2013 Special 301 Report (Office of the United States Trade Representative, United States), 2013.
22 Office of the United States Trade Representative, 2012 Special 301 Report (Office of the United States Trade Representative, United States), 2012.


