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INTRODUCTION

A lot has already been written on the role of patents in the transfer of technology to developing countries minded to achieve industrial development. The argument runs that patents encourage investment in a country because investors are concerned to protect their technological and other innovations from wanton copying without their benefiting from the ensuing product or process. This explains why many developing countries seek to develop their patent laws to acceptable international standards.

This paper argues that while it may be the case that patents encourage transfer of technology and can therefore lead to development, they could impede development in countries where there is not sufficient innovative capacity. In such a case the only beneficiaries of patents will be foreigners whose single most important wish is to protect their innovations and carve out for themselves large shares in the international trade and markets. They use such patents as scarecrows to ward off potential competitors. The problem with the patent system stems from provisions ingrained in the Paris Convention which consists of a series of international agreements regulating the granting, protection and use of patents. The problem has been exacerbated by the introduction into the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) of a framework for Trade Related Aspects of Intellectual Property Rights (TRIPS) negotiations. Within this framework, developed western states are arguing for more stringent protection of intellectual property rights and the inclusion of such protection in their trade transactions with developing countries. The programme is to be implemented through both bilateral and multilateral actions.

I. The Legal Nature of Patent

Patents belong to the wider genus of rights known as intellectual property rights. These are a form of private property rights which are the products of the conferment on legal persons by society, through its legal systems of the right to exclude others from the use and enjoyment of a thing. Intellectual property rights deal with creations of the human intellect. These rights operate on the basis that people who have made a meaningful contribution through their ingenuity, skill or mastery and application of an art deserve to be given a specified degree of ownership therefore (Juma and Ojwang: 1989).

A patent has been defined as a “grant ... to inventors and to other persons deriving their rights from the inventors, for a limited period of years, conferring on them the right to. exclude others from manufacturing, using or selling a patented product or from utilizing a patented method or process” (Vedataman, 1971:93). In other words; it is a legally binding monopoly which confers on the patentee a proprietary right to his invention and constitutes personal property that can be assigned, licensed or passed from the patentee by operation of law (Yankey, 1987). This allows the patentee to share his knowledge with others without losing it. However, the patent also constitutes a trade-off between the state and the inventor. In return for prompt disclosure of new inventions which may assist in scientific progress and economic development the state grants a limited exclusionary right to the inventor (UNCTAD, 1975; Yankey, 1987).

For an invention to be patentable, it has to be novel, constitute an inventive step and be of industrial applicability. An invention is new if it does not form part of the state of the art constituted by everything made available to the public anywhere or in the particular country at any time before the filing date or, where applicable, the priority date, by means of a written or oral disclosure, by use or in any other way. Inventive step is constituted by an invention if it does not form the state of the art in the sense that it would not have occurred to any person

skilled in the particular technical field who happened to be asked to find a solution to the particular problem (*Ibid.*).

Territoriality is an important principle of patents and intellectual property rights generally. Patent rights granted by a particular state are only exercisable within that state. Thus, if a patentee desires protection in another state he has to apply for patent rights in accordance with the laws of that other state. This fact notwithstanding, there are agreements which purport to make patents effective in more than one country (UNCTAD, 1975). These are, however, the exception rather than the rule.

II. The International Patent System

It is the imperatives of international trade that led to the establishment of international arrangements to streamline the various forms of national patent laws. States have sovereign power to legislate on the existence and nature of patent rights in their own territories. They have, however, accepted limitations on that power in the context of international arrangements for economic co-operation and integration with neighbouring countries.

Following the industrial revolution and the emergence in the 19th century of industrial capitalism in Britain, Europe and the United States of America, it was found necessary to devise minimum rules applicable to patents. Before then, protection of an inventor's rights was dependent on reciprocity between the home country of the inventor and the foreign country in which he desired protection. This led to the establishment of an international patent regime which is the Paris Convention for the Protection of Industrial Property, 1883, which has since been revised various times.

The Paris Convention has about 81 members of which more than half are developing countries (Yankey, 1987). At the 1878 conference on the preparation of the convention, it was agreed that metropolitan countries should extend their patent laws and systems to the colonies (Penrose, 1951). Some ex-colonies have maintained such laws while others, on attaining independence, have ratified the Paris Convention. Kenya, for instance, had a "dependent patent system" (Ojwang, 1989:35) up to 1989. The Patent Registration Act (Cap. 508 of the Laws of Kenya) provided merely for the registration of patents already granted by the British Patent Office, under the United Kingdom Legislation. The new legal instrument arose out of the intense debate on innovation and development and the need to protect local innovators and inventors (Juma and Ojwang, 1989). That debate resulted in the Industrial Property Act of 1989 (Act No. 19 of 1989) which provides a framework for the granting and regulation of patent rights in Kenya.

Most developing countries joined the Paris Union long after its rules were set out. Consequently, their role in shaping these rules is non-existent. Further, the 62 developing countries that are not members of the Union together account for nearly 80 per cent of the population of all developing countries and over half of the world population (UNCTAD, 1975). Despite the revisions to the Convention, the main thrust of its provisions has remained unchanged.

III. The Main Provisions of the Paris Convention Affecting Developing Countries

Vaitsos (1972) categorizes the major provisions of the Paris Convention into four: those of substantive law, self-executing ones, provisions requiring or permitting states to legislate and those of public international law. We will deal with these categories only in so far as they affect developing countries in their quest for foreign technology. In particular, we will examine the articles of the Convention dealing with the principles of national treatment, priority rights, compulsory licensing and imports.

(a) National Treatment

This is one of the provisions of substantive law and is dealt with in Article 2 of the Convention. It demands that countries that are members of the Union apply the same treatment to nationals of other member countries as they give to their own nationals. This principle is not congruent with the interests of developing countries because most patents granted by these countries are foreign owned. The principle ignores the needs for protection of a relatively small number of national patent-holders in developing countries leaving them open to competition from foreigners. Equality of treatment would operate to the mutual advantage of convention countries if all were either at the same or almost the same level of technical and economic development. As this situation does not now obtain, the principle gives the more developed members greater leverage than it does to the developing ones. This problem is aggravated by the fact that the majority of patents owned by nationals in developing countries correspond to individual inventors while the foreign owned ones involve transnational corporations as will be shown below. The need for protection and inducement of inventive and innovative activities for these two groups are quite distinct and raise different issues (Yankey, 1987; Vaitos, 1972).

Developed and developing countries introduce distinct treatment and regulations applicable to economic activities of foreigners and nationals. This is quite different from the equal treatment usually sanctioned by law for civil rights and guarantees as distinct political rights. The former distinctions exist in investment activities and capital flows, currency regulations and technology contracts. One wonders why this should not be the case for patents. Vaitos (1972) proffers a legal reason for this to be that subsidiaries of foreign firms incorporated in a country have a national legal personality even if they are wholly foreign owned and patents can be registered in the name of a subsidiary to avoid discriminatory treatment between foreign owned and national entities. The institution of any distinctions between locally owned and foreign owned companies in respect of patents by developing countries may lead to retaliatory measures by developed countries, blocking trade and the flow of technology. (Yankey, 1987).

(b) Priority Rights

Article 4 of the Convention entitles any inventor who has duly filed an application for a patent in a Convention country to have a priority of twelve months within which to file similar application in other Convention countries. These priority rights are maintained under conditions of regular national filing defined in Article 4A(3) to mean “any filing that is adequate to establish the date on which the application was filed in the country concerned whatever may be the outcome of the application”. Priority rights can thus be claimed whether or not an application is allowed. They protect patent applicants from losing novelty of inventions in cases of non-concurrent applications in countries insistent on absolute as opposed to relative novelty. Article 4B states that the novelty of an invention will not be disturbed by reason of any act done in the course of the priority periods with regard to elements of the invention not included in previous applications.

The patent system in providing for priority rights safeguards the interests of the patent applicants at the expense of the public interest (Yankey, 1987; Vaitos, 1972). Needless to say, priority rights favour transnational corporations which have the necessary capital to set the machinery for claiming these rights in motion in different countries. For the lone inventor, then, the priority rights are devoid of content in the sense that he lacks the requisite power to exercise them. An inventor in a developing country can be prevented from exploiting his invention by a priority claim and this hampers research and development in such a country.

Article 4B, establishing the independence of patents obtained in different countries, reaffirms the principle that countries are free to decide on matters relating to patentability and patents generally, which is in consonance with the concept of state sovereignty. By virtue of this article, patent applications that have been nullified in one member country or even in the country of the prior grant on the grounds of non-patentability could still be valid or granted in other countries if they do not take similar action or reject them. This article upholds the interests of the patentee.

(c) Compulsory Licences

This and the closely allied right to forfeit, are dealt with in Article 5. Developing countries, in granting patents, are eager to see such patents worked within their territories. Unfortunately, most patents they grant are never directly worked therein; the know-how covered is not used in productive activities taking place within their national boundaries. It is because of this that Article 5 is included in the Convention but detailed provisions within this article make the safeguards in operative, reducing them to mere myths.

Article 5A(4) specifies that compulsory licences may not be applied, for on the ground of failure to work or insufficient working “before the expiration of a period of 4 years from the date of the filing of the patent application or 3 years from the grant of the patent, whichever period expires last...”. It is not unusual for the grant of a patent to take more than 3 years from the time of the patent application, particularly if prior examination is required of the substance of the application. In some Latin American countries, for instance, it was estimated that it takes on average four years to grant a patent in which case the period for commencing the necessary action so as to obtain a compulsory licence exceeds seven years on average from the date of the application. In addition to these delays one has to count delays in obtaining a decision from a competent authority for the granting of the compulsory licence which could take up to three and a half years as in Colombia (Vaitsos, 1972).

Transnational corporations have the option to grant the first compulsory licence to one of their subsidiaries in a particular country. This leads to further delays in obtaining a second licence and abuses can continue for a long period such that when it is eventually obtained by an independent person, the technology embedded in it could have already become obsolete.

Article 5A(4) further stipulates that compulsory licences “shall be refused” if the patentee justifies his inaction by legitimate reason”. Thus, the primary concern of the Paris Convention is the patentee’s interest and not other parties or the public in general whose interests might demand that a compulsory licence be granted.

Long delays in obtaining these licences, cost of litigation and the production uncertainties have all to be seen in the context of developing countries’ firms confronting transnational corporations. The former, even after obtaining a licence, might still have to depend on the latter for technology necessary to exploit the patent and for the brand name to sell the resultant product”(Vaitsos, 1972).

Article 5A(3) makes forfeiture due to non-working a subsidiary remedial measure exercisable only after one or more compulsory licences have been granted and have been proved insufficient to prevent non-working. The minimum time requirement for forfeiture is two years after the grant of the first compulsory licence and after adequate proof in the courts or otherwise of the insufficiency of such a licence to correct the abuses involved. Forfeiture can thus only take place after the ninth year or even more given the delays likely to occur.

Article 5A(2) leaves countries free to decide whether or not to apply provisions on compulsory licences but if a country decides to do so, it must respect the minimum time requirements stipulated in paragraph 4 which is mandatory. While Article 5A (2) and (4) are supposed to impose limits on the privileges of patent holders, it is interesting to note that no reference is made in them as to the requirements and procedures for determining failure to work. The provision is nipped at the bud by the provision in Article 5A(1) that the importation of patented products by a patentee in any of the countries of the Union shall not on itself entail forfeiture of the patent.

Developing countries are of the view that importation of the patented products does not serve as a substitute for the working of patents in their territories. Article 5A(1) creates a situation whereby, the patentee has the monopoly to import patented products and therefore rules out competition. This could work to the disadvantage of the consumers and the developing country as a whole.

Article 5 quater deals only with imported products manufactured or produced by patented processes’ and not with imported patented products in general. It provides that when a country grants to a product (which is manufactured locally by a patented process) privileges with respect to its sale and use, then the same privileges will be extended to the patentee against any imported product manufactured by the patented process. Importation by another person constitutes an infringement whether or not local production exists. Such import monopoly is assured even if the process in question is not patented in the exporting country.

IV. Structure of Ownership of Patents and Changing Trends in Patenting

The early patent laws were designed to protect the product of the inventive genius who worked on his project in his “attic or basement”. With technological expansion, however, the main source of inventions has come to be the well equipped laboratories of industry and the patent reward has been transmuted to a system intended to stimulate and catalyse the growth of industry and commerce.

Big corporate firms have largely taken over inventive activity from the inventor and thus have increased their share of patents to the detriment of the latter. This is largely because science-based industrial corporations, by virtue of their capital, are able not only to buy the best scientific brains and other resources but also to purchase patents of patentees who do not have such resources to exploit their inventions. Adubifa (1982) states that a developing country’s invention that might otherwise have qualified for a patent grant is generally overlooked because the producers are either ignorant of the need to register it, or lack the finances to set the appropriate mechanisms in motion. The big firms are able to dominate a given industry creating the conditions for their perpetual control over the mainstream inventive activity therein. They can use such dominance to regulate competition and clog any developments in the particular field (Yankey, 1987; UNCTAD, 1975).

The effects of transnational oligopoly are considerable in developing countries where the majority of patents are accounted for by transnational corporations. They are not worked within these countries but are used as import monopoly permits or as scare-crows to ward off any potential competitors from penetrating into the relevant fields. This, coupled with the provisions of the Paris Convention examined above, stunt the growth of local inventive activity to the detriment of the host developing countries.

V. Developing Countries’ View of the Patent System

It need not be stressed that developing countries view the patent system as one of the international policy instruments adversely affecting their development prospects. They have severely criticized its role at the centre of the legal structure within which a large proportion of technological transfers are effected (Lall, 1976). Several authors have analyzed the implications of the system in the particular context of developing countries (Green, 1973; Penrose, 1973; Vaitos, 1972; Yankey, 1987). The debate ranges around how drastic the reforms should be and even around opting out of the system altogether.

It now appears to be generally accepted that some sort of reform in the patent system is necessary. Even firm believers in the virtues of the international system agree that it is liable to abuse against the interests of developing countries in its present form. The United Nations Conference on Trade and Development (UNCTAD) has contributed in the area of patents to efforts aimed at the revision of the Paris Convention. It has achieved success in creating an awareness among developing countries of the inadequacies of the international patent system. It draws their attention to the lopsidedness of the Convention and how it affects them and has suggested relevant areas as targets for revision. The various strands of UNCTAD’s work on the transfer of technology are links in a single chain being forged to strengthen national technology capabilities. It has offered useful suggestions on relevant areas as targets for revision and on possible changes in domestic patent systems in developing countries which would enable them to use patents as a tool for national development.

First, UNCTAD seeks, as a fundamental requirement, the clear recognition of the changing position and requirements of developing countries as embodied in the Declaration on the Establishment of a New International Economic Order (NIEO) adopted on 1st May 1974 by the UN General Assembly at its sixth special session by resolution 32028 and the consequential need to strengthen national policies and legislation in the field relating to industrial property. A balance should also be established between the rights of patent-holders and the national interest (the public interest in the countries granting patent rights). UNCTAD also seeks to have

special treatment accorded to developing countries in the present patent system so that there is discrimination in their favour rather than against them. More specifically, there should no longer be reference to the rights of importation of patented products or processes or products manufactured therefrom; there should be imposed on the applicant for a patent an obligation to show his results to the national authority, and a limited duration of applicability of the patent, perhaps through phased fading out, of its privileges. Finally, national arrangements regarding the administration of patents need to be strengthened.

The most notable piece of work by UNCTAD is the code on transfer of technology which deals with the regulation of the transfer of technology transactions and of the conduct of parties to the transactions and the steps to be taken by the governments to meet their commitments.

VI. Diplomatic Conference for the Revision of the Paris Convention

The proposals before the revision conference have been of two kinds, namely, creating new obligations regarding geographical indications of origins and providing for a preferential lightening of existing obligations for developing countries particularly as regards sanctions (compulsory licences and forfeiture) against failure to work patented inventions.

Although the Convention provides for its revision from time to time to bring it into line with new needs, it was unclear as to the modalities of such revision if diverging positions were held among its member states. In particular it was silent on the majority necessary for the adoption of an amendment and this was taken to imply unanimity. If this is the case, then each member has veto power. While this has protected the Convention against dilution and unpopular change, it has also prevented it from developing into a systematic code for harmonized law (Armitage, 1980).

An Ad Hoc Group of Experts for the Revision of the Convention set up in 1974 by the World Intellectual Property Organization (WIPO), a UN specialized agency charged with the administration of the Convention, adopted a declaration of objectives which included *inter alia*:

1. the promotion of the actual working of inventions in each country;
2. the encouragement of inventive activity in developing countries;
3. the facilitation of the development of technology by developing countries in the improvement of the conditions for the transfer of technology under fair and reasonable terms;
4. the increasing of the potential of developing countries in judging the real value of inventions for which protection is sought;
5. the proper balancing of the needs for economic and social development of countries, on the one hand, and the rights of patentees on the other.

The declaration included consideration for certain defined cases in which exceptions or alternatives to the principle of national treatment and independence of patents as well as preferential treatment for developing countries could be permitted and provision for a maximum degree of freedom to each country to adopt appropriate measures on the legislative and administrative levels consistent with its social and economic development needs (WIPO, 1985). This has served as the basis for the current revision exercise whose attention has focused largely on the sanctions available under Article 5A to enforce local working of patented inventions.

VII. Proposed Article 5

The proposal to amend this Article deals mainly with importation of articles by patentees, failure to work patents, abuses of patent rights, exploitation of patents in the public interest and special provisions for developing countries.

The proposed article proposes to exclude importation as a means of working the patented invention. In this respect it provides that “importation of articles incorporating the patented invention or made by patented process does not constitute working of the patented invention. However, any country of the Union has the right to regard the importation of articles incorporating the patented invention or made by the patented process as fulfilling the requirements of working the patent” (WIPO, 1979, 28). Article 5 quater is proposed to be expunged altogether or developing countries exempted from its obligations.

In the case of non-working or insufficient working, it would be possible for any country to provide for the grant of non-voluntary licences to work the patented invention. Forfeiture and revocation would be available as subsidiary measures.

Though proposed article 5A(3) and (4) maintain the same time limits and conditions as were contained in the Stockholm Revision, before an application for compulsory licence or revocation may be made, shorter periods and easier requirements in invoking these measures have been proposed in favour of developing countries. Meanwhile, a decision has been reached on the majority by which the revised Convention will be adopted. This requires a two-thirds majority provided no more than twelve countries vote against it. Further, where the public interest requires the exploitation of the invention by the state or any person designated by the competent national authorities, such state may grant a non-voluntary licence for its exploitation.

The proposed changes are yet to be finally agreed on and unanimity cannot be expected given that they involve considerable alterations to the basic provisions of the Convention. The Convention is basically a treaty and any new settlement has to be in the interests of all its member states, their citizens and business undertakings upon which their economies depend. Such a consensus is hard to come by if the conduct of the sessions already held is anything to go by. Besides, it is not unusual for parties to change their positions between sessions which works against a prompt conclusion of the revision exercise.

VIII. Attempts by Developing Countries to Harness Patent Systems

Developing countries believed that passing patent legislations and joining the Paris Convention would promote foreign investment. It has, however, become increasingly clear that this is not the case. They have, consequently, endeavoured to change their patent laws.

Reform of patent legislation aims at redefining the concept of “invention” on the basis of subjective criteria requiring inventive activity as an essential element of the invention. They seek to subordinate the individual right of the patent holder to the public interest, weakening the notion of patents as a form of private property in favour of public policy. In Kenya, for example, the Industrial Property Act provides for the qualification of patent rights by the government in the public interest (s. 104).

The scope of patent protection is also sought to be limited to specifically exclude patents from being used as an import monopoly permit by the holder who could import patented products instead of manufacturing them in the patent-granting country. Patent-granting developing countries would like to be able to import identical products at a cheaper price from other competitors in disregard or non-observance of patents (Hanza, 1984).

To ensure that the technology which is important for development can be imported without the obstacle of private monopoly, general and specific restrictions on patent ability have been introduced. Such restrictions exclude the granting of patents for inventions affecting the development of the country concerned. To make patented technology available as soon as possible, the duration of patent protection was reduced drastically in India and Peru.

The principal thrust of the regulatory changes has remained directed at the establishment of effective controls over transfer of technology transactions. Technology is deemed essential to economic and social development of countries. Patents are seen as a conduit via which such technology can be acquired. Developing countries are being subjected to great stress by current developments in the international scene with regard to intellectual property as we will see below.

IX. Trade Related Aspects of Intellectual Property Rights (TRIPS)

The international patent system has been subject to even greater pressure following the success of developed countries, led by the United States, in including intellectual property rights as a negotiating subject in the Uruguay Round of the multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT). They argue that these rights are trade related and there should be a GATT-based agreement on them. This programme aims at ensuring effective domestic enforcement of existing international obligations failing which retaliatory measures can be taken against non-complying countries as well as to establish a minimum set of standards that countries would have to apply irrespective of their degrees of development and to bring new emerging technologies such as biotechnology and computer software within the international intellectual property framework to ensure a maximum level of protection (UNCTAD, 1991).

The main arguments for an enhanced system of protection are based on the magnitude of the losses incurred by innovative firms due to trade distortions and piracy and the benefits that would accrue to all countries from encouragement of innovation. Other arguments are based on the increase in the costs of research and development, the ease with which some patented goods can be imitated, the intensification of technology-based competition, the threat posed by developing countries which have a great capacity to imitate, adapt and compete in international markets, the globalization of the world economy and the lobbying strength of organized industry groups (*Ibid.*; Rao, 1989).

Including patents on the GATT agenda goes against the essence of a patent as originally conceived. Patents were developed to encourage invention not to encourage international trade. Additionally, certain provisions of the Convention that we discussed above are not congruent with GATT provisions. For instance, the Paris Convention and GATT both provide for national treatment. There is a fundamental difference between the concept as perceived by the two international treaties. Whereas the principle of national treatment under the Paris Convention stipulates that whatever rights and obligations are provided in the patent laws for nationals should also be applicable to foreigners, the GATT principle is to the effect that no discrimination should obtain between foreign and domestically produced goods (Article III (4) of the GATT). If the GATT principle is extended to patents, a patent owner will have an inherent right to import and this might discourage him from working the patent locally in favour of domestic economic activity (Rao, 1989). This could also affect compulsory licences in that they could be said to be trade distorting within GATT meaning.

A GATT based agreement on intellectual property rights will fundamentally influence the international patent system as it developed originally. The proposals in the TRIPS negotiations assume that the patentee has an inherent right over the market of the country granting him a patent. Stretched to the limits, imports would be regarded as working of a patent under the proposals. The developed countries are minded to develop a system which fits into their trade strategies and to ensure their economic superiority (UNCTAD, 1991). The proposals are much tougher and pro-patentee than the Paris Convention. The agreement will make it much easier for

transnational corporations to monopolize trade and investment in developing countries.

The attempt to make intellectual property rights a bilateral and reciprocal issue will make it more difficult for the developing nations to use patents to achieve development. There is need for a united developing countries' stand on this issue to enable them to counter developed countries' attempts to marginalize them in international trade and technological advances.

X. Conclusion

Intellectual property rights in general and patents in particular can bring about transfer of technology. Once patented, technology can be used by persons other than the patent owners, while they always ensure it belongs to the owners. The streamlining of the international patent system and the subsequent emphasis of patents' role in promoting international trade has, however, greatly militated against the role of patents in the transfer of technology.

With all the fetters clogging the patent system, one wonders whether patents serve any useful purpose in developing countries. The emphasis is on private property rights as opposed to the public interest. Grant of patents to developing countries creates a monopoly which works against the flow of foreign investment and technology. It also restricts the technological advancement of these countries that could be achieved through adaptation and imitation.

Because of the existence of a large number of foreign patents, it becomes very important to have various policy options to ensure the working of the patents within developing countries. Failure to have such options means that developing countries have no control over the use of technology. Such use will be determined entirely by the patentee who invariably is the transnational corporation and eventually the governments of the developed countries which are the homes of these corporations.

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