

● DISCLOSURE REQUIREMENT OF THE TRIPS AGREEMENT: IMPLICATIONS FOR DEVELOPING COUNTRIES



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Abstract

Article 29.1 of the TRIPS Agreement requires member countries to disclose the invention 'in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.' Member countries may also require the applicant 'to indicate the best mode for carrying out the invention known to the inventor.' Developed countries argue that because of the territorial nature of patent rights, patent applications in developing countries with 'best mode' disclosure requirement to a 'person skilled in the art' ensures access to technologies with sufficient and valuable information which facilitate innovators of developing countries to design around and improve upon the invention during the patent term and use the invention after the patent term resulting in transfer and dissemination of technology to developing countries. However, some legal scholars argue that, in practice, disclosures in patent applications are drafted in such a way that they never actually disclose anything useful for innovators thereby subvert patent laws and do not induce transfer and dissemination of technology to developing countries. How to implement 'best mode' disclosure requirement to a 'person skilled in the art' in developing countries is a key issue which needs serious consideration. The paper reviews disclosure requirement provision of the TRIPS to analyze flexibilities available in the provision from developing countries' perspective with the aim to portray its significant implications for developing countries.

Key words

Patent, Patent Application, Disclosure and TRIPS Agreement.

I. INTRODUCTION

A patent is a legal document that confers a set of exclusive rights for the use and exploitation of an invention in exchange for its public disclosure. Today, due to the evolution from the industrial age to the information age, the disclosed patent information is becoming an ever more crucial force behind the competitiveness of industrial organisations. The commercial value of patent information is increasing, global economic competition is perpetually growing, and it is more and more based on technological leadership. Patent disclosure indirectly stimulates others' future innovation by revealing to them the invention so that they can use it fruitfully when the patent term expires and so that they can design around, improve upon, or be inspired by the invention both during and after the patent term. Based on social-contract theory, best mode disclosure requirement helps to ensure that the public receives a full and

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honest disclosure in return for the grant of patent. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) includes specific obligations on the disclosure of the invention in Article 29.1. By the implementation of the TRIPS Agreement the requirement to indicate the best mode for carrying out the invention have been adopted by most members of WTO. If the flexibilities inherent in 'best mode' disclosure requirement to a 'person skilled in the art' is well enforced in developing countries, the most valuable information of invention will be included in the patent application, and innovators of developing countries can use such information to build newer technologies based on the imported technologies with sufficient and pivotal information. However, there has been surprisingly little investigation into whether the disclosure requirement serves its purported purpose of disclosing new inventions adequately to the public, and in particular, to the experts who can build on this information for further innovation resulting in transfer and dissemination of technology to developing countries.

II. DEFINING DISCLOSURE REQUIREMENT

As used in this paper, the phrase "disclosure requirement" refers to the basic idea that inventors must disclose information about their inventions—the technological advances that they have made in order to obtain a patent¹. Disclosure has historically been one of the fundamental principles of patent law. It provided one of the early justifications for the granting of patents². The justification of patent rights based on disclosure was in some cases put in the form of a social-contract theory: "society makes a contract with the inventor by which it agrees to grant him the exclusive use of the invention for a period and in return the inventor agrees to disclose technical information in order that it will later be to society."³ Modern patent laws state that the invention must be described and disclosed. This is basic patent law, the *quid pro quo* for the grant of a patent. The disclosure of invention in patent application is mandatory.⁴ The sanction for failing to disclose the invention in a sufficient manner is the rejection of the application, the

¹Jason Rantanen, "Patent Law's Disclosure Requirement" 45 Loy. U. Chi. L.J. 373 (2013).

²"In the absence of protection against imitation by others, an inventor will keep his invention secret. This secret will die with the inventor and society will lose the new art. Hence, a means must be devised to induce the inventor to disclose his secret for the use of future generations. This can best be done by granting him an exclusive patent which protects him against imitation" cited in Edith T. Penrose, *The economics of the international patent system* 32 (The Johns Hopkins, Baltimore, 1951).

³Lord Mansfield was the first jurist to formulate the social contract theory when, in a 1778 case, he pronounced that "the law relative to patents requires, as a price the individual should pay the people for his monopoly, that he should enrol, to the very best of his knowledge and judgment, the fullest and most sufficient description of all the particulars on which the effect depended, that he was at the time able to do". *Liardet v. Johnson*, cited in Edith T. Penrose, *The economics of the international patent system* 32 (The Johns Hopkins, Baltimore, 1951).

⁴A patent application includes the specification, the claims and the summary of the invention. The specification (or description) of the invention is generally written like a science or engineering report describing the problem the inventor faced, the prior art and the steps taken to solve the problem. The essential goals of the specification are to substantiate the evidence of completion of the act of invention, that is, whether the inventor has effectively made a patentable invention; and to make new technical information available to the public so others are able to recreate the invention and improve upon it. Thus, disclosure of patent, in theory, facilitates the transfer and dissemination of technology.



invalidation of the patent, or declaration of nullity according to different country's patent law. Sufficiency of disclosure is a crucial component of the patent's function of technology dissemination.⁵

Disclosure requirement is an internationally recognized condition for obtaining a patent. Disclosure is established as a core requirement under the TRIPS Agreement.⁶ Article 29.1 states that “members shall require that an applicant for a patent shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.” A robust disclosure requirement can produce many desirable results: (1) It ensures that the inventor teaches others—specifically, others who would be able to make use of the information—how to replicate the technological advance that the inventor has discovered; (2) It ensures that patents provide information about cutting-edge technological advances that others can use to improve on the new technology; (3) It creates higher quality prior art. Patent examiners will also have a much easier time finding and using the applicant's disclosure as prior art since it has taken the form of a patent; (4) It limits the maximum scope of patent claims. It ensures that the applicant is not claiming every novel and non-obvious variant of the invention regardless of the degree to which it is actually related to the thing invented. A robust disclosure helps limit the applicant to what she has actually invented and taught, even if she tries to claim something that is far broader; (5) It helps the drafter of the patent to express, and the reader of the patent to understand, what the claims are actually saying; and (6) It establishes the outer boundaries of what the applicant might claim, at least with respect to priority based on that effective filing date which helps potential infringers figure out whether or not new claims that might cover their product are even possible. The weaker the disclosure requirement, the easier it is to later stretch the scope of the patent to encompass competitors' products.⁷

III. TRIPS NEGOTIATING HISTORY OF DISCLOSURE REQUIREMENT

While the specific requirements of the obligation to disclose the invention and their practical enforcement (by patent offices and courts) vary among countries, such obligation was a well established element in patent law at the time of the negotiation of TRIPS.⁸ The duties of the patent owner was one of the most controversial parts of the TRIPS Agreement negotiations, since developing countries tried to incorporate an obligation to work the patented invention locally.⁹ Equally, developing countries sought to include a clause against abusive or anticompetitive licencing practices on the part of patent holders.¹⁰

According to the Anell Draft the patent owner should have the following obligations:

⁵Lu Bing-bin, “The Disclosure Requirement for Patent Application: Article 29 of TRIPS Agreement and a Dimensional Exploration” 7 *US-China Law Review* 44 (2010).

⁶Jason Rantanen, “Patent Law's Disclosure Requirement” 45 *Loy. U. Chi. L.J.* 373 (2013).

⁷*Ibid.*

⁸UNCTAD-ICTSD, *Resource Book on TRIPS and Development* 449 (Cambridge, New York, 2005).

⁹Peter-Tobias Stoll, Jan Busche, *et al.* (eds.), *WTO - Trade-Related Aspects of Intellectual Property Rights* 522 (Martinus Nijhoff, Leiden, 2009).

¹⁰See *supra* note 8 at 450.

“to disclose prior to grant the invention in a clear and complete manner to permit a person versed in the technical field to put the invention into practice and in particular to indicate the best mode for carrying out the invention; to give information concerning corresponding foreign applications and grants; to work the patented invention in the territory of the Party granting it within the time limits fixed by national legislation; in respect of licence contracts and contracts assigning patents, to refrain from engaging in abusive or anticompetitive practices adversely affecting the transfer of technology, subject to the sanctions provided for in Sections 8 and 9 below.”¹¹

The first two draft paragraphs were essentially the same as under the current Article 29. In addition, the Brussels Draft still contained references to a local working obligation and abusive or anti-competitive licencing practices. By contrast to the Anell Draft, however, these obligations were optional.¹²

“Parties may provide that a patent owner shall have the following obligations: To ensure the working exploitation of the patented invention in order to satisfy the reasonable requirements of the public. For the purposes of this Agreement the term “working” may be deemed by parties normally to mean manufacture of a patented product or industrial application of a patented process and to exclude importation; in respect of licensing contracts and contracts assigning patents, to refrain from engaging in abusive or anti-competitive practices adversely affecting the transfer of technology; parties may adopt the measures referred to in Articles 31, 32 and 40 below to remedy the non-fulfillment of the obligations mentioned in paragraph 3 above.”¹³

In the subsequent negotiations, the working obligation disappeared from the final text of Article 29 as a result of the compromise struck in December 1991, which was reflected in the wording of Article 27.1. Article 29, as adopted, was finally limited to matters relating to the disclosure of the invention for purposes of examination and of execution of the invention after the expiry of the patent term.¹⁴ The clause on anti-competitive licensing practices was moved to the more general provision under Article 40 of TRIPS, thus disconnecting it from the patent application procedure.¹⁵

IV. INTERPRETATIONS OF DISCLOSURE REQUIREMENT

Article 29 contains one mandatory and two facultative elements. First, it requires members to disclose the invention “in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art”. It, thus, unsurprisingly incorporates the “enablement” requirement, as usually established in national patent

¹¹GATT, *Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit*

¹²Goods, Chairman’s Report to the GNG (23 July 1990). MTN.GNG/NG11/W/76; See *supra* note 8 at 450.

¹³GATT, *Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit; Goods*, Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations (3 December 1990). Revision, MTN.TNC/W/35/Rev.1.

¹⁴GATT, *Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations*, Trade Negotiations Committee (20 December 1991). MTN.TNG/W/FA.

¹⁵See *supra* note 8 at 451.



laws.¹⁶ Under Indian law, for instance, the doctrine is codified in *Section 10(4)(b)* of The Patents Act, 1970 to “disclose the best method of performing the invention which is known to the applicant and for which he is entitled to claim protection”¹⁷. *Section 64* of the Act provides as a ground of revocation of patent in *sub-section (1) (h)* that: “the complete specification does not sufficiently and fairly describe the invention and the method by which it is to be performed, that is to say, that the description of the method or the instructions for the working of the invention, as contained in the complete specification are not by themselves sufficient to enable a person in India possessing average skill in, and average knowledge of, the art to which the invention relates, to work the invention, or that it does not disclose the best method of performing it which was known to the applicant for the patent and for which he was entitled to claim protection”¹⁸. Such requirement aims at ensuring that patents perform their informative function, by demanding that the patent specification enable those skilled in the art to make and use the full scope of the invention without undue experimentation.¹⁹

Second, Article 29.1 introduces, in a facultative manner, the best mode requirement. This requirement aims at preventing inventors from obtaining protection while concealing from the public the preferred embodiments of their inventions.²⁰ The best mode requirement is a subjective one: what constitutes the best mode of executing the invention depends upon what the inventor knew and considered to be the best way of executing his invention, at the time of the filing of the patent application or the priority date.²¹ This information rarely includes the actual know-how for the execution of the invention, since at the time of filing there is seldom production experience.²²

The Agreement leaves considerable room for the implementation of the standards provided for in Article 29.1. WTO members could for example strictly implement these standards with a view to facilitating competitive innovation, adapting protected inventions to local conditions, or merely practicing them once the term of protection expires.²³ Developing countries could strictly implement the standards mentioned in Article 29.1 ensuring the completeness and quality of patent disclosure, in a manner accessible to local researchers and industry in developing countries. Patent offices may,

¹⁶*Ibid.*

¹⁷*Section 10(4)(b)* of The Patents Act, 1970.

¹⁸*Section 64* of the Patents Act, 1970.

¹⁹See *supra* note 8 at 451.

²⁰See *supra* note 8 at 451.

²¹The priority date means the date on which the first application was made, in accordance with Article 4 of the Paris Convention. The purpose of this right is to enable someone who has filed a patent application in one country to file posterior applications for the same patent in the other countries of the Paris Union. In this scenario, it is possible that a third person in one of these other countries files an application for the same patent before the original applicant has a chance to deposit his application for that country. The priority date results in the recognition of the original filing in all the other Paris Union countries. Thus, any applications by third persons intervening between the original filing in one country and any subsequent filings by the original applicant in the other countries will be considered posterior to the original filing. The condition is, however, that the subsequent filings in the other countries be effectuated within 12 months from the date of filing of the first application. For details, see Article 4A, B, C of the Paris Convention.

²²See *supra* note 8 at 451.

²³UNCTAD, *The TRIPS Agreement and Developing Countries* 33 (UNCTAD, Geneva, 1997).

hence, adopt rules requiring the proper identification and description of inventions in a manner understandable to local people skilled in the art.

V. IMPLICATIONS FOR DEVELOPING COUNTRIES

TRIPS Agreement includes specific obligations on the disclosure of the invention in Article 29.1. By the implementation of the TRIPS Agreement the requirement to indicate the best method for carrying out the invention have been adopted by most members of WTO. Data shows that after introduction of product patent regime in India, number of patents granted to foreigners in India increased from 1147 (2004-05) to 6236 (2010-11).²⁴ Since patent requires disclosure, it has been argued by developed countries that the disclosure of inventions mandated by Article 29.1 constitutes a mode of technology transfer to developing countries, but there are several problems with this argument.²⁵

First, although full disclosure of the invention is a basic principle of patent law and remains one of the traditional justifications for the granting of exclusivity to the inventor, patent specifications generally convey the minimum information required to get the patent granted. Skilled patent agents would normally avoid including information that may help competitors to invent around or rapidly implement the invention, once the patent has expired. In addition, when several embodiments of an invention are claimed, often the applicant omits information allowing the reproduction of all such embodiments by a third party. Second, until the patent expires, a party interested in using the protected technology in countries where the patent has been granted will always need a licence from the patent owner. In other words, disclosure makes the invention known but not immediately accessible for exploitation without permission. Third, in some cases, such as where inventions pertain to microorganisms, access to the relevant knowledge only becomes possible through access to the biological material itself. Such access may be made available to third parties with the publication of the patent application, but it is allowed for experimental purposes only, and not for commercial use. Fourth, patent specifications are difficult to implement for technicians in developing countries without experience in a particular technical field, especially because such specifications seldom include the actual know-how (which usually is not available at the time the application is filed) necessary for executing the invention. Finally, most patents are never industrially executed and, in many cases, developing a product or process based on a patented idea requires significant experimental and development work. Moreover, meeting the patentability requirements does not ensure the marketability and commercial success of any invention. Only 37 percent of U.S patents are renewed 11.5 years after they issue, while at any given time 95 percent of existing patents are unlicensed and over 97 per cent generate no royalties. In sum, the informative effects of patent grants cannot be deemed a substitute for transfer of technology mechanisms through which companies in developing countries actually gain access to proven and commercially viable technologies.²⁶

²⁴Annual Reports of the Controller General of Patents, Design and Trade Marks, available at: <http://www.nstmis-dst.org/PDF/TableNo34.pdf> (visited on 13 August 2017).

²⁵Keith E. Maskus and Jerome H. Reichman (eds.), *International Public Goods and Transfer of Technology under A Globalised Intellectual Property Regime* 239 (Cambridge, New York, 2005).

²⁶*Ibid.*



Further, the disclosure of an invention is not in itself flexibility, but, on the contrary, is a requirement imposed upon the applicant as a condition for the grant of the patent. Nevertheless, related aspects left open by the TRIPS Agreement are able to be implemented in a flexible way, such as the 'best mode requirement' and 'a person skilled in the art'.²⁷ The scope of broad claims under 'best mode requirement' may be rarely justified because they discourage production and innovation, particularly when systematically allowed for merely incremental innovations. One modality of broad claims is that based on functional terms, i.e. claims that describe what an invention does, not what the invention structurally is. Legislation with strict approach to the 'best mode requirement' may require that each application shall relate to one invention only.²⁸ As a result, separate applications need to be filed for intermediates and the final product and eventually for processes of manufacture. For example, a provision may require the structural definition of chemical products and separate applications for an active ingredient and their derivatives and salts.²⁹

Disclosure requirement aims to disclose technical knowledge to the 'person skilled in the art' to encourage transfer and dissemination of technology; however, it does not account for the type of knowledge that the 'person skilled in the art' really needs i.e. tacit knowledge.³⁰ Since disclosure requirement is one of the closest existing means to transfer knowledge from a source to a recipient, developing countries may require disclosing tacit knowledge associated with the invention in 'best mode' requirement for effective transfer and dissemination of technology.³¹ It is important to note that the TRIPS Agreement does not prevent a member country from adopting a strict concept of 'a person skilled in the art' for assessing the patentability to consider the extent of disclosure of an invention. In fact, the disclosure requirement could be set in developing countries in accordance with the average knowledge of a skilled person in such countries.

VI. CONCLUDING OBSERVATION

In order to effectively leverage the flexibilities, developing countries must ensure that there is a complete and enabling disclosure of the patented invention. We argue that the provision ought to be wide enough to permit developing country entities to experiment on patented inventions with a view towards arriving at improvements or even inventing around such patents. Patent offices of developing countries may, hence, adopt rules requiring the proper identification and description of inventions in a manner understandable to the average knowledge of local people skilled in the art. It is suggested that, in order to maximise the beneficial effects of patent applications and

²⁷WIPO, Committee on Development and Intellectual Property, Document prepared by the Secretariat (18 March 2011). CDIP/7/3.

²⁸Carlos M. Correa, *Multilateral Agreements and Policy Opportunities 8* (Initiative for Policy Dialogue, New York, 2008).

²⁹Mario Cimoli, Giovanni Dosi, et al., *Intellectual Property Rights: Legal and Economic Challenges for Development 422* (Oxford, New York, 2014).

³⁰Margaret McInerney, "Tacit Knowledge Transfer with Patent Law: Exploring Clean Technology Transfers" 21 *Fordham Intell. Prop. Media & Ent. L.J.* 493 (2011).

³¹*Ibid.*

patent databases, the WTO could develop ways in which developing countries may make full use of Article 29.1 of TRIPS Agreement which requires patent applicants, when disclosing their invention, to indicate the 'best mode' to a 'person skilled in the art' for carrying out the invention to enhance the practical value of a patent as a source of publicly available technological information. It is also suggested that, disclosure requirement for patent could be set in developing countries that each application should relate to one invention only as under section 7(1) of the Indian Patents Act, 1970, along with tacit knowledge in a manner understandable to the average knowledge of local people skilled in the art.