# The Enhancement of International Patent Technology Transfer in Relation to National Law, International Law and Related Policies - Examples from the Current Practice in the Fields of Telecommunication, Biology and Environment (\*)

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Legislation concerning international licensing is seen both in the international and national level. At the international level, the TRIPS Agreement and the heavily discussed Draft "ToT Code" are two major attempts to establish an international law. National laws in developing countries regulate licensing practices from a competition law perspective, whereas developing countries often have additional licensing regulations. In practice, it has become common to gain profit from licensing out technology to developing countries, and adequate regulations as well as promotion of these trends by legislation and relevant policy are becoming increasingly necessary. This research explores the examples of creative international licensing schemes, analyzes existing legislation and policies based on these examples and provides policy suggestions.

#### I Introduction

#### **Objectives**

Developing countries need technology in order to address the issues they face. Therefore, there exists demand for technology transfer, especially through licensing. There are successful examples of technology transfer in various fields of technology, however differences exist in licensing practices, reflecting factors such as how the technology is used in the respected field.

Previous research and practice has explored the possibilities of application of licensing methods such as pool licensing and free licensing in the field of information and communications technology (ICT), however applications in other areas have not yet been fully examined both in practice and research. Nevertheless, in recent years, interesting explorations of creative licensing schemes have been made in fields of importance, for example biological and environmental technology. Academic research on these inventive licensing models has not been sufficiently conducted, despite its being key to understanding the current state of licensing practice and future development possibilities and to promoting technology transfer to developing countries through licensing.

In the past, technology transfer to developing countries was discussed within the context of regulations based on international agreement, international technical cooperation or national actions such as the grant of compulsory licenses. However, the cooperation or initiative of private parties is necessary for a successful technology transfer, especially given that in many technologically advanced countries, technology is mainly owned by private actors.

From the perspective of international cooperation, it has long been pointed out that empowering developing nations to be self-reliant is crucial for their development. Since the ability to provide technical cooperation is held mainly by private entities, the major role that governments and the international community play is to support the private entities' attempt to transfer technology. However, international technology transfer is still insufficient due to various factors such as the lack of adequate national and international legislation or regulations and its incoordination, the inexistence of platforms and lack of information. In light of the global issues we face today, we need to address these issues in law and policy in order to encourage technology transfer between two willing parties. This research attempts to provide a perspective in this regard from the viewpoint of intellectual property law.

#### **Research Topic**

This research explores the technology licensing practice between developed and developing countries, relevant national and international law as well as public policy initiatives. Factors which promote and hinder technology transfer are analyzed and a proposal on the formation of national and international law, international

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harmonization of national legislation and a possible technology transfer platform is made.

#### Scope of the Research

This research focuses on patent rights (including utility model rights) as well as surrounding know-how, trade secrets necessary for effective technology transfer. It takes China, Ghana and the EU as examples of countries in different stages of their economic development and looks into their national (and regional) laws. Public policy initiatives of international organizations in patent pools and licensing support are also discussed.

# II Provisions of Licensing Agreements and Their Effects

Developing countries need technology in order to address the issues they face. Therefore, there exists demand for technology transfer, especially through licensing. There are successful examples of technology transfer in various fields of technology, however differences exist in licensing practices, reflecting factors such as how the technology is used in the respected field.

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Licensing contracts refer to "contracts concerning the implementation or the allowance of use of an intellectual property." <sup>1</sup> Upon the conclusion of a licensing agreement, it sometimes takes over a year to negotiate the terms between the parties, involving IP lawyers and patent attorneys. This chapter introduces major components of licensing agreements.

Recitals
Definition
Subject matter
Scope of license
Licensing fees and payment method
Warranties
Indemnities
Others

## **III Classification of Licensing Practices**

In this chapter, licensing schemes are classified in order to better understand the individual examples discussed below in a comparative manner.

Exclusivity
Subject matter
Number of parties
Licensing fees
Voluntariness

## **IV** Examples

### **Telecommunications Technology**

In the field of telecommunications technology, the MPEG-2 Patent Pool was established by Japanese companies in the 1990s as the first patent pool recognized by the competition authorities as a pro-competitive patent pool. <sup>2</sup> Since then, many patent pools have been formed.

There are other examples of free licensing in order to promote one's own technology. An example of free licensing is the free licensing of Mitsubishi Electric's encryption technology, MISTY. Ever since the decision to license the technology out for free, it was adopted as one of the ISO standards and the company has seen increased adoption of its own technology in a previously US-dominated market.

#### **Environmental Technology**

In the field of environmental technology, there also exists an example similar to MISTY. In 2014, Tesla Motors declared that they would not assert their electric vehicles related patent rights.<sup>3</sup> As a firm developing competing fuel cell vehicles related technologies, Toyota Motor Corporation has also declared to license the technology out for free in the following year.<sup>4</sup> These were examples of strategic licensing aiming at gaining market share and also at encouraging infrastructure building necessary for the use of technology. In the Toyota example, the company retained some control over the terms and conditions of the license and therefore the licensee.

On the other hand, reflecting the gravity of environmental destruction, some companies such as IBM and Sony, together with the World Business Council have launched an interesting initiative, EcoPatent Commons in 2008. The Commons consists of patents owned by the participating companies which can be unconditionally used cost-free, without signing a contract.<sup>5</sup>

Considering the reasons for the unavailability of existing green technology being the technical skills of the implementer in developing countries rather than IP rights blocking their way, there emerged a new licensing platform by the World Intellectual Property Organization, WIPO GREEN. The platform emphasizes the importance

of package licensing of patents and know-how and connects potential licensors and licensees through their online platform. When negotiating for and concluding a licensing agreement, the parties can gain access to legal specialists and funding from international development banks through the platform.

#### **Biological Technology/Pharmaceuticals**

In this field, the Golden Rice Project is a well-known example. In developing fortified rice, basic patent owners, who were academics, assigned the patent to for-profit companies in return for developing the technology further for implementation in the field. The company is entitled to commercialize the technology but is also obligated to license the technology for free for humanitarian purposes to low-income farmers in developing countries and public research institutions.<sup>7</sup>

Pool licensing for HIV medication for humanitarian purposes is done through UNITAID, an international organization in the field. The pool, Medicines Patent Pool, licenses patented technology to generics in order to provide medicine cheaply in developing countries. Through this license, medication sufficient to treat 720 million patients for one year was produced and the medicine was distributed in 117 countries around the world.<sup>8</sup>

Another WIPO initiative in this field is WIPO Re:Search. This is a matchmaking platform between entities that conduct research on neglected tropical diseases, malaria and tuberculosis aiming at enhancing cooperation in the research and development stage. The form of cooperation or licensing is up to the parties; however, the licensing fee shall be free for research and development purposes and also for sales in least developed countries.<sup>9</sup> Ninety-nine agreements have been made under WIPO Re:Search.<sup>10</sup>

In this field of technology, the use of patent pools was considered difficult as the number of patents required to produce a therapeutic product is often small, licensed exclusively and not subject to standards and the value of patent is relatively high. However, for individualized diagnosis, many patents for license to many licensees may be held by many entities, which are factors for determining whether patent pools would offer an efficient licensing alternative. MPEG LA has formed a commercial patent pool, Librassay, in order to address this need of patent licensing management. Despite having its first licensee in 2013, the U.S. Supreme Court's rulings on patent validity in the biotechnology sector have rendered the validity of the patent unstable and therefore the activity of this project has been limited.<sup>11</sup>

# V Factors Promoting and Hindering Technology Licensing

# Factors Promoting and Hindering Technology Licensing

This chapter describes the promoting and hindering factors of technology licensing based on previous chapters.

The first hindering factor is the supply-demand mismatching. Potential licensors with a higher level of motivation for technology licensors such as universities and research institutes do not often hold ready-to-use technology applicable in the field. Potential licensors who own ready-to-use technologies such as for-profit companies are generally more cautious about licensing their technology out to third parties.

The second hindering factor is the potential competitive relationship between technology providers and recipients when they are both implementing the technology themselves. Licensing out may in these cases result in nurturing a future competitor, even if they are not at the moment.

The third hindering factor is the risk licensors bear when licensing their technology out to developing countries. In recent years, companies emphasize the importance of being socially responsible and licensing into developing countries is a good opportunity to be a responsible global citizen. However, there are risks such as technology leakage, illegally copied products occupying the market and so on, and companies are often cautious when considering technology transfer.

The fourth hindering factor is the national laws and policies and its administration. Among aforementioned risks, some can be mitigated through national legislation, policies and administration. Developing countries often have licensing regulations protecting licensees, intending to save their local enterprises, however this sometimes results in reluctance in licensing on the part of the licensors. It is of course of great importance to protect the licensees, who are in general in a weaker position, however discouraging licensing may result from this. Legislation allows some space of discretion in the administrative branch in order to allow flexibility. However, flexibility can also be seen as lack of clarity, so a dilemma exists. On the other hand, developed countries also have legislation and policies which results in discouragement of technology transfer, for example in exhaustion principles.

The first promoting factor is increased business opportunities, such as moving the production to low-cost areas, exploring previously uncultivated markets, developing products and technologies suitable to local needs, and generating revenue from areas the licensor itself cannot enter.

The second promoting factor is the consciousness of

corporate social responsibility. In some cases, technology transfer does not generate income, but companies may do it to improve their image and to act as a responsible member of the community.

# Differences of Licensing Practices, the Reason for the Difference and the Possibility of Promoting Licensing

The characteristics of licensing in telecommunications technology is formed by the fact that a great number of patents are required to produce a single product and that related products need to be based on the same standard. Contracts being otherwise too complicated and time-consuming, there existed the need for one-stop licensing, which led to the formulation of patent pools. The demand for a standardized product resulted in free-licensing in some cases where multiple standards compete in order to become a de facto standard.

In the biology/pharmaceutical field, the attempts in creative licensing schemes were more humanitarian-aid-oriented; however, in recent years, it has seen innovative projects of patent pooling in the for-profit sector. Although being unsuccessful due to external factors, the possibility of establishing a patent pool enabling low-cost licensing while generating profits was shown to us. It is necessary that more attempts of creative licensing schemes are made in this area.

In the environmental field, open licensing for fulfilling their social responsibility has been done. However, reflecting the findings that patents are not the main obstacle for technology transfer in this field, for example in research done by the European Patent Office<sup>12</sup>, international organizations have initiated a public private partnership platform to promote technology transfer. However, issues remain due to the insufficiency of the planned "package licensing" because of its difficulty in reality and individual fragmented technology became the main part of the technology on the list. It can be said that in this regard, the platform has not yet reached its goal. In order to take this platform to a new level, it may be necessary to adopt, for example, the licensing scheme of the Golden Rice Project, and utilize its advantage as a platform on which many entities cross its paths.

For technologies which are relatively new, competition between different technologies is occurring in developing countries. This has led to a similar situation as in the telecommunications field, where companies license their technology out for free in order to become the standard technology. In developing countries where infrastructure is being built now, the newly imported technology can determine the infrastructure built, and this brings the possibility of bringing the price of technology down and exporting technology earlier.

## VI Licensing-Related Policies and National, Regional and International Law

The discussions at UNCTAD on setting an International Code of Conduct on the Transfer of Technology from the 1960s to the 1980s was a failed attempt to establish universal international regulation concerning licensing. It was envisioned that the regulations would be applied directly<sup>13</sup> to private parties.

The attempt ultimately failed because of the unresolved disagreement between developed and developing countries; however, many national licensing regulations in developing countries have similar contents to the draft code and the international discussion resulted in the TRIPS Agreement. The TRIPS Agreement allows (but does not oblige) member states to regulate anti-competitive licensing activities <sup>14</sup> and to regulate licensing activities through national law<sup>15</sup>. The intention of having these articles is to explicitly give the national governments the discretion to regulate activities that hinder technology transfer.

Concerning compulsory licensing, Article 31 of the TRIPS Agreement states in detail the conditions for the licenses, the rights of the patent owner and the scope of license, and national governments have the discretion to make the law within what is allowed in the Agreement.

Article 27 of the TRIPS Agreement mandates developing countries to grant patents for pharmaceutical inventions. However, even under the international exhaustion principle, when a particular pharmaceutical product is produced with the consent of the licensor only in a high-price market, the impoverished population in the developing world would be denied access to affordable medicine. Reflecting the criticism, the TRIPS General Council added Article 31 bis exempting member states from the obligations in Article 31(f) under certain conditions.

National legislation in developing countries and developed countries greatly differ from one another. Developed countries often only regulate licensing through competition law, which means licensing activities are in principle not regulated as long as they do not constitute an anti-competitive act. Developing countries often have in addition to competition law-based regulations additional licensing regulations which regulate the content of licensing contracts. The regulations change based on the stage of a country's development. In China, licensing regulations are being loosened as the country develops, and now the regulation is subject to another revision. In Ghana, the regulation is still very strict.

#### Ghana

The Ghanaian government has been improving their

standards of IP protection in order to reach the international standard in the mid-2000s. In 2009, the government started moving towards the establishment of a national IP policy in cooperation with the Swiss government and WIPO. <sup>16</sup> As a result, the National Intellectual Property Policy and Strategy (NIPPS), the first national IP strategy, was approved in the cabinet but is not yet enforced. <sup>17</sup> It is planned to be enforced in 2016.

## **Compulsory Licensing**

The Ghanaian government has granted a compulsory license for the importation of an antiretroviral HIV medicine produced under a compulsory license in India. The patent holder was GlaxoSmithKline. However, this is the only case of compulsory licenses being granted and in general the government takes a very cautious approach towards granting them. The reluctance towards the use of the system is due to their belief that technology transfer including know-how is important for the development of their domestic industry.

Concerning the exportation of products produced under compulsory licenses, TRIPS requires that it is "predominantly for the supply of the domestic market." The Ghanaian interpretation is that it suffices that more than half of the product is supplied to the domestic market. <sup>19</sup>

In the future, it is possible that products produced under a compulsory license will be exported based on TRIPS Article 31 bis 1.<sup>20</sup> It is also possible that Ghana will export products to Economic Community of West African States (ECOWAS) countries based on Article 31 bis 3. <sup>21</sup>

#### License of Right

Non-existent.

#### **Licensing Regulations**

Ghana Investment Promotion Center (GIPC), a government institution, grants permission for and registers international technology licensing agreements based on the Technology Transfer Regulation. According to the Regulation, all domestic and international technology transfer shall be registered at the GIPC, otherwise it is not enforceable.<sup>22</sup> Upon registration, the GIPC checks all clauses to confirm that it is compliant with the Regulation.<sup>23</sup>

The regulation which can be of relative importance for Japanese companies is that a clause prohibiting the export of goods produced under the license to Japan is considered incompliant with the Regulation.<sup>24</sup> This is inconsistent with Japanese law and results in being unable to prevent licensed products from entering the Japanese market.

An additional point of interest is that for trade secrets, the use by the licensee is allowed after the expiration of the contract <sup>25</sup>, although confidentiality obligations continue to exist. <sup>26</sup> The maximum term allowed for technology licensing contracts is 10 years and it can be renewed only when both parties agree. <sup>27</sup> This means that once a license for a trade secret is granted, they can use the technology for free after a maximum 10 years of payment. Considering the relatively low royalties allowed for trade secrets (0-2%)<sup>28</sup>, This could be an obstacle for technology licensing.

#### **Exhaustion**

There was no explicit legislation until 2003 stating which principle Ghana abides by. However, they adopted the domestic exhaustion principle. In 2003, upon revising the law in order to make it TRIPS-compliant, they decided to utilize TRIPS flexibility and introduced international exhaustion. However, government officials consider international exhaustion as both potentially beneficial and harmful, as they have reached a certain level of industrialization and have their own industry to protect. International exhaustion may result in competition between locally produced goods and cheaper imports.<sup>29</sup>

#### China

China is currently planning a revision of its Patent Law and Regulations on Technology Import and Export Administration. It is expected that regulations would be loosened and there would be more freedom of contract. At the same time, a license of right system is being introduced and voluntary licensing will also be encouraged.

#### **Compulsory Licensing**

China has never granted a compulsory license since the establishment of the patent system in 1985. 30 However, revisions of the system have been frequent, reflecting the high concern of the government. 31

#### License of Right

China does not have a license of right system now, but one is included in the draft revision expected to be enforced in 2016 or 2017.<sup>32</sup> The difference from the German system is that the licensor must register their proposed licensing fee at the patent office.<sup>33</sup>

#### **Licensing Regulations**

Licensing-related legislations and regulations in China are mainly Contract Law (1999), Patent Law (2008) and Regulations on Technology Import and Export Administration (2008). There are detailed regulatory clauses in the Contract Law, Chapter 18, which state the basic rules. However, for international technology transfer, the Regulation applies in case of conflict between the two laws.

The Chinese regulations are not as strict as the Ghanaian regulations. At the moment, technologies as a subject matter of licensing agreements are divided into three groups – prohibited, restricted or allowed to import. For technologies for which import is allowed, they can be freely imported upon registration. However, when registering the contract, the officer of the local authority who is responsible for the registration checks the contract. When they are incompliant with the compulsory provisions of Chinese law, the registration is declined.

An interesting comparison with Ghanaian law is that the Chinese law also prohibits unreasonable restriction of exportation of licensed products<sup>34</sup>, but it allows a wider interpretation of reasonableness. For example, when the licensor is a manufacturer in Japan, it is regarded as a sufficient reason to restrict exports to Japan. By contrast, China has a blanket ban on grant back clauses<sup>35</sup> but Ghana is more flexible. Although there are similarities in the regulations of the two countries, the flexibilities exist in different areas and therefore individual examination is important for understanding the regulations in the developing world.

#### **Exhaustion**

China explicitly adopted the principle of international licensing<sup>36</sup> in 2000 to exploit the TRIPS flexibilities. Before that, there were no legislations nor cases for or against the principle. China supports international exhaustion within and outside China due to the fact that its industry relies heavily on importation of parts which are assembled in China, and that it is the main exporter of cheap industrial products.<sup>37</sup>

#### ΕU

The EU has a unified competition law-based licensing regulation and has a unified principle of regional exhaustion. However, for compulsory licensing and license of right, member states have individual rules. How these systems will be unified is the target of observations for the upcoming unified patent system.

#### **Compulsory Licensing**

EU countries have their own compulsory licensing systems but they are not frequently used for products targeted at their own markets. For example, Germany has its own compulsory licensing system but it has not been granted. However, they have a positive attitude towards exporting products based on compulsory licensing for humanitarian reasons and have legislation that allows exports based on TRIPS Article 31 bis.

#### License of Right

The EU does not have a unified license of right system at the moment but many individual member states including Germany (Lizenzbereitschaft) have them. The new unified patent system is likely to have a unified license of right system.

#### **Licensing Regulations**

In the EU, licensing regulations are competition law-based and other licensing regulations do not exist. This is also the case in Germany.

For licensing contracts, an exemption of competition law (Treaty on the Functioning of the EU Article 101) is granted based on Technology Transfer Block Exemption Regulation (TTBER, 2014).

#### **Exhaustion**

The EU has the principle of regional exhaustion. This means that within the EU the principle of international exhaustion applies.

# VII National and International Policy Design

#### **National and International Policy Design**

The international discussion concerning licensing that started in UNCTAD ended when the TRIPS Agreement was concluded. However, the TRIPS Agreement only set out the breadth of the discretion the national governments have, and therefore national licensing regulations has yet to be standardized. A standardized law would facilitate international business operations. On the other hand, it may not reflect the realities of relevant policies and regulations of individual countries, all within different stages of development. Therefore, to what extent standardization is desirable is arguable and this should always be kept in mind when discussing the harmonization of licensing regulations.

Concerning compulsory licensing, the value of its existence is acknowledged in general, however both in Ghana and China the government has shown strong reluctance in utilizing the system. TRIPS has flexibilities in the grant of compulsory licensing by allowing member states to grant when procedural requirements are met.

However, national governments are not utilizing this system despite their lack of technology because they do not have licensees who could actually implement the technology, or because they want technology transfer including know-how rather than mere allowance. The gap in technical ability is the reason why licensing platforms such as WIPO GREEN become necessary.

Concerning exhaustion, it can be said that for developed countries, national or regional exhaustion is better not only for their own industry but also to encourage technology transfer. When the high-end market is protected through the exhaustion principle, patent holders could license their technologies out to countries with low manufacturing costs without fear of the licensees destroying the price of the home market.

This is a good way to protect the markets despite some national laws in developing countries prohibiting licensing agreements to limit exports of products.

For countries wishing to encourage innovations and develop their own industry, national exhaustion is also favorable. In Ghana for example, the cost of locally manufacturing industrial products is still high compared to other more industrialized countries. To protect the local market from foreign competitors would be important in nurturing their industry and technology.

Adopting the principle of international exhaustion can be considered in countries with very few industries demanding protection and it is unlikely that they can develop their industry in the future. It is also suitable for countries in which people are suffering from extreme poverty and need affordable goods, as prices of goods can be expected to go down.

It must also be noted that international exhaustion also has its own merits. The idea that the right holder can exercise their right only once, universally, is clear and reasonable. The aforementioned benefits of national exhaustion can be solved by modified international exhaustion, that allows national exhaustion for limited cases when it is necessary for humanitarian reasons. This then would sacrifice the simplicity of the international exhaustion system, but is worth considering.

In order to further promote licensing, the introduction of the license of right system would be of great importance. This system not only encourage reasonable and non-discriminatory licensing, but also allows the patent office or competent authorities to decide on licensing fees when the parties cannot agree on the price. This benefit should be emphasized in light of the modern patent wars especially in the field of telecommunications.

Regulations concerning voluntary licensing would be difficult to standardize, as the determining factors such as stage of development, economic power, scale of market, the technological level of the country and the bargaining power of licensees greatly differ from country to country. It is necessary to allow some flexibility in the regulations and at the same time maintain clarity in the execution of policies and legislation. As a country develops, licensing regulations also need to change in order to reflect the increased bargaining power of licensees in the country and allow more space for creative licensing agreements.

In addition to all this, it is vital in the long term that developing countries are supported to develop their own technology based on the licensed technology and to benefit from the innovation. To create an IP system that benefits every country, including developing countries, cooperation in human resource development that enables company of all sizes to obtain IP rights and to generate profits from their IP is necessary.

#### **Licensing Platforms**

It is common that international organizations create licensing platforms. Major lessons learned from these platforms are as follows.

First of all, there are limitations to what pure patent licensing can do to improve the technical ability of companies and technicians in developing countries. Package licensing that is a mixture of patents and relevant know-how is needed; however, in previous examples emphasis was not sufficiently put on this point.

Second, the financial inability of licensees to afford technology transfer remains as a huge problem. International organizations can play a role in connecting technology providers, seekers and financial institutions utilizing their network.

Third, patent pools are convenient for realizing "one-stop licensing" and to cut the negotiation cost. However, it is not necessarily substitutable for the aforementioned package licensing. Therefore, a pool should, whenever necessary, be supplemented with technical support.

Lastly, for technologies which are still not mature enough to be applicable in the field, especially technologies owned by non-practicing entities such as universities, national and international institutions can aid in establishing an IP right and using the exclusivity to enable companies to exploit the technology while licensing it out at a reasonable royalty or no royalty for humanitarian purposes.

Daisaku Muranishi, Raisensu Keiyaku no "Iroha" Patent 2011, Vol.64 No.13, 5

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<sup>4</sup> http://newsroom.toyota.co.jp/en/detail/4663446

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<sup>6</sup> http://www.jipa.or.jp/jyohou\_hasin/sympo/pdf/sym11\_wipo\_green.pdf

<sup>&</sup>lt;sup>7</sup> http://www.goldenrice.org/Content2-How/how9 IP.php

<sup>8</sup> http://www.medicinespatentpool.org/about/

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<sup>10</sup> As of Apr. 14, 2016. http://www.wipo.int/research/en/collabor ations/

<sup>11</sup> Interview with Larry Horn, CEO of MPEG LA.

European Patent Office. Patents and clean energy in Africa (2013) http://www.epo.org/news-issues/technology/sustainable -technologies/clean-energy/patents-africa.html

<sup>&</sup>lt;sup>13</sup> International Code of Conduct on the Transfer of Technolog y (1985 draft) 1.5

<sup>&</sup>lt;sup>14</sup> Article 40

<sup>15</sup> Article 8

https://www.ige.ch/en/legal-info/international-cooperation/country-specific-projects/ghana.html

<sup>&</sup>lt;sup>17</sup> Interview with a Ghanaian government officer.

<sup>&</sup>lt;sup>18</sup> TRIPS Agreement Article 31(f)

- <sup>19</sup> Interview with a Ghanaian government officer and a consul tant to the Ghanaian government.
- <sup>20</sup> ANNEX TO THE PROTOCOL AMENDING THE TRIPS AGREEMENT, Article 31 bis 1
- <sup>21</sup> ANNEX TO THE PROTOCOL AMENDING THE TRIPS AGREEMENT, Article 31 bis 3
- AGREEMENT, Article 31 bis 3

  22 Technology Transfer Regulation 1(1), 2(2)

  23 Technology Transfer Regulation 2(2)

  24 Technology Transfer Regulation 4(c)

  25 Technology Transfer Regulation 4(i)

  26 Technology Transfer Regulation 8(1)

  27 Technology Transfer Regulation 9

  28 Technology Transfer Regulation 14,15

- <sup>29</sup> See supra note 19
- <sup>30</sup> Xintian Yin, Zhongguo Zhuanlifa Xiangjie (2011) 494
- 31 Revised in 1992, 2000, and 2008.
- 32 The current draft patent law Articles 82-85 concerns the lic ense of right system.
- <sup>33</sup> Patent Law Article 82
- 34 Regulations on Technology Import and Export Administratio n, Article 29
- 35 Regulations on Technology Import and Export Administratio n, Article 27
- <sup>36</sup> Patent Law, Article 69
- <sup>37</sup> See supra note 30 803-804