

## Patentmatics Monthly Bulletin August 2017.

**Main Theme: Continued backwardness in Indigenous R&D & its potential IPR related Consequences.**

1. August is always a month of very great significance as far as we are concerned, this being an occasion to review our past and plan for the immediate future as far as our “Tryst with Destiny” is concerned. This Web Monthly has always resorted to the practice of at least highlighting a few of the important developments of the respective periods toward furthering our yearning to rise as a modern and developed country in the international fraternity . When on August 15, 1947 our first Prime Minister Jawaharlal Nehru eloquently spoke on our Tryst with Destiny, the nation had risen in one voice in its resolve to strive to achieve its cherished aims and objectives in a foreseeable future. We have since then achieved much but then we are nowhere compared to the contemporary scenario of even fairly advanced countries of the world like China, leave alone the top ones of the West! Objectively speaking, our Long March from innovation to invention and towards meaningful levels of techno-economic self-reliance seem to be only stretching longer and longer and not the other way round as it should have been! Undoubtedly this must be factored into the attitudes and activities of every Indian citizen when he/she traverses through the month of August every year.

2. Let us take for our review this year the most crucial *fulcrum* around which revolves the wheel of self-reliant and modern techno-industrial development, namely, the S&T sector and relevant inventions concretized in accepted terminology, namely, “*Patents & Patenting practices*” once again. It is well realized by experts in the field that one of the very early administrative steps taken by the Nehru government was a review of the then valid Patents and Trade Marks Act 1911 enacted by the alien government as an “UK friendly Act” by a distinguished jurist Justice Tek Chand in 1948. After accepting his recommendation in full with respects to food and related items, the celebrated Justice Raj Gopal Ayyangar Committee was appointed to formulate a new Act

**taking into account the existing socio-economic conditions of the country and its imperative needs for modern development using S&T as vital instruments. It was the culmination of this report which had resulted in the passage of the historic Indian Patents Act 1972 which had effectively enabled our country to qualify her as an “advanced developing country”.**

**Even after the lapse of over a decade since the patent act 1972 was amended in 2005, thanks to India joining the WTO/TRIPS, patent illiteracy continues to be a veritable malaise in by and large all sectors in our country, be they the advanced R&D institutions, government Departments or the modern industries striving to ‘match with the best in global arena! It is indeed quite unbecoming that, according to recent reports, “US turns screws on India over patent laws” meaning that “IPR has been flagged as the biggest concern that the US has with India during the trade policy review ....The biggest stumbling block is its enforcement and It is a major roadblock when it comes to attracting high-technology transfers from the US, which in turn impacts investments.....The main difference between the two sides stems from the fact that while the US sees IPR purely from the commercial point of view, India sees it as a development measure.....” and so on. As and when countries like the US choose to inflict legally acceptable restrictions in IPRs, one does not know quite sure how many of our development sectors including the strategic ones would go through a tailspin! I venture to highlight this point with full seriousness based on my exposure to them during the past years and decades!**

**3. In essence there are possibilities that there could be very serious IPR related conflicts of interest for even strategic projects included in the “Made in India” program, leave alone other very many ongoing strategic/commercial ventures including those in agriculture. In other words it was quintessential that once the country had decided to go in for WTO/TRIPS related requirements, it was incumbent on its part to quickly and vigorously implement programs connected with all aspects related to IPRs in all techno-developmental activities, akin to what China and a few other developing nations had done.**

4. In my role as an S&T specialist and IPR research activist, I was engaged in the above task since late 1990s through dedicated lectures and presentations. I give below one such of my lecture-program delivered before the Maharashtra Chamber of Commerce, Industries and Agriculture on May 15, 2001 at Pune (This was in addition to my lecture at TRDDC in the FN for its R&D staff):

## **Patent Law , an Instrument of Modern Techno- Economic Development and a SWOT Analysis of the New IPR Regime**

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*(Speech delivered by Dr A.D.Damodaran, Ex-Director / CSIR Regional Research Laboratory, Trivandrum, for Mahratta Chambers of Commerce, Industries and Agriculture , and Indian Institute of Metals Chapter, Pune, on May 15,2001. Presently he is working as a free-lance R&D and IPR Consultant).*

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1. I am indeed grateful to the authorities of the Mahratta Chambers of Commerce, Industries and Agriculture ( MCCA) and of the Indian Institute of Metals Chapter, Pune , for giving me an opportunity to speak on this subject .Being one of great contemporary significance I fully realize my responsibility in dealing with the subject in a meaningful and creative manner and I sincerely trust that I shall not fail in my task.

2. Ever since the birth of the modern scientific-technological age, there has been debates as to what is the motive power for wealth creation and rapid industrial and economic growth. Francis Bacon, who lived around 150 years before the Industrial Revolution, advanced his “ linear “ model as below:

Government funded ---> pure science ---> applied science ---> economic  
Academic research or technology growth.

Adam Smith, who lived through the years of the IR, suggested an alternative model as below:

Pre-existing technology ---> new technology ---> wealth.  
Academic science

with the new technology in turn or synergically generating new academic science. Whereas the former was fully accepted as a dictum by the erstwhile socialist countries, the capitalist economies accepted both models with varying levels of joint participation with the industries, with bulk of the public funded R&D tuned essentially to the strategic and long-gestation futuristic programs.

3. As expected, the above policies were reflected also in their approaches to the crucial issue of protection of Intellectual Property Rights right from the beginning with James Watt's Double Acting Steam Engine itself becoming one of the pioneer candidates for patenting. Whereas the capitalist countries enacted IPR laws matching with the needs of the time, with Great Britain becoming naturally the pioneer and subsequently the United States incorporating the same as part of its constitution itself, the erstwhile socialist countries headed by the Soviet Union never had any worthwhile patent law at all

(Peoples Republic of China has enacted a TRIPS compliant patent law only in 1995). In other words, IPR's and their efficient protection have always continued as an integral part of capitalist development, whereas this aspect was obviously not so in the erstwhile socialist economies.

4. Let us go into this aspect in greater detail. As we know well, patents may broadly be classified as statutory grants of monopoly for working an invention and vending the resultant product. It disables others than the patentee or those authorized by him from manufacturing and selling the patented article or using or imitating the patented processing or vending the resulting product. Such a "monopoly" right were thought needed to encourage invention and afford increased opportunity for industrial development and achieving gainful and diversified employment. Patent laws rested on the assumption that it is desirable to encourage inventions for their own sake and that monopoly privilege is the best way of doing it. To quote from the celebrated UK Swan Committee, "The theory upon which the patent system is based is that the opportunity of acquiring exclusive rights in an invention stimulates technical progress in four ways: first, that it encourages research and invention; second, that it induces the inventor to disclose his discoveries instead of keeping it as a trade secret; third, that it offers a reward for the expenses of developing inventions to the stage at which they are commercially practicable; and, fourth, that it provides an inducement to invest capital in new lines of production which might not be profitable if many competing producers embark on them simultaneously. Manufacturers would not be prepared to develop and produce important machinery if others could get the result of their work with impunity".

All the same it is understood that the patent monopoly (granted for a limited period) is used only for the purpose for which it is granted. They are not created in the interest of the inventor per se but in the interest of the national economy in which the patentee plays a constructive role as an inventor bringing out new products for use and benefit of the society. Hence the reason that "The rules and regulations of the patent

systems are not governed by civil or common law but by political economy “ , as emphasized by the UK Patent Law expert Michel in Principal National Patent Systems.

5. The US system , Patent Act 1790 ( and the subsequent ones as amended from time to time), was formulated as a directive of the Constitution itself, namely, “The Congress shall have the power ...to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries”.

The US approach on patents and patenting practices have been well documented. To quote James Boyle , Professor of Law, Washington University, from Harvard Journal of Law and Technology 47,1996, “In the American tradition, intellectual property law is largely motivated by utilitarian concerns. It is not designed to give property rights solely as a reward for hard work or to provide creators with a dependable annuity for their children, though it may in fact produce those results in some cases. It is about setting up conditions under which creators can and will produce new works....Setting the proper level of intellectual property protection requires a complex balancing act.....If the level of protection is low, negative effects follow. Prospective authors turn to other careers. Drug companies decrease investment in R&D....If IP rights are set too high, future creators will be deprived of the raw materials they use to create new works. For example, could Bill Gates have created MS-DOS if BASIC and CP/M had been proprietary systems protected by an expansive IP regime ? It is just as dangerous to produce a system with too much IP protection as one with too little”.

Hence the reason again that any IPR Law must match with the contemporary political economy (scientific-technology base included) of the country , failing which the resultant law will do only serious damage to national growth.

6. Not surprisingly enough, though the patent laws of even capitalist countries would conceptually have strong similarities , it is important to realize that they would also be differing in details to match with the needs of their respective political economic imperatives ; after all, patents and patenting practices and their utilization and infringement would be relevant only if the countries themselves have matching S&T – industrial-commercial/financial infra-structural capabilities and resources. In other words, the differing national approaches with respect to the patent validity and protection measures have always been a bone of contention , with TRIPS agreement under the WTO accentuating them once again between USA and the EU nations and Japan on the one hand and much worse between the deprived nations of the South and the advanced OECD countries on the other .

7. Such conflicts were not at all new. Four examples have been quoted by late Justice Rajagopal Ayyangar in his monumental Report on the Revision of the (Indian) Patents Law , September 1959.

a. Mr Langner giving evidence before the Temporary National Economic Committee

of USA set up in 1941 , speaking of the American Patent system, said ‘ patents are taken out in foreign countries (by Americans) for two main reasons. One is that we are doing business abroad and we want to protect our articles, so that the German manufacturer or the English manufacturer is not able to copy it immediately and go into competition with us. In other words, it is a great selling point for our goods to have a protected inventive feature and we have kept ahead of the whole world in the export markets through our patent system ‘ .

b. Bennett in his treatise on “The American Patent System” says: ‘ When inventors take out patents in several countries of the world, those patents establish a monopoly over the inventions in the various countries. By taking out patents only in the industrial countries it is usually possible to stop competition at its source. It is unnecessary to patent an invention in all foreign countries. In this way patents can be used to establish protected foreign markets. Others can neither produce nor sell the invention in the foreign countries without the patentee’s permission. The German chemical industries were able to reserve the American market in this way before World War 1. During that War the US government confiscated the German patents and established a system for licensing American manufacturers to use them. The extensive American chemical industries date from that time”.

c. Edith Penrose in his penetrating study entitled ‘ The Economics of the International Patent System’ says : “ When a country grants patents the price paid to the foreigner is clearly one of the costs of granting the patents and just as clearly must restrict the use of the invention to those who can pay the price. From the point of view of producers, this cost is simply the royalty payment made to foreign firms...From the point of view of the economy as a whole it is a tax paid to a foreign firm and requires a transfer of real income from one country to another...Any country must lose if it grants monopoly privileges in the domestic market which neither improve nor cheapen the goods available, develop its own production capacity nor obtain for its producers at least equivalent privileges in other markets. No amount of talk about the ‘ economic unity of the world’ can hide the fact that some countries with little export trade in industrial goods and few, if any, inventions for sale have nothing to gain from granting patents on inventions worked and patented abroad except the avoidance of unpleasant foreign retaliation in other directions. In this category are agricultural countries and countries striving to industrialize but exporting primarily raw material...Most countries have little if anything to gain economically from granting patents to foreign firms; and they do so partly because of pressures of vested interests and partly because the ideals of ‘ international co-operation’, ‘non-discrimination’ and similar laudable sentiments have been influential in shaping the thoughts of lawyers and statesmen”.

d. “ On suppression and Non-working of Patents” with special reference to the dye and chemical industry , Floyd Vaughan said: “ It is a contravention of our patent law and an

injustice to the American manufacturer to allow a foreigner to take out a patent in this country merely for the purpose of reserving United States as a market for his patented product which is manufactured abroad exclusively. It means the exclusion of all the would-be inventors and competitors from the industry covered by the patent and at the same time the building-up of the industry in other countries, all to the detriment of the United States” (American. Economic Review , Dec 1919).

In other words, adds Ayyangar, “ these patents are therefore taken not in the interests of the economy of the country granting the patent or with a view to manufacture there but with the main objective of protecting an export market from competition from rival manufacturers particularly those in other parts of the world”.

8. The most crucial aspects of a patent law are the following:

- a. patentability criterion
- b. governmental powers to deal with items for itself and public interest.
- c. infringement & enforcement criterion.
- d. Patent validity – importation versus local manufacture

While recommending the specific clauses of the 1970 Act , Justice Ayyangar had extensively studied the pattern followed by many countries of the West including UK, Australia, Germany, France, Holland, etc and evolution of their patent laws through the decades. He noted that acceptance of the product patent was a bone of contention in even Germany ( the mother of modern chemical R&D) till late, that Holland had included metallic alloys as chemicals , that some of them had consciously introduced special licensing clauses to protect national and public interests with respect to food and drug articles , that patent validity without local manufacture was inimical to independent industrial development and hence the need for special clauses to deal with such issues, and so on. Most important, the learned Judge , appointed by the government of India to review the Patent Laws of India with a view to ensure that the patent system was conducive to national interests, had taken care to see that his recommendations were tuned to “ present stage of development of this country” , as has always been the practice of the advanced nations, emphasized that “ patent system ( universally adopted for well over a century) is necessary for India” , that “ it would not be an exaggeration to say that the industrial progress of a country is considerably stimulated or retarded by its patent system according as to whether the system is suited to it or not” , that “ the patent system tends to encourage and maintain a continuous flow of inventions and that invention breeds invention and thus the pace of inventive activity is accelerated “ , and so on . Accordingly he recommended the following crucial clauses.

- a. For chemical substances (which also included metallic alloys, ceramics, semiconductors, etc also) product patents cannot be accepted, only processes.
- b. Food articles and drugs are provided with “licenses of rights” , for others only “

compulsory licensing” as required by the government.

c. Patent validity subject to local manufacture.

d. Special powers for government’s use.

e. Items under Atomic Energy Act, 1962 non-patentable as required by the DAE. So also plants and micro-organisms.

f. Appellate authority to the High Court as was the case at that time in UK, USA, Australia, etc. It is well known that but for these protection clauses, post-independent India would not have been able to achieve her present level of S&T – industrial expertise , including the fields of agriculture, nuclear, space and defense sectors.

9. Having said so, let it also be clearly understood that the IPR compliant adaptation-cum-adoption strategy , a sort of growth model standing on “others’ shoulders”, have been leaving behind pronounced inadequacies in instilling adequate levels of scientific-technological-industrial innovation and improvisation measures ; and in turn not generating the required level of competitive spirits essential for meaningful self reliance – too much of the “re-discovering the wheel” syndrome among the S&T community and imitation / duplication practices among the industries possible under the ‘weak’ IPR regime. In other words, while the 1970 Act provided us great opportunities of development in the post-independent decades , in absence of a Korea or Japanese type S&T-cum industrial policy, the 1970Act only consolidated a sort of “dependent “ development strategy all round. The most obvious sector happened to be that of drugs ; some of the prominent indian drug industries are nowadays being described even as “pirates” in their efforts to manufacture and export items ( allowed as our Patent Act ) which are under patent validity in the countries of their invention .

10. Not unexpectedly, it cannot be denied that there has been opinions among sections of the Indian S&T and industry community supporting a felt need to review and reformulate our IPR regime ( It was not left unnoticed that patenting activity , recognized the world over as an index of invention/innovation of industrial/practical use, was very weak in India . With a claim of having the third largest S&T manpower in the world, only around 3000 patents were being filed annually during the period 1972- 1990) such that it would provide greater encouragement for innovation as part of re-orienting our development strategy to withstand the new competitive pressures of international trade ;India of the 1990’s was certainly not the same as that of the sixties , having grown to her present level of expertise in S&T ( including space, nuclear and defense) cum- industrial agricultural capabilities. It would have been impractical , if not self-defeating, under the contemporary international political regime, to plead innocence or ignorance of the relevance of an appropriate IPR regime integral with the emerging needs of international trade. Unfortunately enough , there was hardly any serious action either from the S&T community or the industry or the government to have a second Rajagopal Ayyangar’s like

review of the matter.

11. Just like the Indian companies in the drugs sector, the so-called “ free riding” (a description used by American industry and IPR experts) strategy in IPRs have been used by many countries in strengthening their S&T – industrial base, the prominent examples being Korea, Taiwan, Singapore, Brazil, Argentina, etc. While initially the MNCs utilized the situation to their advantage through their advanced technologies and the locally available cheap labour , the NICs ( Japan also included in this category) with their highly educated and hardworking labour force and supported by an appropriate policy perspective, as indicated earlier, learned slowly and steadily how to manufacture the items themselves and to export them back to the OECD countries at lesser costs , specifically in semiconductor and related items ( in terms of IPR “ free riding” ). The Korean attitude was summarized by its Ambassador to US Kyun Won Kim in 1987 as follows: “Koreans have not viewed intellectual discoveries or inventions as the private property of their discoverer or inventors. New ideas or technologies were ‘public goods’ for everyone to share freely” ( quoted from “The Patent Wars “ , Fred Warshofsky,1994 ). “

Obviously the American industry was not amused. With the mounting trade deficit in the 80’s , NICs continuing to be significant players in international trade , and ascent of Ronald Reagan as the president, the Trade and Tariff Act was passed in 1984 seeking greater attention to IPR as part of granting special tariff treatment to nations. US made use of its authority under Section 301 of the Trade Act 1974 also to self-initiate trade cases against Korea and Taiwan for their failure to protect IPRs. From then on the Section 301 of the amended 1984 Act has become a powerful US weapon in enforcing IPRs and handling infringement cases. Such ‘free riding violations’ for drugs by India also came under US scrutiny. Other nations brought in under the same category were Brazil, Argentina, Malaysia, etc. In other words, the US contention was that it retained the option of utilizing their IPR protected technologies and the cheap foreign labour primarily for her benefit only .

12. It was under such an environment that the new Uruguay round of the GATT negotiations ( which took place mostly during the period 1985 – 1990) were initiated .The Multilateral Trade Negotiations were concluded and the Agreement on Trade Related Aspects of Intellectual Property Rights ( TRIPS Agreement) was signed, requiring that members of the newly formed WTO to enact or amend their national legislations in conformity with WTO provisions. The changes required by TRIPS were to be made by developing countries by January 1, 2000 , and by the least developed countries by January 1, 2005. How India had managed its negotiations has now been brought out as a semi-authoritative document by Ms Jayashree Watal, who was a TRIPS negotiator for India during 1989-90 and a Director of the Indian Ministry of Commerce. While it is not possible to go into details in this paper , a careful reading of the chapter on “ The TRIPS Negotiating Process “ leaves one with the uncomfortable feeling that the tenor of Indian approach was highly inadequate. Whereas Mexico had submitted an official document, in

absence of any such mention in the book , one is tempted to believe that it was n't even there from India !

13. The WTO conditionalities are briefly summarized as below:

a. Patents shall be available for any invention, whether products or processes in all fields.

b. Patents rights are enjoyable without discrimination as to the place of invention, field of technology and whether the products are imported or locally produced.

c. Limited exceptions may be provided to the exclusive rights conferred by the patent, provided that such exceptions do not unnecessarily conflict with a normal exploitation of the patent and do not unnecessarily prejudice the legitimate interests of the patent owner, taking into account the legitimate interests of the third parties.

d. While using the subject matter of a patent without authorization of the rights holder, including by the government or their parties authorized by the government, the following provisions shall be respected.

D1. authorisation of such use to be considered on its individual merit.

D2. Such use is permitted if, prior to use, the proposer has made efforts to obtain authorization from the rights holder on reasonable commercial terms and conditions and such efforts have not been successful within a reasonable period of time, this requirement to be waved of in case of a national emergency or other circumstances of extreme urgency or in case of non-commercial use, that too after informing the rights holder.

D3. Such use only for domestic markets.

D4. The rights holder to be made adequate compensation to be decided through judicial review.

D5. Protection period is uniformly for 20 years.

D6. Burden of proof would rest on the defendant in the case of possible violation of process patents.

D7. WTO Dispute Settlement Body to have powers to adjudicate on IPR /Patent law violations.

14 .Acceptance of the TRIPS Agreement has now heralded a New IPR Regime. As part of its obligations to WTO , India has passed its First Amendment,1999 , introducing the EMR provision for drugs. The new Bills amending the 1970 Act wholesale and a new one for plants are currently before parliament. Once these are passed , the New IPR Regime will be heralded officially.

15. A critical analysis of these Bills would reveal the following.

a. All the special provisions of the 1970 Act , incorporated therein essentially based the very valid recommendations of the celebrated Rajagopal Ayyangar committee have been almost summarily altered in one go to make them “ TRIPS compliant” .

b. Among the strategic sectors , special protection is retained only for Atomic Energy , even though it is well realized that DRDO and ISRO programs are invariably subject to non-trade barriers such as “embargoes” – non-supply of materials and systems due to embargo and intervention of indigenous R&D through IPR conditionalities.

c. No special unilateral clause for “government use / public interests “ even for food articles and essential drugs – interestingly enough, even UK has retained a special clause for supply of specified drugs through the National Health Scheme and the well-known science academies of the world including UK and US have jointly and emphatically opined that if overly broad intellectual property rights are granted for Genetically Modified Crops, then the potential applications of GM technologies are unlikely to benefit the less developed countries of the world for a long time.

d. India is pushing herself into an advanced -country-like IPR Regime in one go , without an adequate and in-depth review of her S&T –cum- industrial/commercial capabilities through a duly constituted expert body.

16. Where does the New Regime( under approval of parliament ) lead us to? A preliminary SWOT ( Strength, Weakness , Opportunity and Threat) analysis could lead to the following results.

a. Strength: As mentioned above , India of 2001 is certainly far advanced than that of the sixties , when the 1970 Act was finalized. She has proven successes in the fields of nuclear and space technologies and is showing great promise in selected areas of defense. Through the Green Revolution, the country has become self sufficient w.r.t. production of food grains and a variety of other agricultural products including dairy practices. In sectors such as drugs and specialty materials the 1970Act has given great impetus to even export at attractive costs. Importantly enough, Indian industry has effectively participated in these significant technology development programs. Under an effective S&T policy umbrella supported by adequate financial resources, these sectors are undoubtedly equipped to grow to greater heights of performance in a sustained mode.

b. Weakness: Much of these developments have been made possible because the 1970 Act allowed the massive technology absorption –cum-‘ indigenization’ programs of selected technologies and products, though covered under patents elsewhere. In other words, much of these developments took place in a way standing on “others’ shoulders” in the IPR sense of the word. In other words, it is not possible to straightaway claim any independent ability to invent new products and systems as required – in the drugs sector ,

the ability to discover new molecules is accepted as questionable , same perhaps being the case to other materials such as engineering alloys and polymers, catalysts , ICs and so . Further, the R&D base of even established industries is very weak, the rest being not even concerned about this aspect. In other words, R&D continues to be a very low corporate priority of the Indian industry. No wonder that there are hardly any patents filed by them. Nor the government seems to have any concrete policy in this direction , even after a decade of opening up and globalization..

c. Opportunities : Given the right support and adequate resources, the New IPR Regime could give a boost in bringing out the best from the R&D and T&D systems. The sudden increase in MNC's interest in establishing new R&D centers in India is an indication of this new opportunity of utilizing the very good manpower, reasonable infrastructure and the emerging stronger IPR regime. This is also reflected in the growing number of patents being filed in India by MNCs ( presently estimated at 60-70% of the total).

d. Threats: Even a cursory review through the world patent literature highlights the fact that the Technology Gap between India and advanced countries are very huge, appearing almost unbridgeable. Under such a situation, the sudden onset of the New IPR Regime is certainly fraught with dangerous portends, that too in absence of a concrete S&T-cum industrialization policy. The new Patent law could create as much problems to even our strategic research as it is doing in the drugs sector already. The Indian R&D will necessarily have to re-orient itself ; which also means input of much larger money and manpower resources.

**The SWOT analysis, according to me, is alarming. Can we re-orient ourselves as quickly as required through an administrative order in the form of a new patent law, I seriously wonder. Or is it that in the TRIPS negotiations, when we were pressurized to bend, we prostrated instead? If my concerns are proved wrong, I will be the happiest Indian!**

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