Chapter 8

A Comparative Study of the Patent Governance System of India and the EU

In this chapter, an attempt is made to provide a comparative study of the existing patent governance systems of both India and the EU. For this purpose, we are mainly focusing on the current patent systems in both India and EU. This study provides the recent advances in the patent laws of India and the EU and discusses the steps that both must take to complete its journey to an effective patent system.

A country’s patent system is a part of its overall regime regulating IPRs in the development process. Therefore, a nation’s ability to translate knowledge into wealth and social good through innovation will determine its future. IPRs have long played important roles in the innovation systems of most advanced economies. India, like many developing economies began re-examining its approaches to IPRs when the WTO’s TRIPS Agreement became effective in 1995. In fact, the WTO-TRIPS has brought a substantial change to the global patent system as a whole.

Now, we will examine and analyze the existing patent system in India: its operation, modernization (in the post-TRIPS era) and finally policy options for improving the present system in future.

The laws relating to patents in India are normally governed by Indian Patents Act 1970 as amended in 1999, 2002 and in 2005.

What is patentable invention in India?

According to the Indian Patent Act 2005, a patentable invention is defined as: “a new product or process involving an inventive step and capable of industrial application.” Something that is already known cannot be patented. An invention is deemed to be new on the priority date if it does not form part of the state-of-the-art i.e. part of the knowledge available to the public. Prior written or oral disclosure of the invention or any other way of thinking the knowledge available in a public manner before the date of filing of the patent application makes the invention a part of the prior art or state of the art.
According to the definition of the inventive step, the invention must be non-obvious to a person skilled in that particular art i.e. it must not follow plainly or logically from what is already known. The question whether an invention involves an inventive step has to be decided in the context of any prior publication or public use.

To be patentable, an invention has to be capable of industrial application, that is, it can be made or used in an industry. However, industry in this context does not necessarily imply the use of machinery or manufacturing of an article. It may include any useful, practical activity as distinct from purely intellectual or authentic activity.

**What is not patentable?**

Under Indian patent law, the following things are non-patentable:

An invention, whose use could be contrary to the public order or morality or which causes serious prejudice to human, animal or plant life or health or to the environment e.g. a new type of a gambling machine.

Under the Indian law, computer programmes are protected under the Copyright Act, 1957; they are not entitled to protection through patent laws. But the current British law states that under certain circumstances computer programmes can be patented.

**Procedure for Obtaining Patent**

An application for a patent for an invention may be made by a person claiming to be the true and first inventor of the invention or his assignee or by the legal representative of any deceased person who immediately before his death was entitled to make such an application.

The term true and first inventor means that the claimant has to be the actual inventor and not merely be the first importer of the invention or the first person to whom the invention is communicated from outside India.

In case the inventor is an employee of an organization, the inventions made during the employment would be patentable in the name of the employee. However, the ownership of the patent (i.e. rights of using, manufacturing, selling etc.) will be definitely
dependent on the terms of contract between the employee and the employer. Normally, in R&D organizations, the ownership right is always with the employer even if the patent is in the name of the employee.

**Filing a Patent Application**

Only one application can be filed for one invention in India. It should be done in a prescribed form along with the prescribed fees in the appropriate patent office. It should be accompanied by a provisional or a complete specification. Each international application under the PCT for a patent designating India shall be deemed to be an application under the Indian Patents Act if a corresponding application has also been filed before the Controller in India. Recently, the WIPO has launched the e-facility for filing PCT applications.

Typically, the form of application for grant of an Indian patent asks for; a) full name, address, nationality of the applicant(s) and inventor(s), b) patent applications and c) whether an application has been made or patent granted in a PCT or a convention country, which affords to citizens of India or applicants for patents in India.

**Filing of Provisional and complete specification**

A specification is described as an accurate description of the patent stating how the invention can be carried out by the method best known to the applicant. It ends with a claim or claims defining the scope of the invention for which protection is claimed. Thus, each application must be accompanied by a provisional or complete specification, but it is possible to file an application with provisional specification. On the other hand, it is necessary to file the complete specifications within one year of filing the original patent application. The application is deemed to be abandoned if this condition is not met. The one year limit can be extended to 15 months if an application is made to the Controller with such request and the prescribe fee is paid.

The specification must contain the following:

- Title, sufficiently indicating the subject matter.
- Relevant drawings.
• Full and particular description of the invention.
• Details of its operation or use and the method by which it is to be performed.
• Disclosure of the best method of performing the invention.
• Claims defining the scope of the invention substantiated by the disclosure.
• Abstract providing technical information on the invention.
• Declaration as to the inventorship of the invention.

If an invention is an improvement in or modification of another invention for which the patent has been obtained or has been applied for, the Controller may grant the patent modification/improvement as a patent of addition. In this case, the original patentee and the patent of addition have to be the same. Again, each claim of a complete specification has a priority date. In a simple case, where a complete specification is filed in pursuance of a single application, with a provisional specification, the priority date of a claim in the date of filing of the application. This is true if the claim is fairly based on the matter disclosed in the specification. However in some cases, the priority date may be different than the date of filing.

Publication of the Application

Generally each patent application is published after 18 months from the date of filing the application and then objections are invited. Any patent application shall not be open for public for 18 months after the date of filing or date of priority whichever is earlier. But if the invention is considered relevant for defense purposes, the Controller may issue directions to prohibit or restrict such publication. In the case of secrecy direction, the application will be published when the secrecy direction cease to operate. The publication will include the particulars of the date of publication number of application, name and address of the applicant and an abstract.

Upon publication of an application, the patent office, on payment of the prescribed fees will make the specification and drawings, available to the public. If the specification mentions a biological material, which is not available to the public, the applicant is required to deposit the material in an authorized depository institution. From such an
institute, the biological material mentioned in the specification is made available to the public as required.

**Examination of the Application** (Refer to Figure 1. pg. no. 378)

It is a mandatory step. It is done only when the applicant or any other interested person makes a request in the prescribed manner for such examination within 48 months from the date of filing of the patent application. If such a request is not made, within the prescribed time, the application is regarded as withdrawn.

When the patent application is in respect of an invention for a chemical substance used as an intermediate in the preparation of a medicine or drug including insecticides etc. used for protection or preservation of plants, the request for examination has to be made within a period of 12 months or within 48 months from the date of application, whichever is later. If such a request is not made, the application is regarded as withdrawn.

Once a request for examination is put forward, the Controller refers the application, specification and the related documents to an examiner for making a report within 18 months on:

i) Whether these are in accordance with the requirements of the Indian Patent Act.

ii) Whether there is any lawful ground of objection to the grant of the patent.

iii) Whether the invention has been anticipated by publication before the date of filing of applicant’s complete specification.

iv) On any other matter which may be prescribed.

Of these matters, ‘Search for anticipation by previous publication and by prior art claim’ is important. It requires investigation in the publications and specifications of prior applications and specifications of patents already granted to see whether the same invention has already been published or claimed or is the subject matter of existing or expired patents. In case the examiner raises any objections, the Controller will communicate the objections in brief to the applicant. If the objections raised are removed within 12 months, the Controller will accept the complete specification. If the objections
are not removed, the application is refused after giving an opportunity of hearing to the applicant.

**Acceptance and Advertisement of Complete specifications**

Once the complete specification is accepted, the Controller notifies it to the applicant and also advertises it in the official Gazette of India. On advertisement and specification with drawings, if any, are open for public scrutiny. From the date of advertisement of the acceptance of the complete specification and until the date of sealing of the patent, the applicant will have the like privileges and rights as if a patent for the invention had been sealed on the date of advertisement. But the applicant is not entitled to initiate any proceedings for infringement until the patent has been sealed.

**Opposition to the Grant of a Patent**

Any individual interested in opposing the grant of patent may give notice to the Controller of such opposition within 4 months from the date of advertisement of the acceptance of the patent on the grounds like:

i) The invention was wrongfully obtained by the inventor/applicant.

ii) The invention, as claimed in any claim of the complete specification has been anticipated in a specification field for another patent earlier: or

iii) The invention as claimed in any claim was publicly known/used in India before the priority date if the claim or

iv) The subject of the patent is not an invention within the meaning of the Act: or

v) The information furnished is false; or

vi) Geographical origin of biological material is not disclosed or falsely disclosed or;

vii) In case of a Convention application (an application filed in India following a patent application for the same invention made in a Convention Country), the application was not made in the prescribed time.
On the receipt of the notice of opposition, the Controller will have to notify the applicant of it and may give opportunity of hearing to both parties and arrive at a decision.

**Grant and Sealing of a Patent**

When the application for a patent along with complete specification has been accepted either without opposition or after the opposition, a patent shall be granted if the application makes a request in the prescribed manner for a grant of patent. The request has to be made within 6 months from the date of advertisement of the acceptance of the complete specification. The patent so granted shall be sealed with the seal of the patent office and the date of sealing of patent shall be entered in the register.

**Consequences of Patent Grant**

A patent confers on the patentee, his agent or assignee, the exclusive right to the patented invention for a limited period (i.e. 20 years) to the exclusion of all others. The patentee not only gets a monopoly right over the issued invention for a limited period to make or use the invention or to market it, but also the right to prevent others from making, using or marketing such invention during the period of protection.

**Rights of a Patentee**

If the invention is a product, the patent confers the exclusive right to make, use, sell or import for these purposes, the invention in India.

If the patent is for a method or process of manufacturing an article or substance, it confers the exclusive right to use or exercise the method or process in India.

The patentee has the right to prevent third parties from exploiting the patented invention in any such manner without the consent of the patentee.

It is necessary to renew the patent annually on payment of fee for it to remain valid throughout its term of 20 years. Failure to renew the patent annually results in loss of all rights related to the patent.
Right to Grant License

The patent holder has the power to assign rights or licenses or enter into another arrangement with any one. A license or an assignment to be valid should be done in writing and registered with the Controller of patents.

Right to Surrender

The patent holder is given the right to surrender the patent at any time by giving notice in the prescribed manner to the Controller. Before accepting the surrender offer, the Controller will advertise the same so as to give an opportunity to the interested parties to oppose the offer of surrender.

Right to move proceedings for infringement

A patent has the right to move proceedings for infringement of the patent in a District Court having the jurisdiction to try the above suit.

Limitations on Patentee’s Rights

- Any patented product or process or a product made using patented process may be used by or on behalf of the Govt. for its own use only – an invention is said to be used for the purposes of Govt. if it is made, used, exercised or vended for the purposes of the Central Govt, State Govt. or to a Govt. undertaking.
- A patented article or article made use of patented process may be used by any person for experiment, research as for imparting instructions to pupils and
- In case of a patent in respect of any medicine or drug, the medicine or drug may be imported by the Govt. for its own use or for distribution in any dispensary, hospital or other medical institution maintained by or on behalf of the Govt.
Acquisition of Patents & Invention by Central Govt.

If the Central Govt. is satisfied that it is necessary for public purpose to acquire an invention for which a patent has been granted or an application for patent has been filed, it can publish a notification in the official Gazette and all rights in respect of the invention stands transferred to the Central Govt. The Govt. will be liable to pay compensation to the applicant as may be mutually agreed upon.

Compulsory Licenses (CL)

The right of a patent holder is also limited by the provision for grant of a CL. The very purpose of granting patent in India is to secure that the inventions are worked in India on a commercial scale and not merely to enable patentees to enjoy a monopoly for the importation of the patented article. Therefore, patent rights are meant to encourage technological innovation and help transfer and dissemination of technology for the social and economic welfare. The benefit of the patented invention has to reach the people at a reasonably affordable price.

The India Patent Act provides for CL of patent to a third party by the Controller an application made at any time after expiry of 3 years from the date of sealing of the patents, on the following grounds:

- The reasonable requirements of the public with respect to the patented invention have not been satisfied or
- The patented invention is not available to the public at a reasonably affordable price, or
- The patented invention is not worked in India.

If the Controller is satisfied about the grounds and the facts as spell out in the application, he may grant a CL on the patent and direct the patentee accordingly to grant a license to the applicant. In deciding on the application, the Controller is required to take into account several factors including the nature of the invention, the time which has elapsed since the sealing of the patent, the measures taken by the
patentee to make full use of the invention, the ability of the applicant to work the invention to the public advantage, and the applicant’s capacity to take capital risk.

The Indian patent Act also has special provisions for CL on notifications by the Central Govt. in case of National Emergency or of extreme urgency or of public non-commercial use.

A CL can be terminated on patentee’s request when the circumstances in which the grant was made no longer exist and are unlikely to recur. The holder of the CL can of course object to the application and the Controller shall take into account that the Licensee’s interest is not unduly prejudiced.

**Invention for Defence Purposes**

If the Controller finds that an invention is relevant for defense purpose she may prohibit or restrict publication of information subject to ratification from the Central Govt. No appeal can be made against these directions of the Controller.

The secrecy directions are reviewed at intervals of 12 months, or on the request of the applicant, and would be revoked if found no longer necessary by the Central Govt. If in case of an application filed by a foreign applicant, it is found that the invention is already published outside India then also the secrecy directions are revoked.

It is to be noted that no application for an invention relevant for defense purpose can be filed outside India except on the written permission of the Controller. All orders of the Controller as to secrecy, as well as orders of the Central Govt.’ in this context are final and cannot be challenged in any court on any ground.

**Revocation of Patents for Non-Working**

For a patent under CL, the Central Govt. or any other person interested can make an application after the expiration of two years from the date of CL for revocation of the patent.

The Grounds for revocation:
• The invention has not been worked in India.
• The reasonable requirements of the public have not been satisfied or
• The invention is not available to the public at reasonable price.

The Controller after giving opportunities to the patentee to oppose the application may decide on revocation on merit.

Transfer of Patent

A patent is an exclusive property of the inventor. The original inventor can transfer from him to any person by assignment, grant of License or operation of law.

The Indian Patent Act requires that an assignment, License or a creation of any other interest in a patent must be in writing, clearly specifying all the terms and conditions governing the rights and obligations of the parties. This document must be registered in the prescribed manner within stipulated time. The person getting such entitlement in a patent has to apply in writing to the Controller for the registration of the title.

Assignment

An assignment means transfer of interest in the patent by the patentee to another person in whole or in part valid over entire or a part of India. The person to whom the right in patent is assigned is called assignee and the person who assigns the right is called assignor. There are 3 types of assignment:

i) Legal assignment: when the assignor assigns the right in a patent through an agreement duly registered, the assignment is called legal assignment. The assignee's name will be entered in the Register of Patents maintained by the patent office as the owner of the patent. The legal assignee shall thereafter have all the rights conferred by the assignor.

ii) Equitable Assignment: When the patentee agrees to give another person certain defined rights in the patent with immediate effect, by a document (e.g. a letter), and not by an agreement, the argument is termed as an equitable assignment. But such an assignment cannot be
registered in the Register of Patents. The assignee can convert the equitable assignment by getting the document in writing and getting it duly registered.

iii). Mortgage: When the patentee transfers the patent rights either wholly or in part to the mortgagee to secure a specified some of money such assignment is called mortgage. The patentee can get the patent re-transferred on refund of the consideration of the money.

License

It confers a privilege on another person through an arrangement to make, use or exercise the invention. The person to whom the privilege is transferred is called the Licensee. It does not transfer any interest in the patent. There are 3 types of Licenses:

i) Voluntary License: When the patenette, by a written agreement, empowers another person to make, use or exercise the patented invention in a particular manner and on agreed terms and conditions, it is known as voluntary license. The Controller of Patents and the Central Govt. do not have any role in such license.

ii) Statutory License: When the License is granted by the Controller and the Central Govt. as a CL, it is known as statutory License. In such a case, the terms and conditions of the License agreement do not depend upon the will of the patentee and the licensee.

iii) Exclusive License: In such a License, the patentee gives exclusive right to make, use, sell or distribute the patented invention to a particular person to the exclusion of all others. Such an individual will have exclusive license in the patent.

The exclusive license has the right to initiate infringement proceedings against an infringer. The patentee has the right to impose certain restrictive conditions on the rights of the Licensee. But no such restrictions can be imposed which are against public interest.
Transmission Right by Operation of Law: In case of the death of a patentee, the rights of the same patent pass to his/her legal representative. Another mode of transmission of patent is provided where the Central Govt. acquires a patent from the patentee for public purpose.

Infringement of Patent

A patentee has an exclusive monopoly right over his invention to make, use, sell or distribute the invention in India. If any person other than the patentee or assignor or mortgagor violates his exclusive right, there will be infringement of patent rights. Whether the alleged act of a person amounts to an infringement or not depends upon the extent of the monopoly right conferred by the patent. These can be inferred from the specification and claims made by the patentee contained in the application.

An important aspect related to the burden of proof in case of infringement. If the patent pertains to a process for making a product and a person makes an identical product, then in case of infringement he is obliged to prove that the process used to make the product is different from the patented process. However, the patentee has to prove that the product being made by the infringer is identical to the product from his process. He also has to prove that he is not able to determine the process used by the infringer through reasonable efforts.

As per the Indian Patent Act, the following acts of the defendant can amount to infringement:

- Colourable imitation of patented imitation or
- Copying essential features of patented invention or
- Variation of non-essential features of patented invention or
- Chemical or mechanical equivalents.

Suit for Infringement

When a person infringes the rights of the patentee, a suit for infringement of patent should be filed in the District Court. This can be done only if the patent has been sealed. The patentee cannot file a suit during the period between date of advertisement of acceptance
of the complete specification and the date of sealing of patent. However, he can claim damages sustained due to infringement during the said period in a separate suit after sealing of patent.

A suit for infringement of a patent, whose term has expired, can be filed for claiming damages if the infringement occurred during the term of patent. In case, the patent was wrongfully obtained by the patentee and was later granted to true and first inventor, a suit for infringement occurring before the grant of a patent cannot be filed.

Where a patent had lapsed but was later restored, the proceedings for infringement cannot be filed against any infringement committed between the date on which the patent ceased to have effect and the date of advertisement of application for restoration.

**Acts on Constituting Infringement**

Where the patented invention is merely used for the purpose of experiment or research or for imparting instruction to pupils, it does not amount to infringement of patents. Similarly any act of making, using or selling a patented invention solely for development of information required under any relevant law does not amount to infringement. Also the importation of patented products by any persons from a person who is duly authorized by the patentee will not constitute infringement.

**Limitation Period for Filing of Infringement Suit**

The period of limitation for filing a suit for infringement is 3 years from the date of infringement. But it is not necessary to send a notice of infringement to the defendant before filing the suit for infringement.

**Relief in the Suit for Infringement**

The patentee on being successful in a suit for infringement is entitled for an injunction (or restraining), damages or accounts, and otherwise. Injunction is a normal remedy through discretion of giving it depends on the Court; it stops the infringement during the pendency of proceedings. Damages account for the loss in many terms suffered by the owner of the patent due to infringement.
Accounts relate to the account of the net profits earned by the defendant (infringer). If there are no profits, accounts is not a remedy. Damages and accounts are alternative remedies; the owner can choose only one of them, not both.

Finally, ‘otherwise’ as a remedy is a general provision which authorizes the Court to grant such other reliefs as it may feel necessary for complete redressal of the complaint. For instance, the court may order that the infringing goods, materials and implements shall be seized, forfeited or destroyed.

This is how in India, a patent is granted and enforced.

Patenting Trends in India

In the beginning of the 20th Century, the Indian Patent Office (IPO) was a small operation and it was completely under the control of the British colonial administration. As Drahos notes, ‘The Patent Controller who was appointed in 1912 did not have any examiners to assist him, despite examination being compulsory. In the year of his resignation (1919), the number of applications had reached 1000’ (Drahos 2010: 207). It seems the colonial government did not give much importance to patenting activities, but the number of applicants was significantly higher.

This suggests that the processing of patent applications to the granting stage was handled by very few officials or may be one at the top. But by 1946, the IPO staff for patent examination was 26 when the office had received 2,610 applications. It means very few Indians must be aware of the patenting process and patenting must be a domain of a few privileged lots.

The trend of patent applications in India reflects the strings and weaknesses of its patent system stretching from colonial days till date. To get a comprehensive picture of India’s patent applications (from both the domestic and the foreign applicants), we are going to analyze the data from 1948-2009-10(Annual Report of the CGPDT), a long period of 62 years. The patent applications will be seen according to the corresponding patent acts operating at various time intervals in India. First, the Indian Patent and Designs Act 1911 were in force from 1948 to 1972, the Indian Patent Act, 1970 was in force
between 1972 to 1994. Secondly from 1994 onwards, particularly India’s entry to WTO-TRIPS Agreement changed the entire patent landscape, enforcement and the trend in the country. Therefore, as an obligation to the TRIPS requirements, the Govt. of India had to make several amendments to Patent Act 1970 subsequently in 1999, 2002 and 2005. Also, India started accepting ‘Mailbox’ applications since 1995 which is also a landmark decision in the modern Indian IPR history.

And the last period that we have taken is from 1994-2010.

Now we will analyze the patent applications trend in these three broad periods:

a) **First Period (1948-71):** The number of Indian patent applications which were 352 in 1948 increased to 1,231 in 1971, showing a growth rate of 6.11% (Rao 2012). In this period, an average of 683 applications was filed in India. This period registered very few applications. The period starting from 1948-71, India did not have a very efficient patent system. The IPO was completely functioning under the colonial laws though the country became independent in 1947. In fact, investment in India was not very attractive in those days.

b) **Second Period (1972-94):** In this period, Indian patent applications grew from 1143 in 1972-73, to 1266 in 1993-94. It shows a growth rate of 0.89%, and the average number of applications was 1111. This period also did not show much growth in patent applications in India.

The first patent act of independent India was introduced in 1970, which formally came into operation in 1972. It replaced all the existing colonial acts in the country. But with this act, the patent applications, particularly foreign patent applications were dropped to a considerable extent. As Bagchi et al study (1984) showed that ‘in 1968 there were 1,110 applications by’ Indian’s and 4,248 applications by foreigners. By the financial year 1979-80, the number of Indian applications was not much different (1055), but the number of foreign applications had dropped to 1925. The number of foreign patents in force in India had dropped from 37,816 in 1968 to 14,476 in 1979-80.
The reason behind for this downfall was that the new Patent Act 1970 which abolished the provision of product patents in the field of medicine and drugs. Before 1970, most of the foreign patent applications were in the areas of medicine and drugs only. That is why many foreign companies stopped filing patent applications and some of them had completely withdrawn from it.

c) **Final Period (1994-2010):** During this period, the Indian applications grew from 1741 in 1993-94 to 7044 in 2009-10. This trend registers an annual growth rate of 10.92% over the last years. The annual filing of the patent applications was 3410. The IP advocates state that the reason behind this growth was India’s compliance to the TRIPS Agreement. As the TRIPS has brought a global regime, so foreign companies have seen India as a safer place for investment in the field of IP.

Based on the trend of patent applications, this 62 year period i.e. 1948-2009-10 can again be divided into 3 important phases.

**Phase-I (1948-77):** This period marked a slow but positive growth in filing patent applications at the IPO, which show 352 applications in 1948 to 1,342 in 1976-77. It registers a growth rate of 5.29% during a span of 29 years. The IPO was doing the much needed modernization it required to come in terms with the international IP standards. The IPO had to do a massive exercise because in terms of both physical and intellectual rebuilding of the office after independence.

**Phase-II (1977-88):** During this period, the Indian patent applications dropped from 1097 in 1977-78 to 930 in 1987-88. It showed a decline of 1.67% in this 11 year period. This 11 year long period also marked an average of 1057 applications. It must be noted that the Indian industry sector could not attract more investment as it was struggling to come in terms with the global standards in many fields. The major reason for decreasing trend could be the new Patent Act of 1970 which formally discouraged the foreign applicants because of its nationalistic flavor.

**Phase-III (1988-2010):** This period marked the growth of Indian patent applications from 1077 in 1988-89 to 7044 in 2009-10. It registered a growth rate of 9.58% over this 22 year period at an average of 2802 applications in each year. The increasing trend in patent
applications was mostly because of the new patent system brought by the TRIPS Agreement. This was also accompanied by a new modernization drive in the patent offices across the country. However, despite having India’s accession to the WTO-TRIPS, patenting trend was slow. Lack of robust investment in the R&D sectors by private players could be one of the serious factor for which there was a slow and downward patenting in India. It could be also that the IPO has been taking time in adapting the changes brought by the new TRIPS regime.

Now, we will study the trend of foreign patent applications filed in India from 1948 to 2009-10.

**First Period (1948-71):** From 1948-71 the Indian Patents and Designs Act 1911 was in force and the foreign applications marked a growth from 1373 in 1948 to 3114 in 1971. It showed a growth rate of 5.5% over this long 24 year period. The average number of applications showed was 3290. It was found that both the applicants and industry players from foreign nations were more comfortable under the colonial Patent Act of 1911 which continued till 1970.

**Second Period (1977-94):** The foreign patent applications rose from 2496 in 1972-73 to 2603 in 1993-94 during this period and registered a growth rate of 2.24% over 22 years at an average of 2200. This was because of some of the provisions mentioned in the first Patent Act of independent India i.e. 1970 patent Act, which were not favourable to foreign pharmaceuticals and chemicals. The section 83 of the1970 Patent Act states: ‘a) that patents are granted to encourage inventions and to secure that the inventions are worked in India on a commercial scale and to the fullest extent that is reasonably practiceable without undue delay: and b) that they are not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article.’ This Act had an explicit provision to definitely discourage foreign applicants because it mentioned a short duration process patents for drugs and food.

Also, this declining trend could be explained in the light of what Vayryanen (1978) noted ‘as the experience of developing countries whose patenting activity is dominated by foreign patentees, patenting activity geared only towards using patent monopoly as an
import monopoly’. Thus, the Act of 1970 underlined the fact that patenting by domestic actors should be encouraged more than the foreign ones.

**Final period (1994-2010):** In this period, foreign patent applications grew from 3589 in 1994-95 to 27,243 in 2009-10 which shows a growth rate of 15.07% over a 16 year period. The average of foreign patent applications was 13,169. This growth rate has definitely to do with the provisions of TRIPS Agreement of 1995, under which India had to update its patent system to the global standard. This growth applies both to the domestic as well as foreign patent applications.

The growth in patent applications in this period can also be credited to the special “Mailbox” applications in regard to product patents for pharmaceuticals and agricultural chemical inventions. The Annual Report (CGPDTM) of the Indian Patent Office for 2004-05 reports that there were 8926 such applications (Mailbox) for the period 1 January, 1994 to 31st December, 2004 (covering the financial years 1994-95 to 2004-05) accounting for about 10% of the total application. It is difficult to get precise number of applications because the applications are in financial years, whereas “Mailbox” applications are in calendar years. In 1998, as India joined the Patent Cooperation Treaty (PCT), the number of foreign patent application in India dropped. The reason behind was that under PCT route, the foreign applicants can’t file applications directly at IPO, they had to come indirectly. The PCT introduces a two year lags to foreign applications reaching the IPO. Actually, the surge in foreign patent applications has been witnessed only after 2004-05, when India has almost geared up to the formalities prescribed by the TRIPS Agreement and PCT route being fully active.

Now looking at the trends, we will analyze the foreign applications in India under the following phases-

**Phase I (1948-65):** In 1948, foreign patent applications were 1373 and in 1965 it was 5,124. The average applications were 3030 and recorded a growth rate of 8.98% during this 18 year period. As the economy in India was growing faster in this period, it helped in the growth of patent applications.
Phase II (1966-77): But after 1965, the number of foreign patent applications filed in India dropped suddenly and the decline continued till 1976. In 1966, the foreign patent applications filed in India were 4535 and this number dropped to as low as 1762 in 1976-77 in a span of 11 years period. During 1966-77, the rate of decline was 5.45% and 9.47% for 1972-77. Thus decline was because of the new Patent Act of 1970, which came into force in 1972.

Actually, this period starting from 1966, India witnessed drought, crisis in foreign exchange, dropped in agricultural production, devaluation of the rupee which had a profound impact on the overall growth of Indian industry, agriculture and eventually the foreign trade. So, the foreign patentees had a good reason to lose confidence on a falling economy like this.

Phase-III (1977-94): This period showed gradual recovery and growth in foreign patent applications in India. In 1977-78, it was 1773 and in 1993-94 it rose to 2603 which marked a growth rate of 2.53% with the average number of applications being 2209. It could be said that this period demonstrated a very slow growth of the Indian economy as a whole and it had a direct impact on the rise of patent applications from foreign applicants as well.

The behavior of the patent applicants, from the trends shown in Table 1 (Refer to pg. nos. 379& 380) in filing can be analyzed like the following:

- The Indian domestic applicants do not respond to economic changes (Rao 2012)
- On the other hand, foreign patent applications seem to respond to economic changes (ibid).

Thus, the Indian applicants initially showed a slow growth but from 1988-89 onwards it showed a positive trend. But the foreign patents applicants initially grew higher and fell again because of the Patent Act of 1970. With the introduction of the TRIPS, once again the foreign applications registered a higher growth.

New Indian Patent Regime: The Post-TRIPS Scenario

Modernization: With Indian accession to the WTO-TRIPS regime, it was felt by policy makers at home, that it is urgent to make necessary changes to update the country’s patent system to the rest of the world. The WTO membership had also brought huge patent application surge to India. That’s why, ‘modernization was approved in 1998, but work did not start till 2000’ (IPO Annual
Report 2001-02). The top priority areas were: hiring more patent examiners, building new office space and investing heavily in information technology so that IPO moves towards the global patent system.

From the Figure No. 2 (Refer to pg. no. 381), we can see that the head office for IPO is set up in Kolkata with branch offices in Chennai, Mumbai and Delhi. Again the Table No. 2 (CGPDTGI 2010-11) (Refer to pg. no. 382) shows that today the IPOs across from cities i.e. Kolkata, Delhi, Mumbai and Chennai have a good numbers of officials, Deputy Controller of Patents & Designs 5 and Assistant Controller of Patents & Design 36 across the country. Apart from them, one Sr. Joint Controller of Patents & Designs at Mumbai Office and at present, no Joint Controller of Patents & Designs across the country. Finally, at the top, the Controller General of Patents, Designs and Trademarks (CGPDTM) who sits in the Ministry of Commerce & Industry, Department of Industrial Policy & Promotion, New Delhi. But if we look at the Table 2, we can see that against the sanctioned strength of 200 patent examiners, we have as of today only 79 examiners which is utterly disappointing, looking at the total patent applications filed during 2010-11 which was quite high i.e. 39,400 (Ibid).

The IPO witnessed an increase 15% of the patent applications as compared to the previous years. The latest trend of the (as 7 years in respect of) Patent Applications filed and granted are given in Table 3 (Refer to pg. no. 382).

The number of patent applications examined from 2003-04 to 2006-07 was 51120 but only 16239 patents were granted during this period. Due to the amendment of the Patents Act in 2002, mandatory publication under section 11A was introduced with effect from 20th May, 2003. The publication was however delayed due to non-availability of the requisite digitized documents. A digitization drive was carried out from 2006-09 resulting in publication of about 1,20,000 patent applications during the period. As a result, the application which got examined during previous years were mature for grant during 2007-08 and 2008-9 and consequently 15316 and 16061 patents were granted during these years respectively. During 2010-11, the IPO granted 7509 patents, 5186 were abandoned and 54 patent applications were refused after examination and 102 applications were deemed to be withdrawn under S.11-B (4) (proviso i). During 2010-11, the IPO functioning was further streamlined by improving the electronic processing of patent applications (ibid).
Today Indian PO has been recognized as International Search Authority (ISA) which is one of the most remarkable achievements of the modernization of patent offices of the country. As Drahos notes, ‘reaching ISA status was a clear priority for the Indian PO because of increase its capacity to influence other offices and provides it with more autonomy within the international patent regime’ (Drahos 2010: 211). As a part of the modernization process, India has a memorandum of understanding (MOU) with the EPO signed in 2006 in which the EPO agrees that it may give India access to the EPO’s subscription database. These databases are considered as the most reliable one in the world.

As a part of the modernization effort, Govt. has established the National Institute for Intellectual Property Management (NIIPM) in 2001 in Nagpur, Maharashtra. Primarily, it is national centre of excellence for training, management, research and education in the field of IPR related issues. It caters to the training of examiners of patents & designs, trademarks & GI, IP professionals, IP managers etc. in the country. Thus, it provides basic education on IP to the user community, govt. functionaries and stake holders involved in creations, commercialization and management of IPRs. The Institute will also facilitate research on IP related issues including preparation of study reports and policy analysis of relevance to the government.

India is a contracting party to the following historical international treaties and conventions in regard to the IPRs: TRIPS Agreement, the Paris Convention for the Protection of Industrial Property, the Patent Cooperation Treaty (PCT), the Berne Convention for the Protection of the Literary and Artistic Works, Universal Copyright Convention, the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure, Nairobi Treaty etc.

Today the major IPRs and the Ministries, Departments responsible for administering the legislations are shown in Table no. 4 (Refer to pg. no. 383). They all together govern India’s IP system as per the standards set by the TRIPS Agreement.

The Government of India has recognized the role and importance of IP in scientific, technical and industrial development of the country. Therefore to address the emerging issues and availing the opportunities brought by globalization and liberalization, the Government has revised various laws relating to patent, copyrights, trademarks, geographical indications and industrial designs. The revised laws are in compliance with the provisions of the TRIPS Agreement. As of today, the legislations governing the industrial property are:


The Patent Information System (PIS) was established in 1980 at Nagpur. It maintains a comprehensive collection of patent specifications and patent related literature on a worldwide basis. It provides technological information contained in patents or patent related literature through search services and patent document supply services. The whole purpose of PIS is to offer information for users in R & D establishments, Govt. organizations, industries, independent inventors and others.

The main characteristics of the modernization drive of the IPO are (Refer to Figure no.3, pg. no. 384).

a. Infrastructure development: It includes construction of new buildings and networking of all IP offices across the country.
b. Human resources development: It refers to the introduction of training and development of IP officials in the country.
c. Computerization: It covers e-filing, digitization of records, examination and automation of all procedures, creation of novelty search facilities etc. In fact, this has upgraded the IPO to a level that today it can cater to most of the needs of the global IP standards.
d. Training, awareness and outreach activities: The Government has brought sufficient avenues for training of newly appointed officers, refresher courses for high level officials and conducting of awareness programmes across the country with the help of experts etc.

Achievements- As of today, the above modernization has considerably improved the IP administration in regard to creation of physical infrastructure, efficiency in functioning, clearance of backlog and computerization.

In a vast country like India, popularization of IP related is not possible without the support of various agencies besides the concerned ministries or departments. The following agencies in India have taken active steps in popularizing IP so far:

a. Patent Facilitation Centre (PFC): In 1995, it was founded under the Technology Information Forecasting and Assessment Council (TIFAC), Department of Science & Technology with these objectives:
   • To initiate patent information as a vital source for promoting R & D programmes.
   • To offer patent opportunities to both the scientists and technologists from India and abroad on long term basis.
   • To watch out the emerging issues in IPR field and create awareness for scientists, policy experts, industry etc. on the same.
   • To organize seminars, discussions, conferences etc. for creating awareness on IPR for all.

Thus, the PFC has become a national referral point for industry, universities, Govt. agencies, NGOs, foreign embassies and individual scientists, innovators and consultants for information and advice on IPR related matters especially for latest patent information. PFC
was instrumental in generating critical inputs including conceptual framework, actual patent data, analysis etc. for decision making, policy formation and future planning at the national level in the area of IPR and related matters (TIFAC Annual Report 2005-06). The PFC brought out ‘Ekaswa A’ and ‘Ekaswa B’ data bases on the patent applications filed in India. The databases with value addition for easy accessibility are available on the internet and in the form of CD-ROMs.

b. National Innovation Foundation (NIF): It was established by the Govt. of India in 2000. The primary objective of the NIF is to provide institutional support in scouting, spawning, sustaining and scaling up grassroots green innovations and to help in their transition to self-supporting activities (http://nifindia.org). It provides an institutional platform for the knowledge rich economically poor people in India.

c. National Research and Development Corporation (NRDC): It is technology service enterprise whose business is to be the identifier, the carrier and the pilot of technology transfer (http://www.nrdcindia.com). Its main activities include:

- Commercialization of laboratory know-how
- Indigenous technologies need to be licensed both for the Indian and foreign industry.
- It issues technology development loans for establishing pilot projects and gearing up laboratory processes.
- It aims to promote and commercialize inventions.
- It focuses on the development and promotion of rural technology
- It facilitates the export technology.
- Dissemination of information on technology and its transfer to industry

d. Patent Facilitation Cells of State Governments: The main objective behind these cells is to protect and commercialize IPRs. For this purpose, these cells have the responsibility to provide technical, legal, administrative and financial help to inventors so that more and more people are encouraged to take up inventive and creative activities in the state.

e. Small Industries Development Organization (SIDO): It is the national SME development agency of India under the Ministry of Small Scale Industries. It provides services to small scale industries by supplementing a broad spectrum of activities and services including entrepreneurship development, tool room services, testing services, R&D services, consultancy services and policy development.

**Role of Judiciary in Patent Litigation:** The judicial organizations play a vital role in patent litigations across the world. As Abramson (2007) argues, ‘the goal of clear substantive regulations is to enforce administrative consistency at the examiner and controller levels. Consistency throughout the rest of the system lies with those who possess judicial authority. Once again, the balance between the requisite levels of administrative and judicial expertise shifts toward the judiciary as patent systems move from examination based to registration-based.’ Under the Patent Act 1970, decisions of the Controller General of Patents were applicable to the Indian High Courts (Patent Act no.. 38 of 1970). Like most countries, in India
also, the IP litigation goes to normal courts. It starts with the District Courts, then High Courts and finally the decisions remains with the Supreme Court. In the past, many countries have introduced special courts for handling patent litigations instead of solely relying in traditional judicial systems.

The Table no. 5 (Refer to pg. no. 385) shows specialized tribunals in most of the advanced nations and in some prominent developing nations like China. The advocates of this system opine that ‘a specialized court, staffed with technically trained judges immersed in IP law, can provide litigants with levels of factual understanding typically unavailable among the legally trained jurists who sit on general jurisdiction courts’ (Abramson 2007: 50). But these specialized courts have also come under heavy criticisms around the world. Because the opponents point out that there is no need to distinguish between IP law and more general legal principles. It is feared that these special courts may turn into the hub for privileged lot ad also they may gradually pursue and promote legal doctrines which go against or exist in contradiction with the traditional judiciary.

Even in India, we do not have a separate patent litigation system till date. At present the High Courts do not hear patent appeals and it goes to the newly created specialized Administrative Tribunal known as Intellectual Property Appellate Board (IPAB). The IPAB has its headquarters at Chennai and shall have sittings at Mumbai, Delhi, Kolkata and Ahmedabad. Its main objective is to hear and decide appeals from the order and decision of the Registrar of Trademarks which till now were under the jurisdiction of the High Courts. The Appellate Board can also entertain original applications for rectification of Registrar of Trademarks under relevant sections of the above act.

The Indian Patents Act 2002 expanded the jurisdiction of the existing IPAB, previously established for trademark matters by India’s Trademarks Act 1999, to encompass patent appeals (Patent Act No. 38 of 1970). The intention behind shifting patent appeals is to clear the backlog cases and handover the patent cases to a specialized tribunal. Currently, the appeals from a Controller’s decision go the IPAB, whose panelists come both from judiciary and the technical field. Thus, The IPAB decisions are final, with no recourse available to the judiciary even if a party wishes to move further. Though the IPAB is an administrative body, its decisions are final in regard to patent grant, rejection, CL, pre and post grant challenges. However, the High Courts have constitutional powers to entertain writ petitions against decisions of an administrative body such as the IPAB (Art. 226). But the High Court’s entertain such a petition only if it establishes a prima facie case of patent illegality in the decision rendered, miscarriage of justice or a question of law that merits attention.
Apart from the IPAB, judiciary can decide issues of patent enforcement. Initially, the law suits alleging infringement of Indian patents are filed before the District Courts, but if the accused infringer files a counter claim for revocation of the patent, the case will be transferred to the appropriate High Court for hearing and decisions (Patent Act No. 39 of 1970). Those defending a patent infringement action may raise as a defense of any ground set forth section 64 (Revocation of Patents) of the Patent Act 2005 which provides an extensive list of grounds for revocation like lack of novelty, utility, and inventive step, failure to provide an enabling disclosure, failure to disclose the best mode, lack of claim clarity, non-patentable subject matter and failure to disclose the source or geographical origin of biological material used for the decision.

The Patent (Amendment) Act 2005 provides for affirmative action permitting those seeking a judicial declaration of non-infringement but these actions cannot assert patent invalidity. The party seeking to revoke a patent outside the context of defending an infringement suit must file a petition for revocation with the IPO. The revocation petitioner must be a person interested, suffering tangible commercial harm from the continued pendency of the challenged patent.

Finally, the Chapter XVIII of Indian Patent Act, 2005, titled ‘Suits concerning infringement of Patents’ does not provide a provision explicitly enumerating acts of direct infringement. But the Act specifies that a product patentee has the exclusive right to prevent third parties, who do not have his consent from the act of making, using, offering for sale, selling or importing for those purposes that produce in India. It is entirely consistent with the TRIPS Agreement which mandates the identical exclusive rights (TRIPS Agreement Art. 28).

After modernizing the IPO, it is worth looking at the revenue and expenditure of the whole system as it is a public institution of the country. The IPO returns the fees to general revenue of the Govt. Fees have been considerably raised to cover the running costs of the IPO. Despite meeting regular expenses, the IPO is slowly coming up as a revenue earning machinery. During the year 2010-11, the total revenue generated by the DGPDTM was 246.07 crores, which is 14.31% higher than that of the previous year, while non-plan expenditure was 32.85 crores leaving a revenue surplus of Rs.213.22 crores. The IPO has generated total revenue of Rs.159.84 crores (Patents Rs.158.78 crores, & Designs Rs.1.06 crores, GIR Rs.0.27 crores and PIS
This is definitely a very positive trend for the IPO and the country’s economy as well because patents today hold a crucial key to innovation and development. Under the ‘Modernization Project’ initiated in the 9th Five Year Plan, the IPO has been fully computerized. The office procedures were redesigned and IT system was extensively utilized to improve the public service delivery (ibid). In fact, as a policy initiative, the IPO sought to involve the stakeholders wherever required.

During the year 2009-10, The Patent Office Procedure (POP)(ibid) was established, clearly demarcating the functions and responsibilities of various sections. This was one of the most important steps setting the foundation for further reforms. Four groups of Examiners and Controllers were also constituted with broad specialization of subjects with effect from 1st July, 2009. The system of allotment of patent applications was rationalized to a considerable extent. The Annual Report quotes, ‘it has been found that the Groups in the Patent Office are now functioning in a more professional and transparent manner as decisions like allotment of files are being taken in monthly Group Meetings (ibid: 13). Since there were lots of inconsistencies and confusion about the exact application procedure among the domestic and foreign applicants, the IPO has finally codified all the existing practices into a ‘Manual’. As the Report (2010-10) notes, ‘a Manual of Patent Office Practice and Procedure (MPPP) was published to unify practices across the four patent offices to increase efficiency and transparency’ (ibid). Earlier, there was lots of backlog pending in four patent offices for a long time, in the nature of pre-grant and post-grant oppositions, once the final hearing was over. But at present, the official of the Patent Offices were directed that no pre-grant and post-grant opposition shall be kept pending for orders for more than 3 months, in case of post-grant oppositions, and one month, in case of pre-grant opposition after the final hearing.

Earlier, patent ‘Examination Reports’ were collected by the Patent Agents personally from the respective patent offices. The Report (2010-11) makes it clear that no report shall be handed over personally to the Patent Agent. The Examination Reports, now onwards will be sent through e-mail or by post. In a move to increase efficiency further, the applicants were requested to file their response electronically for fast processing and disposal.

As the part of the procedure, only the complete specification, abstract, drawings as filed with the application were made available for inspection, which was not in conformity with law. Today,
the Report notes, ‘in the interest of transparency, the Patent Office shall make available the complete specification available in file as on the date of inspection/request for copies, including amended specification, drawings and abstract, if any filed.’ Under the 1970 Patent Act, the communication between the office and the applicant/agent were not allowed to make public. But today taking into consideration of the pre-grant opposition, the IPO decided that the copies of all the letters/correspondence between the two parties shall be made available to public.

Finally, from December 2010 to March 2011, a special backlog drive “was initiated to clear all the backlogs at IPO(ibid: 14). These steps have gradually helped the IPO to come at par with the global standards of the TRIPS.

This is how, the IPO has been working hard to come up to the global patent standards so that India can be a safe destination for foreign investment and innovation policies are made in line with the domestic interests in mind.

**Challenges and Policy Options:** The 2005 Patent (Amendment) Act marked a final move towards the global patent system as envisaged by the TRIPS Agreement. As Abramson notes, ‘the new status quo framework reflects a thoughtful balance of TRIPS compliance with TRIPS……..it also includes important procedural safeguards that many patent systems of longer standing lack-mostly pre and post-grant challenge procedures and emergency mechanism for forcing CLs’ (Abramson: 36). Despite having a good patent system, today the IPO is facing the following challenges:

a) The IPO urgently needs more patent examiners, technical staff, awareness drives etc. It is strongly felt because gradually India is attracting huge foreign applicants and also the domestic constituency is emerging very fast. As it is observed from the Annual Report (2010-11), the IP offices across the country do not have sufficient staff to handle emerging problems.

b) Another formidable challenge for IP as a whole and patent in particular is that it still remains as an exclusive domain of the few experts in and around the country. IP awareness must go beyond official rules and regulations making public the websites and govt. documents. As an innovation policy framework, the govt. must make IP and related
rights as part of the academic curriculum across schools, colleges and universities. Or else, IP will remain as an isolated area.

c) Indian Patent system has been lagging behind in trained manpower or professionals. The reason behind is that IP is comparatively a new field in India, so its legal experts are not adequately trained in that. Secondly, as the govt. incentive/salaries are too less for the professionals in comparison to what they earn from private corporations or from their personal practices, so these few IP experts do not want to come forward to offer their services.

Therefore, the country needs to enhance the professional skills of its staff and initiate attractive drives to get skilled examiners.

d) India must come forward with a definite and objective patent system like the US, Japan or Korea in regard to litigations, India still has not engaged with the general vs. specialized patent courts. So, it is the right time, the Govt. should solicit expert advice on the relationship among patent registration system, patent examination systems, and the strength of specialized tribunals and appellate bodies before moving further. As India’s judicial system is extremely slow and lack of trained experts in the field of IP law may make it slower in giving fast judgments to patent litigants.

e) Till date, India does not have long pending patent litigations. But its copyright and trademark cases are rising fast. The legal system pertaining to the copyright and trademark system is still functioning better. Many aspects of patent and copyright litigations are almost similar, but patent cases demand more attention beyond the traditional domain of civil courts. Therefore India needs to rethink and design a fresh legal institution for handling patent cases.

It is also felt that even if India wants to have a full-fledged specialized patent court system, it will face serious crisis of trained manpower. Also, there might be a core problem of detaching the patent litigation from the general legal jurisdiction unless the later fails to deliver at all.

f) As Abramson (2007) suggests, ‘in the absence of a single appellate court with national jurisdictions consistency in patent law is unlikely. India needs to rethink its appellate procedures and consider developing a nationwide court whose status, prestige and personnel parallel those of
the well-respected High Courts’. Otherwise, the split verdicts in various courts across the country might confuse the applicant, the patent examiners and the defendants as well.

g) Another issue which is intrinsically linked to the IP system is incentive for the innovators at the moment and for future. It is to be noted that depending in the incentives offered for individuals, MNC’s, SMES, educational institutions etc., they all will in turn respond to in terms of inventing their capital, time and effort in the entire process of innovation. It is the duty of the Govt. to make the IP atmosphere, safe and potentially attractive for future investment.

h) Govt. of India must come up with serious governance reform proposals so that its universities and research institutions and laboratories could be free to negotiate flexible deals with potential partners in the private sectors. The way the historic Bayh-Dole created a legal environment for a cultural shift in the US, India must ensure that no statutory nor governance issues can hinder growing an entrepreneurial spirit in these campuses. Today most of the innovators, particularly its public sector innovators, would publish rather than patenting. It in fact is highly regressive to the patent system itself. Actually, the teachers, researchers and the scientists at universities and institutions should go for patenting and their organizations in turn must find companies or private firms capable of turning them into marketable products.

i) The contribution of the private sector to the knowledge economy is very crucial to India’s long term development of the economy. The private contributors are mainly MNC’s; large domestic companies, SME’s and individuals. Mostly, the big companies have their own patents in a particular field and they bar others from obtaining them. This kind of defensive patenting will be helpful for India once its patent system matures. This trend is observed in software and IT industries in India. These patents are costly, because the patent holders have a complete monopoly on the product for considerable period and finally the costs become burdensome for the consumers in the long run. But India must encourage these MNC’s to invest because in the process they invest considerable funds in experimentation, innovation and R&D, with the consequent impact on education and employment generation. However till recently, India did not provide friendly atmosphere to these big corporations for their investment.

j) At present, the scope for individual and SME inventors are not very encouraging. It is mainly because of the high application fees both at home and at international level. But recently, IPO
has reduced filing fees so that the small investors or SME’s can file their applications. This kind of a move will rather benefit the MNCs or large domestic corporations and in the very purpose of doing the move will be defeated to a large extent. In US, only through the filing fees, the USPTO runs very comfortably, therefore India being a new entrant to the global patent system; it should keep its fees higher. Also, higher fees will discourage frivolous or duplicate applications; finally will lead to the efficiency of the system.

k) India needs to build up an effective patent system which needs huge investment. It must be noted that modernization of the system should be initiated more vigorously and only then the patent system can be really effective. India in the coming years can attract substantial investment in the field of R&D, innovation, technology, infrastructure etc., but it needs to have an effective protection of IPRs which can encourage both the domestic and foreign applicants and industry partners.

Thus the IPO in the coming days need to work strategically so that all the stakeholders in the system are taken along while making changes to the existing system.

l) Last but not the least; as technological development goes much faster than the development of IP laws, it has become serious in many IP offices across the world to adjust the latter to the former. Therefore, the Govt. must coordinate and develop an alternative patent policy or framework to handle the field of technology.

Abramson provides a set of useful recommendations in his seminal work for the Indian Patent system –

- Govt. must come up with an IP policy think tank as early as possible, with both Indian and foreign experts.
- It is high time now to complete the entire modernization process of IPO. It is important to launch a prior art database and interconnect these databases and search engines with as many foreign patent offices as possible immediately.
- As a part of the new think tank, we need to create a Standing Expert Committee on patent guidelines to consider frequent revisions, amendments and additions.
• The Govt. needs to provide complete training to upgrade the police, customers, officials, IP officers, professionals etc.

These are an important set of solutions in fact to the problems already envisaged at IPO. While moving ahead with the global patent system, India must keep a stronger eye on the development of competent examiners back home. Because, the role of the examiner is much more or it can be called as final, while granting a patent than the large patent interpretative community including judges and lawyers. The courts have a final say, only when the litigation of a patent starts.

As Drahos (2010: 215) notes, ‘but in practical terms, patent examiners are, as it were, the ‘grant keepers’. Patent examiners can only decide the final grant of the patents. Therefore, the government must have efficient patent examiners who can deliver faster so that more and more patent applicants take interest in filing. There are very few decisions of the patent examiners are contested in the court till date. ‘Between 1996 and 2000 less than a hundred decisions of the Indian PO were appealed to the Indian courts (Basheer 2005). Therefore, decision of the examiners is crucial and today vast majority of the patent portfolios of the MNC’s are ‘built on the backs of examiners’ decisions’ (Drahos 2010: 215).

As India is very new to the global patent system, particularly in the patenting of pharmaceuticals, the Indian examiners require high level training. The USPTO has already offered high level training to Indian patent examiners in the field of pharmaceutical product examination. Therefore, the Indian authorities have sent examiners to study the US approach to biotechnology applications. However the USPTO like the EPO tries to build capacity in developing countries which finally favours the patenting strategies or policies of its respective companies.

The IPO in the post-TRIPS era has gained both global reach and expertise, unlike the past. Many IP experts like Drahos feel that India’s vibrant democracy could help in advancing patent reforms through public debate in the years to come. ‘It is also clear that India is paving the way for the entry of many more patents into its business culture. It has for example, introduced a fast track procedure that will see a patent issued in India in less than 6 months.’ It is an open option for the applicants if they want they can exercise it. As Drahos (2010: 220) argues, ‘developing countries like India, which want to play in the patent based global economy, need armies of
patent attorneys, just as much as they need scientists since what counts is not invention, patentable invention’. In the context of the post-TRIPS patent strategy adopted by the IPO, it must be kept in mind that in comparison to the Patent Act 1970, the current one is delivering more and it is going to stay for long. In the true sense, the Indian Patent System would in the words of Mashelkar turn India’s ‘intellectual process into knowledge and wealth’ (Mashelkar ) Therefore, to realize the worth of patents, the IPO must look into the aspect of grooming of skilled patent attorneys in future.

**Governance of the European Patent System**

The expression “European Patent System” (EPS) refers to the multi-layered, regional system that exists in Europe regarding patent related activity. Originally, the intention was to have one patent system for the European Communities, including not only standardized grant processes but also providing one, uniform patent right for the whole of the common market. However, the objective could not be achieved at that time, as there were inseparable views on whether a respective convention should be open for accession to non-community member states. Therefore, a split was made between setting up a uniform granting system which would also be open to non-EC Member States of the EC (Convention on the Grant of European Patents (EPC) signed in Munich 1973) and a real integrated community system to be created at a later stage- though such a community system has still yet to be established.

Thus, this explains why the EPS is distinct from the European Communities. The EPS as of today is functioned under the EPO, which was established by the EPC. It is completely a centralized system. It is administered by its executive body, the EPO. The EPO operates on behalf of all the EPC contracting states i.e. all Member States of the EU plus Iceland, Liechtenstein, Monaco, Switzerland and Turkey.

Though the entire system demonstrates the collective political will to establish a uniform patent system in Europe, but today patent rights are largely finalized by the national laws of EPC contracting states. The purpose of states agreeing to the EPC was to create ‘a single procedure for the grant of patents’ (Preamble, EPC). But unfortunately, the EPC implements multiple procedures. ‘At the time of the negotiation of the EPC, it was thought that the EPO would have to deal with some 40,000 applications per years’ (Drahos 2010: 110). In 2006, there were
2,08,500 applications were filed (EPO Annual Report 2006: 15). It is worth to note that the founding motivation of EPO was “to support innovation, competitiveness and economic growth for the benefit of all citizens of Europe” (http://www.epo.org). EPO works for the protection of innovation in 38 different countries and employs about 5900 employees (Escribano & Giaratana 2011).

Before getting into the operational system of the EPO, let us briefly discuss the history of the EU Patent System.

By the late 18th and early 19th centuries, patent laws were passed in several nations including the US in 1790, France in 1791, Spain in 1811, Prussia in 1815 and The Netherlands in 1817. All these happened mainly because of the impact of the massive development of the Industrial Revolution. In Europe, the French law became the model for most European and Latin American patent laws. The French Patent Law of 1791 describes IP as natural right of the individual like any other property. During that time France propagated the view that the value of an invention should be judged by society not by the government. All the litigations related to claims or any other needed to be handled by the judiciary. This law used to grant patents for five to fifteen years of time.

The first relevant international convention to the European Patent System was the historic Paris Convention of 1883. But the main focus of this Convention was not patent law. However, for the first time, there was international cooperation in patent law around this convention. It is to be noted that this convention, opened the door for future cooperation among nations in patent law. Till 1967, the Paris Convention has been revised for six times and in these revisions, the earlier restrictions on the right to use patent rights have been lessened.

The historic Patent Cooperation Treaty (PCT) was signed on June 19, 1970 in Washington, D.C. But the existing EPS is entirely independent from the PCT, but is still relevant for EU nations because the treaty shows how the European system interacts with the rest of the nations. Procedurally, the PCT allows an applicant to file what is known as an international application in any of the ratifying countries. As long as all formal requirements are complied with, the international application has the potential to become a patent in every ratifying country which the
applicant designates in the international application. Thus, an international application is searched by a WIPO appointed patent office. These offices include the USPTO, JPO and the EPO.

The search for an application is done by a WIPO appointed office. But finally the examination and grant of a patent is entirely dependent on the countries earmarked by the applicant. The PCT applicants get maximum benefit from the search report in the sense that the applicant becomes aware about the likelihood of receiving a grant, nature of the claims i.e. weak or strong etc.

From the beginning, the PCT has undergone several changes. But mostly, the PCT has made the entire system friendlier towards the patentee. ‘In 1 January, 2004, the Written Opinion of the International Search Authority (WOISA) was created. The WOISA is a preliminary, non-binding opinion of the examiner regarding the prospect for patentability of the invention, including certain aspects of examination (Gullec and Bruno Van: 2007). Further, as a result of the negotiations at the WIPO on harmonization of national patent laws, the Patent Law Treaty (PLT) came up in 2004.

It is interesting to note that Europe has been continuously forming its own agreements and conventions among their nations in respect to IP laws. In 1949, the Council of Europe was founded and it provided a forum for discussion that would lead to further internationalization of European patent law. ‘The Strasbourg Convention came out of talks to unify Europe on both procedural and substantive requirements of patent law. The key purpose of this Convention was to unify the patent system throughout Europe, thereby encouraging industry and invention in all of Europe’ (Paterson 1992). This Convention had detail provisions for patent filing and prosecution. Hence, the procedural requirements of patents mentioned in this Convention were later included in the PCT and in the European Patent Convention (EPC). The interest for a common market in Europe encouraged all the nations and finally the most of the ideas of patenting in the continent were formally made in this Convention only. Later with minimum revisions, all these provisions were inserted in the EPC.

Armitage et al (1976) notes ‘officially titled ‘The Convention as the Grant of European Patents,’ the EPC took place between September 10, and October 5, 1973. It is only open to European countries.’ The main aim of the EPC was to establish the EPO for setting up of the internal rules and regulations for patenting in entire Europe. In fact, the EPC is the law in Europe, but it is not
without problems. It has drawn criticism for being expensive and difficult to navigate. For decades, the European Commission has attempted to create a more unified and user-friendly system, with a single court system for enforcement (Morgan & Wessing 2008).

In 1974, the Community Patent Convention (CPC) tried to solve the problem of harmonization through the community patent system. In fact, it was discussed in the Strasbourg Convention but could not be implemented because the UK refused to join. Though the CPC was signed in 1975 by the then 9 Member States in Luxembourg, but could not come into reality for some political reasons. Again in 1985, the second CPC was organized in Luxembourg to implement the community patent system, including setting up the protocol for establishing the judicial system for community patents and making conditions for nations joining the EPC after 1975. During this conference at least the potential for establishing the judicial system was finalized. The Conference came up with an agreement relating to community patent and listed out the political issues which demanded to be sorted out before appearing to solve the other problems. Also this Agreement states that the Community will take necessary steps to bring the internal market in stages by December 31, 1992.

The Agreement states that the internal market will have no borders within, in which there will be no restriction on the movement of goods, services, capital and human resources as per the terms and conditions set by the Treaty. But, the CPC attempts could not be translated into reality. Practically speaking CPC is highly required because simplification of the language issue would surely reduce the cost of patenting in Europe. The EPC Members have also tried to make rules that would reflect the proposed CPC system by using the European Patent Litigation Agreements (EPLA) and the London Protocol. The EPLA aims to establish a centralized judiciary in Europe for patent revocation and infringement issues. The London Protocol tries to settle the translation problems across Europe because it is increasing prohibitively. Though the London Protocol has been approved, yet the EPLA could not come into practice.

Thus, the EPO has not been able to come up with a uniform system to simplify the patenting process across the EU nations.
Patenting Procedures under EPO

a) Patent route to EPO: The EPO is central office which grants patents in Europe. The EPO mainly examines patents on behalf of all contracting states on the basis of a centralized procedure. It has 3 official languages i.e. English, French and German and an applicant can file an application in any of these languages. Through a single application and single patent grant procedures, it is possible to obtain patent protection in several or all of the EPC contracting states, with the EPC establishing standard rules governing the treatment of patents granted by the procedure. As Gullec & Bruno Van notes, ‘the European patent system becomes complex and costly just after the grant, as a patent must then be validated, put in force and renewed in each national patent system with its own national legislation and its own fee structure.’

The Table no. 6 (Refer to pg. no. 386) shows how patentees designate particular states at examination stage. ‘There is a clear preference for the 3 largest European countries (in terms of population size) as more than 90% of the patents designate Germany, the U.K. and France, Italy and Spain respectively attract nearly 80% and 70% of the patents. Smaller countries are designated for protection by 60-70% patents’ (Gullec and Bruno Van 2007)

Priority Filing is also commonly preferred by applicants. This kind of filing is crucial because it offers the first legal date of application for a patent. According to the Paris Convention of 1883, the applicants have one year from the priority date to extend their applications to other countries or regions. Since the PCT (signed on June 19, 1970 in Washington D.C.; and its entry into force occurred on 21 January, 1978), the applicant may also file an international application at WIPO, which basically provides more time to decide whether to file an application in foreign countries. After this period of 30 months, the applicant loses the possibility to get a patent in all the designated countries.

As per the market access and the profitability criteria, the applicant should decide how to file an application-nationally, regionally or internationally. The trend is that patent applicants come to the EPO for second filings because they normally prefer national offices. Therefore most of the patent applications are not shifted to the EPO.
When an applicant knows his financial capacity and relevance of his patent in the home market, generally he goes for national patent filings. But today, because of the availability of the financial resource, filings can be done in other nations, through a centralized procedure i.e. EPO.

An international filing can be made in other international offices like the USPTO or JPO with the option of using the PCT route, by designating these states in filing documents. In case of some instances, we can see an applicant of an EPC member state filing a priority application at the USPTO, and then filing either PCT application designating the EPO or directly file the application at the EPO which is known as Euro-direct applications.

The Paris Convention provided only one year for any priority filing to be extended abroad in any other patent office, but the PCT provides time up to 3 years for extension of one’s application at international level.

It is shown in the Figure No. 4 (Refer to pg. no. 387) that the cells in the priority filing column may be followed by the cells in the subsequent filings. Currently, most of the applications filed at the EPO are second filings following a national priority filing or a PCT filing may be. It has been noticed that all the patent applications filed at the EPO coming from the US have already had a priority filing at the USPTO. Also these applicants file their applications through the PCT at the WIPO later.

Once an application is filed through the PCT the applicant can choose which international authority will execute the search during the chapter I phase or any international preliminary examination, the chapter II phase. A filing via the PCT Chapter I route with or without a Chapter II examination can then be followed up by entry into European Regional phase before the EPO. It is not necessary that the Chapter I and Chapter II processes are conducted under the same international search authority. As of May 2006, the following patent offices are authorized to act as International Authorities for Search (ISA) and Preliminary Examination (IPEA) on behalf of WIPO:

a) Austrian Patent Office
b) Australian Patent Office
c) Canadian IP Office
d) EPO
It has been observed that in the current EPS, when an applicant first files at a national patent office and a later filing at the EPO directly or through the PCT, he can get the entire benefit of two changes of a valid, granted patent in that particular contracting state when the national filing maintained and the related fees and costs are paid, then there is a possibility that a national patent would be granted at the end. Normally, a first filing with a national patent office is done in a local case which will be helping in getting a first search report and opinion on patentability within a reasonable time delay and at a low cost. It is common for all the applicants that within the priority year they can think of pursuing and the route they want to take. So the applicants get sufficient time to decide the future of their applications.

From the above patenting process at the EPS, three important conclusions can be made:

a) An applicant can override the EPO for an effective protection in several national patent offices in Europe. But normally most of the patent applications try to get recognized in 3 EPC member states, they apply at the EPO only.

b) All the applicants should have a definite plan so that they can decide well in advance, where they want their patent to be protected and the subsequent expenses to be incurred thereon.

c) It seems the patenting procedure at the EPO is complex and expensive.

Thus, the patent filing procedure at EU is quite complex. Moreover, the whole process is expensive because of a huge translation cost.
Drafting Procedure

Article 133 and 134 of the EPC govern the representation for drafting a patent application at EPO. Normally, a professional is hired to file an application. Article 134 states that a professional representative authorized before the EPO must reside in one of the designated states and have passed the EQE (Europe Qualifying Examination) for such practices.

Again some professional counsels may fall under ‘Grandfather Clause (Art. 163 EPC) professional representatives during a transitional period) which applies to existing patent attorneys in those states which recently became new members of the EPC and allows to practice without having the EQE qualification.

Style of Drafting

Art. 78 of EPC (requirements of the European patent application), a patent application filed at the EPO must comply with the following criteria:

- The applicant must attach an official request for grant purpose
- The application should have clear description of the invention
- There should be at least one claim mentioned
- It is necessary to provide drawings mentioned in the claims
- The application should be accompanied by an abstract.

Under the EPS, unlike the US, there is no obligation for the applicant to mention the relevant prior art in the description.

Description of a Patent

A patent is called a ‘good patent’ in which the description is very precise and to the point. It is very easy for the patent office to process such a patent. The EPC demands clarity as a necessary condition for the granting of a patent.
Number of Claims

Article 78 of the EPC states that a patent application must have at least one claim. If an applicant is failed to satisfy this basic requirement, the application will be refused by the formalities section of the EPO.

Generally, applications consist of several claims. Only very few applications have only one claim. A claim can be of an independent claim is one which stands above and defines a certain scope of protection to be sought. On the other hand, a dependent claim is one which refers to an independent claim and which further delimits the scope of the independent claim by additional characterizing features.

There are four categories of claims: process, product, use and apparatus for manufacturing the product (Gullec and Bruno Van 2007). It is observed that independent claims are more than dependent claims. In 2002, a new Rule 29 (2) at EPO was introduced to limit the number of independent claims in the same category. So, this rules explicitly states that ‘a European Patent application except where absolutely necessary, may not contain more than one independent claim in the same category (product, process, apparatus or use.)’

There are patents which come under what is known as “MEGA” applications. They are called so because they consist of an extremely high number of claims at times several hundreds, if not thousands. These patents are also described as jumbo applications, ‘nasties or supernasties’(Milore 1991).

Scope of Claims

Normally, applications with broad claims will typically try to cover a wide area. It is also done by having more number of independent claims in the application.

When there are broad claims, subsequently this may lead to exorbitant costs in litigation process when an opposition move comes up.

The applications which are lengthy and consist of several claims, normally takes a long time in search and also deciding in patentability criteria.
**Number of Pages:** The ‘Implementing Regulations of the EPC’ provides that:

a) Applications must contain minimum one page, but once it is published, it will consist of minimum two pages. These two pages are: the first page will provide bibliographic information and the abstract; the second page will carry the description and the claims of the patent.

The EPO charges a very high fee for an application comprising of more than 30 pages at the time of grant. Thus, application will be normally less than 30 pages.

**Complexity of Invention**

The EPC Rule 27 says that:

- The patent application should identify the technical field in which the invention falls;
- The application should provide the background art for conducting European Search Report and examination. It is advisable to cite such documents which reflects the art;
- The applicant must disclose his invention in such a manner so that its technical problems and solutions can be easily understood. Also he should list the positive effects of the invention.
- There must be precise description of the figures used in the drawings if any;
- There should be description of at least one way of conducting the invention. This can be done by using examples if required and can refer the drawings if any;
- Indicate explicitly, when it is not obvious from the description or nature of the invention, the way in which the invention is effectively subject of industrial application.

Thus, an application has to be drafted very carefully.

**Administrative Structure of EPO**

The EPO is divided into the following divisions:

- Receiving Section
- Search Section
- Examining Division
Opposition Division
Legal Division
Boards of Appeal Division
Enlarged Board of Appeal Division

These all branches along with task of implementing the procedures are mentioned in the EPC. A set of ‘Guidelines for Examination in the European Patent Office’ is also provided by the EPC. These guidelines help in the interpretation of the relevant Articles and the Rules of the EPC and examples of how to deal with specific situations that may come up during the process. Again a set of an ‘Internal Instruction’ are being provided as additional tools for proceeding with search and examination as the office goes ahead with the process.

When an application is filed at the EPO, it begins with the procedural state. If the application conforms to the format mentioned in Article 78 (i) EPC, the application goes ahead for relevant prior art search. It is done by the examiner with the help of the huge EPO database known as EPDOC. The EPDOC contains over 55 million prior art documents and along with this, the examiner may consult the internet as and when required. A pre-exam report i.e. a non-binding opinion regarding the prospect of the application to be granted comes along with the search report for PCT applications since 2004 and for direct application at the EPO since July, 2005. Finally, the search report is made public on the date of publication of the application.

**Notice of Search Report & First Written Opinion**

Once the search report and the first written opinion come to the applicant, he has to make the following decisions:

a) Whether to go ahead for further examination with amendments;

b) The applicant can also withdraw from the patenting process either informing the EPO or without informing the EPO.
Prosecution of Substantive Examination

Once the request is made by the applicant for substantive examination, the examiner can recommend grant or refusal of the same. To be qualified to be a patent, it must fulfill the following criteria.

- There must be an invention.
- The invention must be new (Novelty, Art. 54 EPO)
- The invention must involve an inventive step (Art. 56 EPC)
- The invention must be susceptible of industrial application (Art. 57 EPC)
- The EPC does not define an invention but Art. 52 (2) of the EPC contains a non-exhaustive list of things which shall not be considered as inventions: discoveries, scientific theories, mathematical methods, aesthetic creations, schemes, rules and methods for performing mental acts, playing games or doing business, computer programmes and presentations of information etc.

Again, the very important requirement for patentability is that the claims made by the applicant must be clear, concise and supported the description as well.

There are number of processes under “Fast Track” methods to expedite the application procedure:

- File the application under PACE programme: Under this the EPO ensures that the search report for an EPO first filing will be given within a period of 6 months after filing (RASE, accelerated search report). When an applicant asks for PACE request for accelerated examination (RAEX), the EPO responds within 3 months.
- File an early request for examination (Art. 96(i) EPC);
- File amendments on the applicant’s own volition upon issue of search report and written opinion before entering the examination procedure.
- The applicant needs to reply to all office actions within time limit.
- He must pay the required fees before the due date.
- It is necessary to have the interview of the examiner for ironing out all the complex issues.
Now, under ‘Slower Track’, means include:

- The PCT route can be chosen by an applicant;
- An extension may be taken for sending reply to the patent office;
- If an application is not moved further, a valid reason can be cited which includes death, sickness, bankruptcy etc.
- Once an applicant files divisional applications, it would make the entire process slower.
- If possible, appeal any decision issued by the EPO.

Third Party Intervention: Art. 115 EPC provides observations by third parties on a particular patent application. Therefore, third party intervention might influence the patenting procedure at the EPO.

The decision of the ‘Grant of a Patent’ is communicated to the applicant. It is known as an intention to grant (IGRA), which can be accepted or rejected. Once the payment of fees is done, the patent grant will be published as early as possible. Or else, the whole process can be slowed down by the applicant after getting the IGRA.

A patent grant at EPO can be opposed on the following grounds:

- Lack of novelty
- Lack of inventive step
- Non-patentable subject matter
- Lack of industrial applicability
- Lack of or insufficient disclosure;
- Inadmissible extension of the patent disclosure beyond the content of the application as originally filed.

As Gullec and Bruno Van state, ‘although the absolute number of opposition is increasing, the rate of opposition in relation to the number of published grants is decreasing and currently corresponds to about 5% of all patents granted’ (2007: 178). Therefore, it shows a positive trend at EPO.

Four broad categories of patent strategies are identified as a whole at EPO filings so far:
a) Good will and fast track: This kind of an applicant aims for fast grant and definitely a fair scope of protection.

b) Good will and slow track: It is more popular than the first one. ‘Basically, it reflects an attempt to lengthen the procedural delay of a filing, probably to avoid the larger expenses that have to be sustained once the patent is granted’ (ibid: 181).

c) Bad will and slow track: It is very frequent these days at EPO. It implies that the applicant aims to achieve the maximum possible scope of protection. Here the applicant wants to delay the process so that an uncertainty in the market continues.

d) Deliberate abuse of the system: It is done by a few applicants, but the trend is growing very fast. ‘It reflects a definite will to hide an invention or a claim, in an ocean of useless or low quality claims. It then becomes easy to wait for potential users of the technology and litigate then for infringement. It is a typical strategy adopted by the so-called ‘patent trolls’ or submarine application’ (ibid).

Since behavioural characteristics are not easy to analyze, so it is very difficult to actually measure the importance of each type of strategy in the total number of patent applications.

**Patent Law Harmonization in EU**

A patent system can be justified on various grounds. Patent Law is ‘a contract made between state and inventor in order to publish details of the invention, a reward for invention, a means of protecting inventor’s rights on that it is simply an incentive to invention and innovation’ (Cornish 1989: 78). It suggests that the patentee is under obligation to make invention public keeping in mind the broader aspects of social welfare. Mazzoleni and Nelson (1998: 272-84) have identified four broad theories about the purpose patents serve:

a) A motive for invention
b) An inducement for development and commercialization of inventions
c) An inducement to disclose inventions and
d) A means of ensuring orderly development of broad prospects.

However, patent and theories justifying patent have always come under criticism because of their monopolistic aspects. In this case, again the differences between national and foreign interests
are to be considered carefully. Patent protection actually encourages indigenous technology, inviting potential investments in R&D, technology imports etc. When we term patent protection of foreign technology as dangerous, we generally overlook the exploitation of free riders in the market. This shows that patent system with their latest modifications in developing countries would be able to harness profit in the long run or else they would be far behind in the run for unleashing their creative and innovative potential in the face of globalization.

Unlike many other patent systems in the world, the EU Patent System neither replaced any existing patent system nor did it start from scratch. In fact, a unitary system in EU would help in cost savings and efficiency in patenting. However, the early attempts to harmonize EU Patent Laws started much before 1880. In this regard, the Vienna Exhibition of 1873 could be considered as the precursor in patent law harmonization. Though this exhibition drew less participants as it took place in the midst of a cholera epidemic, prompted by piracy, a Congress was ‘organized alongside the exhibition to discuss the issues of patents and move to harmonize them’ (Pitkethly 1999). At the end of the Congress, it was decided that there is an urgent need for reform of the existing patent system.

This resolution underlines the urgency of reform on the face of international dynamics. So, the States were urged to take initiative to end inequality in the existing patent legislation across Europe. Mr. Paul Hartnack, ex-UK Patent Office Comptroller General and Chief Executive noted: “Arguably, the main driver of the trend towards harmonization of the world’s patent (and trademark and design) systems over the last 50 years has not been WIPO, or the EPC or the GATT, massive though their contributions have been. Arguably, it has been the demands of a global market driven by the wonders of modern communication technology” (Hartnack 1996: 10-11). Thus, the role of ICT as predicted by Hartnack, proved to be the chief driver of bringing globalization in the last quarter of the 20th century. There was a strong demand for reforms in patent law in UK, when the Government Patent Bill of 1876 was tabled in Parliament in those days. These early instances of patent law harmonization reflect:

i) There is no unanimity in bringing harmonization of patent law in Europe. This is mainly the result of conflicting approaches adopted by various national governments
in European nations and they purposefully ignore the benefits came along with the modern patent system.

ii) The trend was very clear that there is an urgent need for harmonization of patent laws mainly for the mutual benefit for all.

iii) Finally, with globalization movement towards greater coordination and sharing of ideas have taken the centre stage of interaction among nations and the existing international and regional institutions. In such an atmosphere, the EU patents system cannot remain isolated from reforms in the global patent governance which are already affecting the major patent systems of the world.

**Advantages of Patent Law Harmonization**

a) In EPS, the most important advantage of patent law harmonization is that by filing one single application one can save the costs. Normally, the trend is that there is one or more countries are designated in one patent application.

b) The harmonized system can allow savings by delaying in incurring costs. Particularly, it can save a huge translation costs. Mostly it happens to the applications filed through the PCT route than the EPS.

c) Once the harmonized system comes, the companies can save their time in dealing with multiple procedures and rules of the national patent systems.

d) The harmonized application system can also ensure a standard protection mechanism. But unfortunately, a harmonized application does not ensure a standardized level of enforceability in all courts across the EPO nations.

e) It is advocated that a harmonized application system helps an applicant to benefit from an increased predictability about the level of protection that he gets.

From these advantages, we can rightly state that the harmonization of patent laws across Europe would lead to a patent system wherein the applicants can follow one single window for processing their patents and getting safeguards from the same.

**Disadvantages:** The most significant disadvantages of the harmonized patent system are:
a) The translation costs for patent applications across EU members are always high. It needs to be addressed.

b) A harmonized or standardized patent system would deprive the applicants from having the experience of different national patent systems. At present, the applicants gather knowledge about various national patent systems and accordingly get prepared for their future course of action.

c) Finally, harmonization would also bring an end to the rigorous patenting procedure which an applicant normally sails through at EPO and particularly at various national patent offices. Therefore, it needs to be watched how far the new system could guarantee quality patents in Europe.

If we look at the functioning of the EPS, we can observe that unlike most other patent systems, there is an alternative in this system. If an applicant wants to have a patent in Europe, he can have a choice of routes to register a patent. In the past, the EPO has done research and surveys to find out the perception of applicants about the EU patent system. ‘In one such survey the four most important advantages stressed were that there was a single procedure with a centralized examination, that European wide protection was provided, that the system provided applications which were cheaper than 4 individual applications and that there was a smooth and simple procedure. This latter point was stressed more by large companies (>500 employees) than smaller ones. The main disadvantages seen by applicants were that the system was too expensive and too slow’ (Berger 1994). But since 1994, the EPO had revised and lowered its costs to a considerable extent.

The EPO itself had admitted that ‘perhaps the most significant costs are not official fees but those outside the control of the EPO such as patent agent’s fee and translation costs. The latter currently account for nearly 40% of the cost of an average European patent maintained for ten years in eight countries’ (EPO 1998).

The core issues at the centre of harmonization are standardization and unification. When it comes to standardization, it relates to multi-lateral treaties like the Paris Convention, TRIPS etc. Again bilateral and regional treaties also affect the standardization process across the EU.
However, the issue of harmonization of patent law is related more to business pragmatism and politics. The issue of translation costs indicates the relationship between national self-interest and the self-interest of applicants. On the one hand, each country wants to have patent applications effective in its state, by publishing in its own regional language. On the other hand, each applicant prefers to have a system where the procedural costs are minimum and fast. These issues are more political than economic and unless the pragmatic corporate interest overpowers the local politics they are going to be around for the time being.

Finally, there are some pre-conditions in order for EU countries to take part in a harmonized patent system, as Pitkethly (1999) prescribes:

a) Both countries must obviously have or be prepared to install an IP system.
b) Both countries should be interested in trade in technology rather than isolationist policy.
c) Any proposed changes must be mutually and directly or indirectly beneficial to the country as a whole in order to motivate the political will needed to implement them.
d) Finally, any proposed changes must benefit industry in the countries concerned in order to motivate the pressure needed to bring about change that political considerations might tend to ignore.

Thus, the patent law harmonization at EU is a very complicated process. But it should be achieved at any cost without confronting the stronger feelings of national interest. In Europe, national interests need to be taken care of while creating a stronger and better patent system than what it exists today.

Desirable Properties of an efficient patent system in EU

According to a large survey sponsored by the European Commission based on 9216 European patent inventors from France, Germany, Italy, the Netherlands, Spain and the UK, almost 60% of the inventors (58.87%) answered that the patent literature was important as a resource of knowledge. Among the 8 possible sources of knowledge, patent literature results the 2nd most important, only beyond customers and suppliers (Gambardella 2005). Therefore, a desirable patent system at EU must have the following features:
i) The main objective of a patent system is to spread knowledge gathered from all innovative activities. It further encourages future innovative activities. Alcacer and Gittelman note that knowledge spillovers are a fundamental part of the process of innovation creation (2006: 774-79). As innovation is a cumulative process, knowledge spillovers should not be blocked or diverted to any single country. Therefore any barriers or hindrance to knowledge transfer would indicate the inefficiencies of a patent system.

ii) Patent systems should be always cost efficient for an applicant. Otherwise it would reduce the rate of patent application and finally it would lead to the falling of incentives to innovation. Also such a costly system could reduce the overall rate of knowledge spillovers globally and regionally. Van Pottelsberghe and Francois estimate that a EU patent valid for 10 years in 13 countries will cost about 56 k Euros , compared to 12 k for USA and 7 k for Japan (2009: 329-55).

iii) When it comes to litigation, a patent system must be especially cost effective. According to European Commission (2006), in 2004 alone litigation costs in Europe were amounts to about 303 billion of Euros with an average cost per patent in force of about 215 Euros.

iv) Patent systems should not give differential incentives for SMEs located in certain countries (Escribano & Giaratana 2011: 7). No patent system should be bias in promoting R&D incentives and related innovation protection to SMEs of a particular country.

v) Patent System must encourage collaborations for R & D collaborations. Particularly in the field of technology, the big firms look for small firms for possible tie ups which could perform research related work in respective areas. Without having collaborations in R&D, the distribution of innovative labour within Europe would be hampered. This also would damage cross border collaborations in R&D at international level like between European firms and US and the Japanese.

In fact, the European firms are far behind the US and Japanese firms in technological advancements, so they need to learn from both these nations in the coming days.

vi) Patent systems should enhance inventor’s mobility (Escribano & Giaratana 2011: 8). The inventors should be given opportunities to explore new fields so that there would
be multiplication of knowledge chains in society. The inventor mobility is one of the most important engines of innovation (Almeida & Kogut 1999: 905-17). Most of the innovative initiatives are taken up by inventors usually employed in large firms and it is a real good boost to new entrepreneurship. Thus, the high labour mobility of inventors could make successful markets for a particular industry. The historic Lisbon Agenda, along with the long term strategic objective of EU, also outlines these two interrelated aims: a) making lifelong learning and mobility a reality; b) enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

vii) Patent systems must bring open innovations. It should be the aim of the patent system to make more efficient the flow of knowledge from global to local level.

viii) Patent systems should develop their man and material from an international perspective. They must have skilled manpower especially technical staff for streamlining patenting procedures so that the system works efficiently. When it comes to comparison with the US and the JPO, the EU patent office has a low productivity.

Van Pottelshberghe and Francois’s show that EPO total staff is about 5k employees, compared to 7k of USPTO and 2.5k of JPO, but USPTO examines 340 k patent applications, compared to 116 k of EPO and 413 k of JPO’ (2006). Therefore, it is worth noting that the EPO should be more efficient and competitive in the near future, because a large number of R & D firms are fast emerging in Asia and in South America as well. Particularly in Europe, patent system should avoid language heterogeneity in patent applications, administrative costs of applications etc. so that the patenting process moves smoothly and very fast.

Value of Patents in Europe

A Report published in July 23, 2006 concludes the results of detailed studies about the value of patents in Europe. This report focused on four main areas to assess the value of European patents:

A. Monetary value of patents
i) ‘The value of the patents is very skewed, that is few patents are worth large amounts of money, while most patents have no or very small monetary value (Final Report 2006: 2). This in fact dominates the whole patent world. That is why patenting still remains as the domain of the resource rich industries and individuals having strong financial or organizational background.

ii) The value of a patent has to be thought of as the value of an asset (Final Report 2006: 3). Here the value of a patent is the discounted sum of the yearly profits that the patentee expects to earn from the patent. This could be the annual profits from selling the products or the price of the Licensee it is sold out. Thus, the price of a Licensee is correlated with the present value of the discounted stream of profits that the patent holder would earn without the Licensee.

iii) The value of a patent is not the value of the patented invention, but of the patented invention net of the value of the invention if there was no patent on it (Ibid). It implies that the worth of the patent depends on the difference between the present value of profits on the invention when the inventor holds a patent right and it is therefore, likely to be a monopolist for that invention and a competitive situation in which with no patent, others could produce and commercialize products based on that invention.

B. Economic & Social Impact of Patents in the EU:

To assess the economic and social impact of patents, the following parameters are used:

a. Use vs. Non-Use of Patents: It is very crucial to find out whether patents are actually used for economic purpose or not.

In a survey of patents at the JPO, found that 64% of their patents were not used (Motohashi 2004). Since patents are reservoirs of potential innovations, an increase in the rate of their utilization has social benefits (Final Report 2006: 9). This survey also found that the share of unused patents is higher in larger firms (more than 70%) than in small-medium firms (about 55%).

After doing a survey in 8 EU countries (Denmark, France, Germany, Hungary, Italy, The Netherlands, Spain and UK) by using data from a large survey of European inventors, PatVal-EU, (1993-1997), came to the conclusion that: i. 34%
of EU-8 patents were neither used internally nor licensed. It can be said that such high rates of underutilization of patents all for actions to increase the use of patents and therefore raise their economic impact and social value. The Report also finds that for these countries, sleeping and blocking patents⁸ were roughly equal, around 17% each. ii. Out of the EU-8, Hungarian patents are the least likely to be used among these countries. ‘A potential reason is that in relatively less advanced country patents are less valuable and hence less useful (Final Report 2006: 11). Among the large countries, Germany, the UK and the Netherlands demonstrate a relatively lower use of patents than France. Interestingly in Germany, the underuse of patents is explained to a great extent by sleeping patents, while in the UK and the Netherlands, there is greater share of blocking patents (Final Report 2006: 12).

b. Licensing and Technology Markets: Patent Licensing and technology markets can be equally important for enhancing the rate of utilization of patents. Normally, small firms use more patents because they patent only valuable inventions given that they face higher costs of patenting. But ‘this does not mean that we can increase the utilization of patents by making it easier for the smaller firms to patent. Policy has to target the use of patents by agents other than the owners of these patents (Ibid: 15).

The Report also highlights that the high rate of unused patents demands strategies for increasing their use. Since technology trade is hindered by serious transaction costs, an effective intervention to encourage patent licensing and to increase the use of patents is to remove such transaction costs. To achieve this goal, the EPO must implement standard contracts for technology trade, better means for matching technology trade, better means for matching technology demand and supply, venture capitalists and the growth of intermediaries in technology trade etc.

Rivette & Khine advocated that ‘since large farms are important repositories of unused technologies, a related important means for enhancing the use of patents is to encourage the trade of large firms unused patents’ (2000: 54-66). While analyzing the scope of technology markets, the Report finds that:
• In UK, there is an active market for patent which suggests that institutions for technology trade exist and the transaction costs in technology trade are relatively low.

• But in Germany, patent licensing is not common which means that there is less effort to create institutions supporting these markets.

• Italy & France seem to be closer to the German model, whereas Denmark and the Netherlands appear to be closer to the UK model. Spain also seems to be moving towards the UK model (Final Report 2006: 16-17). In Hungary, because of lack of costly assets and resources to develop innovations, inventors are more likely to license their patents.

C. Patents to Create New Companies and Implications for Employment: Using the same PatVal-EU survey to assess the extent to which patents encourage the formation of new firms the study found that:

• Small firms and individual inventors are the largest contributors to entrepreneurial activities based on patents.

• The share of spin-offs spawned by large firms is the lowest. Thus, normally large firms contribute significantly to entrepreneurship in absolute term because of their large number of patents in the population (Ibid: 24).

D. Relationship between Patents, R & D and Innovation: The Report concludes that-

• There is no convincing evidence that the change in the patent-R & D link is produced by an increasing propensity to patent inventions. It further suggests that the higher number of patents per R & D investment reflects a genuine increase in the productivity of innovation.

• Second, the technological change in invention and innovation process is R & D saving and spillover-using. This can save time and energy and can encourage new innovators.

• It is observed that the new technologies like engineering sciences, life sciences etc. can contribute to the increase in R & D productivity.

E. Inter-Industry Differences : It is concluded that

• The chemical-based industries (organic chemistry, pharmaceuticals etc.) produce patents with higher average in compared to the electronics and ICT industries. But the latter shows a relatively higher total value of patenting.
• It is the smaller industries and special fields like biotechnology and medical technology that potentially contribute towards largest patenting and emergence of new firms. These two fields have brought revolutionary changes to the world of patenting.

This report finally suggests two broad policy implications for enhancing the economic utilization of patents:

a) The unused patents of big firms can block the use of the same technology by their rivals in future. Therefore these sleeping patents should be properly utilized either by the patentee or by any third party.

b) The small technology-based firms have higher shares of licensed patents than the larger firms. Therefore the open innovation mechanism can contribute towards the diffusion and more use of patented information.

Also the report uncovers that the new EU members like Hungary has a high rate of technology licensing and formation of new companies from patented technologies. But this was not generally expected from a developing country like this. Thus, the value of EU patent is very high not in comparison to US and Japan. Therefore, such high value make patents a target for policy making.

**Governance of the European Patent System: Challenges and Future Policy Options**

The European Patent System (EPS) is regarded as one of the most advanced, complex and contested regimes in European governance system as a whole. Today the whole EPS is under severe pressure like the rest of the patent systems of the world. This strain is because of two significant reasons-

a) There has been a significant surge in the number of patent applications over the past few years following what has been termed the ‘pro-patent era’ (Kortum & Lerner 1999: 1-22) or “intellectual capitalism.” (Grandstarand 1999). This whole new situation has a potential impact on the grant and quality maintenance of the EPO. As Boras notes, ‘this increase puts pressure on the capacity of the granting agencies and of judicial instances which have to cope with a greater workload without compromising the quality and consistency of their regulatory outcomes (Borras 2006: 594-610).
b) There is mounting popular discontent about patents (ibid). It has been observed that since 1990s, citizens across the globe have become concern about some specific areas of patentability like biotechnology, software and business methods. Along with this, they are also constantly watching the patent granting procedure and the role of legal institutions in this field.

**Major challenges for the EPS:** While discussing the value of the EU patents in this Chapter, we have highlighted the challenges faced by the EPS. But here in this Section, we will discuss the challenges in detail and put forward possible solutions as well.

a) Fragmentation of the EPS: As Bruno Van P. has rightly described the European Patent System (EPS), ‘a little local difficulty’ (2009: 7). Since EU has a patent system in which National Patent Offices (NPOs) play a vital role, the EPO at the top has to go along with this network of national offices. Generally, companies or individuals file a patent application with a priority filing (initial) at their NPOs. From the priority date, the applicant has one year to file an application before the EPO (or 32 months if following the PCT beyond Europe Extension Route). The EPO would go for novelty search and substantive examination i.e. inventive step, and finally may grant a patent. Thus, once a patent in EU is granted, it creates a strong ‘bundle of national rights’ (ibid). So, in case of litigations, national jurisdictions have the power to invalidate patent rights, even where the EPO has granted the patent and to uphold a patent where the EPO has invalidated it. Thus, the IP policy is finally run at the national level in each EU member state wherever the patent is being filed.

This fragmentation of the EPS leads to ‘three incongruities’ which radically reduce its effectiveness:

i) **Prohibitive Cost of Patenting:** The patent process in EU is expensive in comparison to some major countries of the world. Once a patent is granted, it must be validated in each member nation of the EPC wherever protection is required. This shows that an applicant has to be really ready for a long drawn cost while protecting and maintaining a patent in EU.

However, the London Agreement (LA) will simplify the patenting cost to a great extent, but the post-grant costs for managing patent for a patentee is still too high.
in EU. Because of this growing fee burden, the behavior of the applicants is changing very fast. That is why the applicants use various tactics to delay the grant to avoid huge translation and renewal expenses, but it finally hampers the entire innovation process in EU.

Now let us have a look at comparative costs of patenting in EU vs. major international patent offices: The consequence of European fragmentation is striking: translation costs and national renewal fees make the European system at least four times more expensive than the US, Chinese, Japanese or South Korean systems (ibid: 11).

The Figure No. 5 (Refer to pg. no. 388) shows that despite the reduction in translation costs brought about by the LA, a EU patent remains much more expensive than anywhere else in the world. The cumulated translation and procedural costs (essentially search and examination fees) total about 17,000 USD PPPs 13 countries are targeted and 10000 USD PPPs with 6 countries. In all other large patent offices, the procedural costs are about 5 times lower and fluctuates around 2000 UDS PPPs. If renewal fees for a 10 years protection period are included in the cumulated costs, the costs of European patent fluctuates between 18,000 and 33000 USD PPPs depending on geographical scope of protection. This is to be compared with about 5000 USD PPPs or less in the USPTO and in all other patent offices. In other words, 10 years protection in the US or anywhere else in the world costs at least 3 times less than 10 years protection the EPS” (ibid: 12).

ii) High Legal Uncertainty: The primary objective of a patent system is to grant monopoly power to the patentee for reducing uncertainty. But this grant can be challenged at EPO through a centralized opposition process, or in national courts. As mentioned above, the patent applicant always remains in uncertainty because a decision at a national court might alter what the EPO has granted. In the same manner, even if EPO refuses, an NPO may grant a patent within its own territory. Thus, it can be concluded that the legal uncertainty produced by the fragmented EPS is every disturbing for an applicant looking at the time frame involved in the processing and enforcement of patents in EU.

iii) Inconsistent Patent Quality: It seems that there is a huge inconsistency in granting patents both at EPO and the NPOs. In fact procedurally it is perfectly permissible
to make simultaneous filings at one or several national patent offices and at the EPO. So, it can be well said that the NPOs still play a very crucial role in getting a patent. It is confirmed by what Bruno Van P notes, ‘interestingly the aggregate number of patents granted by National Patent Offices in 2007 (more than 58000 patents) is not far from the total number of patents granted by the EPO the same year (about 55000). So, purely national rights are as important as EPO-granted rights.’

Also the Table No. 7 (Refer to pg. no. 389) show ‘the share of foreign applications in the total number of patents granted by the NPOs in 2007. ‘Out of the patents granted by the NPOs, 25% (or 15000) were granted to foreign applicants. When it comes to Germany, the ratio of foreign applications is 27% and about 20% for France and the UK. So this trend shows that the applicants approach the non-EPO route mostly in case of big NPOs. The fragmented EPO administrative procedures demonstrate that the former can be bypassed if one or more applications are made directly to the NPOs. This twin route to patent application and subsequent grant or refusal does not generate patent quality in Europe.’ Table 8 (refer to pg. no. 393) provides the latest patent statistics at the EPO. It highlights the fact that patent applications coming through PCT are more than direct EPO filings. The total patent filings at EPO were very high in 2011, but less than US. Still the EPO needs more staff to deal with rising applications.

b) Global Patent Warming: This refers to ‘Severe processing backlogs’ of patents across the world. In 2008, the EPO President Alison Brimelow has warned that NPOs must avert ‘global patent warming’ by working closer to ease backlogs.

He spoke in the 41st World Intellectual Property Congress, ‘The term ‘global patent warming’ was first coined in July by one of the most senior EPO officials, Controller Ciaran McGinley….. “Woolly boundaries are widespread” he argued, “not just between granted patents but especially among pending applications” (2008).

To counter this menace what global policy makers suggest is: ‘a global patent co-ordination package.’ It shows definitive results: The USPTO had already signed two Patent Prosecution Highway (PPH) agreements with Japan and the U.K. In Sept. 2008, the USPTO and the EPO launched their own PPH agreement, whereby each patent office
exploits the work previously done by the other office and fast-tracks the patents in question. On 14th November in The Hague, the three offices (EPO, UK, US) agreed to move forward on work sharing to support the recently initiated co-operation of the five largest IP offices (Pottelsberghe 2009: 20).

This phenomenon of ‘patent bubbling’ is a constant increase in the number and size of patent applications across the world needs. From the official sources, of the USPTO, EPO and JPO in 2008, it is recorded that the EPO in 2008 saw a record number of patent filings, nearly 2,27,000, which was an increase of about 60% on 2000. The USPTO recorded 4,60,000 applications in 2007 more than twice at EPO i.e. 2,18,000 in 2007, which is growing higher very fast. The JPO recorded 4,00,000 applications per year. The high rate of patenting in EPO is accorded to its rise of population, success in R & D activities, entering of new type of institutions like Universities in the Patent Arena, new innovations management practices developed etc.

These trends are not only widespread across the EU but also equally observed almost all over the world. But what Glazier states is very important in this regard: A secondary objective of multiple patenting may consist of flooding patent offices with similar applications in order to maximize the probability of getting something granted (Glazier 2000). Such patent trends may not help in reaching the original objectives of getting a patent i.e. to be a mechanism designed to stimulate innovation. This kind of practices generates more applications in EU in particular and around the world in general, and finally may create delay in granting patents.

Subsequently, a worrying effect of these growing applications is that the quality of patents may well go down across the globe. As more applications are coming to the EPO, the patent quality is dropping gradually.

The Figure No. 6 (Refer to pg. no. 390) shows that there is more evidence of dropping of quality in the US and Japan than in Europe. The share of triadic applications in the total number of patent applications can give us the average value of patents in a comparative perspective. But this adds to the total value in all the USPTO, EPO and JPO, because after such filings, the applicants must bear the translation and prosecution costs on three different continents. Incidentally, the costs are much higher than the costs associated with a domestic or regional application in the entire process.
Further, four dimensions of policy making will be examined to see what is wrong in patent governance.

- **Subject matter of patent applications:** This to an extent shows the emerging problems with the patent governance in EU and the world. For instance, in the US, there are very less restrictions on the patentable subject matter which lead to more and more application. Whereas in Europe still there is a culture of restriction and forbidding on the patentable subject matter.

- **Flexibility on Identification of Prior Art:** A patent is generally granted after examining novelty and the inventive step. This is a universal kind of a standard rule for granting patent. But UK Trademarks, Patents and Designs Federation (T M P D F) clearly notes that ‘a timely and high quality search is central to the quality of EPO examination capability. On the other hand, five elements of the US patenting process makes novelty criteria much easier for an applicant: lack of search report, grace period, divisional applications the lack of a pre-grant opposition process and allowing for hidden applications (Pottelsberghe 2009: 32). But none of these flexibilities are available in Europe.

- **Policies Regarding Fees:** Application fees implemented by different offices like EPO, JPO and the USPTO has also helped in growing patent applications across though it constitutes only a fraction of the total spending in the process. ‘In Japan, entry fees (i.e. filing and search fees) have always being very low, virtually zero. In the US, they have fluctuated between 500 and 700 USD PPPs whereas Europe is slightly more expensive. For all the fees upto the grant of a patent (filing, search and examination), Japan and US have cumulated fees of about 2000 USD PPPs, whereas cumulated fees in Europe are about 5000 USD PPPs’ (ibid). Thus the very low fee structure in the JPO and the USPTO explains the high rate of application filings in these two offices.

- **Rigour of the Examination Process:** It is very important to focus on the examination process which finally decides patent quality in the process. ‘An examination at the USPTO received an average 85 incoming applications in 2007, whereas at the EPO, the workload per examiner was less than half of this (36)’ (ibid: 33). It shows that the workload on US patent examiners is more than the EU examiners.
• US Patent Dumping: The EPO is most frequently designated as the search authority to do search, operations for other country’s PCT applications. ‘Since the PCT filing fees do not compensate for the actual cost of performing a reliable search report, one may conclude that the EPO to some extent subsidizes innovation in the rest of world’ (ibid: 38). As US being the most prominent country with the highest patent backlogs in the world, it has taken two ways to deal with this problem:

i) First to recognize foreign patent offices with different organizational designs and fee structures as International Search Authorities (ISA) for the USPCT applications. For instance, the US has designated the KIPO and the Australian Patent Office to provide search operation for its PCT applications because these two offices have low rates for patent search.

ii) Second, to conclude PPHs to share and recognize that other’s patent examination reports. This kind of arrangements save a lot of time for patent holders. The USPTO has already had two PPHs with the JPO and UK Patent Offices.

This kind of US patent policies are seen as a larger part of its patent dumping policies on the backdrop of huge patent backlogs in that country.

**Evaluation of the EPS Reform Proposal**

One of the main drawbacks of the EPS is the absence of a uniform patenting procedure and a common language to file patents across Europe. However, nearly 80% of the patents are filed in English only. By the end of 2010, 11 members states addressed a formal request to the European Commission proposing a ‘third system of patent protection’ (Escribano & Giaratana 2011: 18), a sub-category of the actual European patent, that should be a new option and that could co-exist with the actual European and national systems; The main purpose of this new system is to address the ‘translation issue’ by suggesting that the 3 procedural languages (English, German & French) will become official languages for patent applicants. But it seems, this reform proposal will also not be able to integrate the EPS because of the following problems:

a) First, this new language formula will definitely create knowledge spillover inside French and German speaking countries. Then it would defeat the very purpose of European
Patent: increase the circulation of knowledge among the European nations. If some language speaking countries get more protection, then there would be more concentration of R&D activities. Thus, the new system is not only against the fundamental principle of equality among the European countries but also it defeats the welfare purpose of the patent system as well.

b) Second, the new systems would raise the cost of patenting bring one more layer next to EPO and NPOs. The European firms and companies, and those foreign nationals who want to go for patenting in EU will have to spend extra. This might downgrade the number of patent applications because already EPS is costlier than the US and the JPO.

c) Third, it would also lead to higher litigation costs among the non-French and non-German Speaking countries. And, finally, a third layer of patent system will add more uncertainty on the actual inventions and might create delay in processing applications.

d) Fourth, the new proposed system will increase R & D incentives and innovation protection to SMEs located in German and French speaking nations. This extra protection might lead to competition bias especially in those European nations characterized by an industrial structure of SMEs.

e) Fifth, once the new system becomes operational, the collaboration relationships in R&D, usually in the form of innovative division of labour between large and small firms could be affected. Since two patent systems are already there, so a third system would create problems for R&D search and continuing the contractual relationship among parties.

f) Sixth, there could be possible bias in the labour market for inventors in the new system. A third layer of a patent system will automatically be beneficial only for German and French speaking inventors regardless of their R&D quality in invention. ‘If the new system will reduce inventor mobility, it will reduce knowledge spillovers and so R&D productivity’ (ibid: 21). Thus, labour mobility across Europe will be reduced and probably Europe may not attract more skilled human capital from across the borders like from India, China, Brazil, Argentina etc.

g) Seventh, as Nature (2010: 395) reports that about 80% of the patent applications are filed in English in EU, so the large MNC’s adopting English as the medium will get the most out of the proposed system.
h) Eight, the EPO in the long run might be bias for speakers of these 3 languages in terms of functioning of the office. Because this new system will probably generate higher demand for French and German speaking examiners. ‘This could generate biases due to the language in the overall background of knowledge owned by examiners, and so in the type of knowledge that EU office will protect (Escribano & Giaratana 2011: 12).

Policy Recommendations

Given the arguments and proposals mentioned above, the following policy recommendations can be made for the EPS:

- The EU must come under a centralized judicial system for dealing with patent litigation. The harmonized court proceedings would truly create an atmosphere for innovation wherein the cost of patenting will be reduced.
- The Community Patent project which has been on the negotiating table since 1962 should be made operational. The Community Patent desires to provide a one stop shop for obtaining patent protection under the European Union. Once granted, this project would be enforced automatically with a single renewal fee structure covering all the members of the EU.
- Another policy requirement is ‘the focus or balance’ (Harhoff 2006: 19). Harhoff argues that balance in the patent system may require strengthening the position of follow-on inventors who build on earlier inventions. To him, balance also means policy capture in the hands of establishment players. Therefore, competitive policy requires analyzing IPRs carefully to prevent possible abuse.
- There should be an urgent reform at the EPO governance for patent processing. So far there is no patent related coordination between policies that effect innovation performance. Since the basic objective of a patent system is to stimulate innovation, so it should coordinate with other policies related to competition, industrial and science and technology policies because they are also targeted to achieve innovation only.
- The EPO should stick to high level of examination procedure that ensures quality patents. Harhoff argues ‘European institutions, in particular the EPO should seek to grant high quality patent rights which are based on tough standards for novelty and inventive step
Contrary to some reports, a transition to tougher standards is supported by many users of the system (European Commission 2006).

- Pottelsberghe proposed a new EPO governance system (2009: 46) in order to ensure smooth decision making and proper representation (Refer to Figure No. 7 page no. 394). For this purpose, he advocates that the EPO Administration Council should include representative of major stakeholders of the patent system and a reduced number of NPO members acting as representatives of all NPOs. This new Administrative Council would include representative of the business sector (large and small firms), representatives of consumer associations and representatives from the academic sector (academic networks and technology transfer office associations). In addition, four members of the European Commission should have a seat: The Commissioners in charge of research, competition, enterprise and the internal market.

- The fee policies in EU should be examined in comparison to the USPTO and in the JPO. It should not be too low and also too prohibitive. But once the community patent comes into operation, it could provide a solution to this issue.

- There is urgent need to create a long awaited SME patent status at EU level because the USPTO and the JPO have already operating such a system for long. Since SMEs don’t have resources and managerial skills to handle patent enforcement issues, the EPO can set a reduced fees for them. But the community patents could benefit the SMEs.

- Finally, a Global Patent Standard (GPS) must be created which provides for free access to key information, structural convergence and due recognition of the examiners skills and incentives.

Already G-20 has put forward this idea of a Global Litigation Court in April, 2009 which will be looked after by WIPO in Geneva. The PPHs already in operation since 2008 also reflects collaborative framework and the willingness to share work. Since trial and bilateral applications are very high in patenting, collaborative work among the EPO, JPO and the USPTO could be extremely fruitful.

Escribano and Giarnatana articulate that ‘Europe should bet for two simultaneous targets:

a) Making English as the common EU language for patent applications since 80% of them are already filed in English at EU, and
b) For maximum dissemination of the invention, ‘once the patent is issued it should be translated to other languages of the EU’ (2011: 22-3).

As we move ahead, looking at the dynamics of EU local politics, it would be nearly impossible to implement one language i.e. English option for processing patent applications across Europe, as suggested by Escribano & Giarratana.

Their second proposal can be well accepted and it would be extremely helpful for the stakeholders in the EPS. There could be a larger controversy, conflict of interest and chaos by introducing English as the sole language for patenting at EPO in already fragmented Europe. But if approved such a proposal, for many big MNC’s it could be another attraction to invest more in innovative activities across Europe.

**RECENT DEVELOPMENTS**

**Modifications to the EPS: European Patent Convention (EPC) 2000**

The term “EPC 2000” will refer to the recently amended text which entered into force on Dec.13, 2007 in all states that were members of the EPO at that date. It also applies in Norway and Croatia which became members on Jan 1, 2008 as well as in all future member states of the EPO. The EPC 2000 applies to patent applications filed from this date and to patents granted based on these applications. In case of pending applications as of Dec. 13, 2007 and patents granted before this date, the EPC 2000 contains special transitional provisions. This further indicates that for each new measure introduced by the EPC 2000, it is required to verify the applicability thereof to the patent application and patent concerned.

In the context of increasing patent applications and numerous techno-legal changes sweeping the EPO, the EPC-2000 has undertaken significant reforms affecting both the substantive law of the patents and the patent grant procedure thereof.

i. Reforms of the substantive law of patents Art.52 (4) of the EPC which states “methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practiced on the human or animal body were not regarded as inventions which are susceptible of industrial application; This does not allow
patenting of the methods for treatment by surgery or therapy and diagnostic methods based on the lack of industrial application of these methods rather than an exception to patentability. But Art.53( c) of the EPC 2000 puts an end to the wording of industrial application and establishes the treatment methods by surgery or therapy and diagnostic methods under ‘exceptions to patentability:’

ii. Procedural Reforms: This leads to releasing the conditions necessary to obtain a date of filing (Art. 80 EPC 2000) and (Art.40 of the Implementation Regulations). The EPC 2000 states that the designation of at least one contracting state and the production of at least one claim are no longer required at the time of filing. It also does not contain the language requirement. The purpose of these amendments is to relax the conditions to be met in order to obtain a date of filing. The grace periods for the payment of filing fees, provided for in Art.86 of the EPC were however eliminated.

In line with the TRIPS, the EPC 2000 extended the priority right to patent, utility model or utility certificate applications filed in or for a member of the WTO under Art.87(1) and (5). It further authorizes the President of the EPO to recognize priority rights in countries not belonging to either the Paris Convention or the WTO with the condition of reciprocity.

The EPC Articles 105(a) and (b) 2000, introduces a limitation or revocation procedure. Now the holder of a EU patent is provided with a centralized administrative procedure so that he can revoke or limit his patent. This procedure will be in effect in all contracting states for which the European patent was granted.

iii. London Agreement (LA): This agreement was adopted on Oct. 17, 2000 and became effective on May 1, 2008 in 13 member states of the EPO. The main goal of this agreement was to reduce the cost of the EU Patent. Since translation cost is one of the factors contributing to the high cost of European patent, the LA provides for limiting the requirements in this area. In fact, the states that are parties to the LA agree to renounce completely or to a large extent the translation of the European patent into their national languages.
Specially, the provisions of this agreement establish 3 categories of states that are parties to the agreement (Lovells et al 2008).

a. Party states having an official language in common with the official languages of the EPO like Germany, U.K., France etc.

b. Party states not having any official language in common with the official languages of the EPO.

c. Non-party states: About these 20 states which will continue to have the same requirements in force with regard to translation.

In the event of litigation, relating to a European patent, the states that are parties to the LA may always order the holder of the patent to provide, at its expense, to the alleged infringer and to the court of competent jurisdiction, a complete translation of the patent in an official language of the state in question.

d. EPLA- It refers to the modification of the judicial system for the EPO. The EPLA aims to establish a new international judicial organization i.e. European Patent Court with jurisdiction in matters of validity and infringement of European patents. This would only be applicable to states party to the EPC that decide to join it. The last EPLA draft was issued by the working group on litigation of the EPO in Dec. 2005.

Currently, all litigations dealing with validity and infringement of patents are handled by national courts of different countries within the EU. Once a patent is granted, the patentee has to claim his rights under various national jurisdictions.

The EPLA aims to comprehend all these aspects so that patent applicants can smoothly protect and enforce their rights. Once the EPC comes into reality, the problems at all the national courts would go.

All the national courts would enjoy their jurisdictions even when the EPC comes into effect. Also for a transition period of 7 years, national states would retain parallel jurisdictions at par with the EPC. But till date, EPLA proposed
EPC has not come to reality because of the continued wrangling among the EU member states.

In March 2011, the EU Council with the support of the European Parliament took a historic decision to allow 25 EU member states to establish a unitary patent system under the “enhanced cooperation scheme.” Unitary patents will be valid across the territory of the participating countries. This should pave the way for a true supranational patent system in Europe, something that has been discussed for decades and eagerly awaited by industry (http://www.epo.org).

In a recent press statement, the Commission indicated that it expected the first unitary patents to be granted in April 2014. This would introduce a single window for issuing patents for all parts of EU with special patent courts. The European Parliament adopted all three proposed regulations needed to form the new patent system: the regulation on a unitary patent, the language regime and the formation of a new Unified Patent Court (UPC). Among the EU member states, Italy and Spain, refused to join the new system. The EU Parliament stated that the new system will cut down the cost of obtaining a patent up to 80% in all participating countries once it comes to effect. Also, the patents will be made available in English, French and German and application will have to be made in one of these languages. Now, it seems, the next stage is for the EU Council to approve the decision of the Parliament, but it is mere a formality only. After that the EU member states must ratify the decision. It is stated that the there is no deadline for ratification, so the entire process may take longer time.

The new “Patent Package” as it is known, it’s all operative provisions are mentioned in the Regulation Implementing Enhanced Cooperation in the area of the creation of Unitary Patent Protection (Brussels, 13.4.2011 COM (2011) 215 final) and the Draft Agreement on a Unified Patent Court and Draft Statute (Brussels, 11 November 2011, 16741/11).

The ‘Regulation’ essentially provides an alternative to the system of patents under the EPC (Esser 2012). The Regulation proposes a system that takes along the EPO and the EPC, but provides facilities for applicants with a unitary effect. This unitary effect
certainly reduces the linguistic issues concerned with application. Art. 3(2) of the Regulation states, the patents “may only be limited, licensed, transferred, revoked or lapse in respect of all the participating Member states.”

In addition to the Regulation, the patent package as it currently stands proposes the creation of a new system of courts to be called the Unified Patent Court (UPC), accompanied by three committees for administration, budgeting and advising the court (Radcliffe 2012). The new UPC would be a common court to all the contracting member states. The court will be subject to the same obligations under Union Law as any national court of the contracting member states.

The new centralized EPS will simplify the process for applicants:

- It would bring a more accessible patent protection system which will facilitate the SMEs.
- It would make Europe an inventor friendly place so that more and more inventive and creative activities would be witnessed in future.
- There is an urgent need to create a definite legal system so that the patent applicants can have certainty over the whole litigation system.

The EU member states have asked the EPO to administer the unitary patent systems.

**Unitary Patent System:** Currently, when a patent is granted to an applicant by the EPO, it has to be validated in each EPO member state for which the applicant seeks patent protection. To achieve this purpose, the majority of the member states require a full translation of the patent in their official languages. But the future unitary patent system will be automatically valid throughout the territory of the EU members participating in the “enhanced cooperation scheme” in the EPO language in which it was granted.

**NEW CHANGES FOR APPLICANTS**

Under the current unitary patent proposal, the following changes will be applicable for the applicants-
i) Once the patent is granted and at the request of the patent proprietor, it will be a European patent having a unitary effect.

ii) As a result, the application and the examination procedure for unitary patents and European patents will be identical until after the patent has been granted.

iii) The procedure, the criteria and the rules for examining patentability, all of which are laid out in the European Patent Convention will be the same for both types of patent.

iv) The difference between the unitary patent and the existing European patent will be in the post grant phase, when the patent proprietor decides on what geographical coverage is needed.

v) After the patent is granted, the patent holder can opt for –
   - a European patent with individual territorial protection in the designated states or
   - a unitary patent with unitary territorial protection in all the states participating in the enhanced cooperation scheme.

vi) The patent holder can also combine both schemes and request a European patent in a selection of those EPO member states not belonging to the ‘enhanced cooperation scheme’ (ibid: 3) and a unitary patent for those belonging to the scheme.

**Modus Operandi for Companies**

- Any individual, company or organization –whether European or non-European and whether from a state participating in the scheme or not, will be able to opt for a unitary patent.
- Inventors will benefit from the simplified validation procedure and fewer translation and renewal requirements.
- In addition, the introduction of a central European Patent Court will benefit innovator by bringing down patent litigation costs and increasing legal certainty in future.
We can see the patent grant procedure of the EPO at a glance in the figure no. 8 (Refer to pg. no. 395) which provides the real cumbersome process through which an applicant has to pass.

**Evaluation of the Patent Package**

Though the new ‘Patent Package’ would be difficult to implement because of the diversities prevailing across EU, yet the package has some significant advantages as well.

**Advantages:**

- The package will evidently reduce the costs associated with applying for and defending a patent across the territories of the contracting member states. It is hoped that the reduction in fees will definitely result in for greater number of patent filings from EU members as well as from foreign countries.
- On June 29, 2012, Commissioner Barnier hinted in a press release that one of the motivating factors behind the patent package was a fear that ‘Europe is falling behind the US and China in number of patents granted (ibid: 12). Thus, it can be said that the EU falling behind the USPTO, SIPO and JPO was much under consideration while drafting this new ‘Package’.
- The new Patent package will create a coherent EPS which is finally creating a single market in EU. In fact, the President of the EPO, Benoit Battistelli said the decision to create a unitary patent would ‘equip the European economy with a truly supranational patent system’ (http://www.europa.eu).
- The package also ensures that the legal costs will be substantially reduced in future. As Radcliffe argues ‘while validation costs imposed on patent applications are useful to the extent that they are used to perpetuate the system of patent protection, legal costs are a loss to society. This is because they represent a substantial transfer of wealth away from developers, producers and licensors which leads to consumers bearing the cost, either through reductions in research and development spending in increased prices’.
**Disadvantages**

- The package fails to reduce the legal costs for patent applicants and other stakeholders to a great extent. Because, it seems, the implementation of the package will not be able to reduce the legal costs still it is much more than what prevails in the USPTO, SIPO and the JPO.
- Experts on the EPS like Pottelsberghe commented that ‘the new system will be a mess and we should not expect any of a change in Europe’s innovative performance (Radcliffe 2012: 12). Looking at the complexities in the new package, this comment may be very well justified. He also stated that the new system might increase the chances that firms will impede the market with patent challenges.
- “Again casting doubts on the reduced costs it is argued that ‘the patchwork approach has made protecting inventions and innovations in Europe 15 times more expensive than in the US, harming competitiveness, according to the EC, the executive arm of the EU (Kanter 2012).
- Graham Taylor, the Chief Executive of Open Europe Forum, an industry group that includes Google, Oracle and IBM said that the plans for the new court system, split among Paris, London and Munich were very disturbing. He also noted that the new rules may reduce the cost of filing patents, but the concern is how to appeal against bad patents (ibid).

**Evaluation**

The new system is definitely a giant step towards creating a harmonized patent system in Europe after a long wait, what has been rightly quoted by Kanter (2012) as “It took only four decades of wrangling”. The disadvantages of the new package can be sorted out, but it only requires the necessary political will among the EU leaders. It could be the case that these negotiations either cause further damage to the package or worse, derail the entire project like those of 1975, 1989 and 2000. Therefore, the political leadership of the EU must act swiftly to create a smooth patent system which will witness a huge reduction of validation as well as litigation costs across the members. So the right time has come, the EU leaders must realize the potential of the new deal.
In reality, the UPC along with the national patent courts would raise the costs of litigation. But the fees paid by the litigants can help reduce the costs at national courts. Therefore the UPC can be cost effective unlike the national patent courts. This would provide a massive opportunity for the SMEs to come forward for patenting because the big corporate houses would not be able make litigation costlier.

Again, the large European companies and firms would be able to divert their funds to future research, innovation and for other productive activities. In fact, foreign firms would now be attracted to enter into a larger scale to EU for patenting as long as the fragmented patent system disappears. As a whole this patent package is commendable because it reduces some of the inherent conflicts existed earlier in the EPC. So, a full integrative system should be a logically conclusive patent system for Europe. The legal fraternity across Europe should acknowledge the benefits of the single legal framework i.e. UPC because it can easily create a single market in EU. Whatever the reform proposals are coming up under the new ‘package’, it should be treated as a foundation for further reform in this regard, not to take it as a last word for a unified patent system.

**Why a Patent Policy**

Patent system has become an integral part of the economy today. Looking at the complex issues that are immersed in a patent system, its exact impact on the economy cannot be assessed. At the same time, unearthing the connectivity between emerging patent laws and levels of innovation would always remain as a challenge for the economists. The patent system as a whole has to make more efforts to counter the negative aspects of patent monopoly so that the social welfare aspects of the system come to light.

Even Article 7 of the TRIPS highlights that the overall technological innovation and diffusion of knowledge must ensure socio-economic welfare in the long run. This innovation process should be mutually beneficial for both the producers and consumers.

The growth of technology is much faster than the growth of patent regulations to equip and handle the challenges in this field. Therefore ‘technological development may increase the need for a more differentiated approach to the protection of IP (STOA 2006).
There has been an emerging debate as to the fairness and viability of the current EPS and that is why the following areas are being identified to explore policy options in the future:

1. At this juncture, there needs to be a thorough examination of the existing flexibilities and dynamics of the EPS. It is felt that the current EPS is blocking innovation rather than promoting, because the system is not flexible enough to handle the emerging issues. The STOA (2006) highlights that the EPS reflects inherent inflexibility. It has failed to adapt with the emerging technological innovations in the field of biotechnology and ICT.

2. Currently, more and more innovations are protected by a few patent holders. This might lead to concentration of patent rights and accumulation of royalties in specific people or industries which in the long run will block SMEs, individuals, non-commercial institutions etc. to the IP market.

3. The existing EPS must make it more open for transparency and accountability. Being a part of a society, the patent system should have transparency and representation from all its stakeholders, otherwise people may first lose trust on the typical bureaucratic system.

**Why the EPS needs Improvement**

a. The STOA Working Group (2007) favours the immediate creation of the community patent.

b. It also recommends that the EPC must deal with the cases related to European patents. This will improve the efficiency of the EPS and the quality of patents.

c. The EPS should adapt to the changing atmosphere and propose feasible measures to improve the current functioning of the system. It would ensure the process of innovation and diffusion of knowledge.

d. It is felt that if the EPS improves, it would contribute to the improvement of the global patent system.

e. Finally, the current challenges for the EPS are:

   i. The patenting in EPO has grown manifold. It is creating huge pressure on the EPO and as a result, the quality of patent is deteriorating.
ii. As the technological development is very fast, so the patents granted in this regard should not be too broad in scope.

iii. ‘Patent thickets’ should be stopped because it is hindering the small players to get into the market in EU.

iv. As more and more companies are busy doing patenting and licensing, they are not investing their resources in true innovation. Therefore the companies should concentrate in research and innovation within the EPS.

v. The current EPO needs to be more transparent. It demands the involvement of various experts, politicians and all other stakeholders in future policy making and implementation of the system.

The following policy options are suggested to counter the above challenges:

a. It is strongly suggested that the economic mission of the EPC must be stated in the Preamble itself. It is highly realized that the role of the EPS as a vehicle for increased innovation and diffusion of knowledge is established in the formal acts of the system. The main objective behind this is to address the increasing public interest in the patent system and create wider debates about the overall social and economic mission of the patent system in EU.

b. The governance of the EPS must be revised in the lines of the dynamics of the global patent system. The EU Parliament must form a standing committee, build up a connection between the standing committee and an independent and external advisory body, initiating dialogue in between the concerned parties on emerging patent issues etc.

c. The European Parliament must be made aware about patenting issues and it should be a part of regular discussions among members so that transparency and accountability enhances. Beyond this, the rise in public interest in patent issues needs to be attended and the civil society groups should be engaged in various aspects of the EPS.

d. The patentability standards should be strictly applied and raise the bar for patentability within the EU. It is highly desirable that the existing standards for patentability are applied thoroughly and consistently.
e. There should be a new mechanism to handle the grants of patents in the areas of emerging technologies. Because the technological innovations are so fast, so the EPS must be cautious while issuing patents. Therefore, too broad type of patents should not be granted in this field.

f. Increasing Access to Patented Inventions: The EPS should not allow patent thickets and make easier for all stakeholders to access to patented technologies. In this regard, the Working Group (2007) proposed two different measures:
   
   i. License of right: It is a legal mechanism by which a patent holder voluntarily chooses to give general access to the patented invention by the payment of a license fee.
   
   ii. Collective Rights Management Models: This Group suggested that collective rights management models such as patent pools and clearing houses should be established. When patent uses are confronted with multiple patents held by multiple patent owners, patent pools or clearing houses might be useful model to gain access to patented technology in an efficient way and at a reasonable cost. Clearing houses are platforms by which provides and users of goods, services and/or information are matched. The platform may bring together potential licensees and licensors of patented technologies.

 g. Finally, it is proposed that there must be a provision to make possible the practice of the defensive publication of inventions into a publicly available database. It is very difficult in the EPS to limit the rising number of applications and strains on the system later. So the recommendation proposes an alternative to defensive patenting and resulting patent thickets that come about. It is now for the EPS to gear up towards publications of inventions rather than concentrating mostly in patenting.
Figure 1 Indian Patent Office Examination Procedure (Source: Adapted from IP India, Dept. of Industrial Policy and Promotion, Govt. of India, Patent Office, Nov. 2005)

- Filling an application
- Request for Early publication
- 18 Months Publication
- Pre-grant opposition, if any
- Request for Examination
- Examination
- Objection
- Opportunity
- Refused
- Appeal
- 6+3
- Grant
- Entering in the register of Patent
- Publication of the Date of grant in the Official Journal
- Certificate Issue
- Post Grant Opposition
- Revoked
- Appeal
Table 1: Patent Application in India (foreign & domestic) 1948-2009-10 (Source: Rao, 2012)

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<thead>
<tr>
<th>Year</th>
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379
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<th>Value4</th>
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<td>1808</td>
<td>2009-10</td>
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Ministry of Commerce & Industry

Department of Industrial Policy & Promotion

Office of the Controller General of Patents, Designs and Trade Marks

The Patent Office
The Patents Act, 1970
(Amended on 1999 and 2002)

Trade Mark Registry
The Trade & Merchandise Marks Act, 1958 & Trade Marks Act, 1999

Geographical Indications Registry
The Geographical Indication of Goods (Registration & Protection) Act 1999

The Patent Office
Kolkata

Patent Information System and IPTI
Nagpur

Kolkata Head Office
New Delhi Branch Office
Chennai Branch Office
Mumbai Branch Office

Mumbai Head Office
New Delhi Branch Registry
Kolkata Branch Registry
Chennai Branch Registry
Ahmadabad Branch Registry

Located at Chennai
Table 2: Details of Officers (Annual Report of the CGPDTGI 2010-11).

**Details of Officers and Staff Strength as on 31<sup>st</sup> March, 2011**

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<th>Category</th>
<th>Sanctioned Strength</th>
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<td>Mumbai</td>
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<td>Assistant Controller of Patents &amp; Designs</td>
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<td>5</td>
<td>Examiner of Patents &amp; Designs</td>
<td>Group A</td>
<td>14</td>
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Table 3: Latest trend of Patent Applications (Annual Report of the CGPDTGI 2010-11)

<table>
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<tr>
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<td>24505</td>
<td>28940</td>
<td>35218</td>
<td>36812</td>
<td>34287</td>
<td>37400</td>
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<td>14119</td>
<td>11751</td>
<td>10296</td>
<td>6069</td>
<td>11208</td>
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<td>Granted</td>
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<td>4320</td>
<td>7539</td>
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<td>16061</td>
<td>6168</td>
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<td>Disposal of Request for examination</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>12851</td>
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</table>
Table 4 (Source: Rambabu, 2007: 5)

<table>
<thead>
<tr>
<th>Nature of IPRS</th>
<th>Concerned Ministry / Department / Organization</th>
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</thead>
<tbody>
<tr>
<td>Semiconductor, Integrated Circuit Layout Design Rights</td>
<td>Ministry of Communications and Information Technology Department of Information Technology SICLD Registry</td>
</tr>
<tr>
<td>Protection of Plant Varieties and Farmer’s Right</td>
<td>Ministry of Agriculture, Department of Agriculture and Co-operation Protection of Plant Varieties and Farmer’s Right Authority</td>
</tr>
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</table>
Figure no. 3- Modernization of IPO (Source: Rambabau, 2007, p.10)
Many countries treat IP litigation in ways that differ from their treatment of standard commercial disputes. The following list is representative. Numerous other countries take numerous other approaches.

**Australia:** The federal Court of Australia, a generalized court, arranges its docket so that specialized IP judges handle IP cases.

**Chile:** A specialized administrative court in the judicial branch hears appeals from the patent and trademark office.

**China:** Specialized courts with panels consisting of two technologists and one judge resolve patent cases. A single appellate court in Beijing handles all patent appeals.

**Germany:** A specialized court hears challenges to patent validity.

**Japan:** Specialized IP divisions of the national court system, in Tokyo and Osaka, hear patent disputes. Judges typically hire patent Office personnel as technical advisers.

**Panama:** Recently introduced specialized trial and appellate courts for IP disputes.

**Peru:** An administrative review board hears cases related to IP, antitrust, and consumer protection.

**Philippines:** Special Commercial Courts handle IP cases.

**Republic of Korea:** The IP Office runs the independent and specialized IP Tribunal, though general trial courts can still resolve selected patent issues.

**Singapore:** A specialized court draws on a bench with IP expertise.

**Spain:** Special sections review IP judgments appealed from general commercial courts.

**Thailand:** A special Intellectual Property and International Trade Court presides over all trade and IP issues.

**Turkey:** Developing a training program for 12 planned specialized IP tribunals.

**United Kingdom:** The Patents Court of the English High Court, a specialized court in the chancery Division, has jurisdiction to hear all IP actions.

**United State:** Generalized federal trial courts hear patent disputes. A single appellate court in Washington, D.C., hears all appeals.
Table: 6 (Source: Gullec, p.156)

Frequency of designation of EPC member countries at examination stage (2003)

<table>
<thead>
<tr>
<th>Country</th>
<th>Frequency of Designation (%)</th>
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</thead>
<tbody>
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<tr>
<td>UK</td>
<td>94</td>
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<td>France</td>
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<td>Italy</td>
<td>78</td>
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<tr>
<td>Spain</td>
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<td>The Netherlands</td>
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<td>Finland</td>
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<td>Denmark</td>
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</table>
**Note:** The Symbol ‘G’ represents the steps where a granting decision can be taken. Once a patent is granted by the EPO, it must still be translated and validated in each desired national patent office.
Figure No. 5: International Comparison of Cumulated Patent Costs, 2008

Note: EPO-13 is a patent validated in 13 countries, while EPO-6 is a patent validated in 6 countries; USPTO-United States Patent and Trademarks Office; KIPO-is the national patent office of South Korea; SIPO-China; JPO-Japan; BR-PO-Brazil; IN-PO-India; AU-PO-Australia; and CIPO-Canada.
Table No. 7: Patents granted by NPOs, 2007

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<th>Total</th>
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<th>Foreign(%)</th>
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<tr>
<td>Bugaria</td>
<td>BG 259</td>
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<tr>
<td>Czech Republic</td>
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<td>ES 2667</td>
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<td>13</td>
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<tr>
<td>Sweden</td>
<td>SE 1287</td>
<td>238</td>
<td>18</td>
</tr>
<tr>
<td>Switzerland</td>
<td>CH/LI 737</td>
<td>295</td>
<td>40</td>
</tr>
<tr>
<td>Turkey</td>
<td>TR 629</td>
<td>332</td>
<td>53</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>GB 5930</td>
<td>1162</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>EPC 58497</td>
<td>14666</td>
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Figure No. 6: Share of Triadic Patents in Total Applications at Patent Offices, 1996-2006 (Source-Bruno Van pg. 30).
<table>
<thead>
<tr>
<th>Direct European Applications</th>
<th>62,537</th>
<th>71,393</th>
<th>55,949</th>
<th>62,737</th>
<th>62,646</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of which non divisional applications</td>
<td>51,862</td>
<td>50,142</td>
<td>49,203</td>
<td>55,514</td>
<td>55,563</td>
</tr>
<tr>
<td>Of which divisional applications</td>
<td>10,675</td>
<td>21,251</td>
<td>6,746</td>
<td>7,223</td>
<td>7,083</td>
</tr>
<tr>
<td>PCT international phase applications</td>
<td>181,900</td>
<td>164,307</td>
<td>155,405</td>
<td>1,63,238</td>
<td>159,922</td>
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<td>Total European patent filings</td>
<td>244,437</td>
<td>235,700</td>
<td>211,354</td>
<td>225,975</td>
<td>225,572</td>
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</table>

<table>
<thead>
<tr>
<th>European Patent applications Filed with the EPO</th>
<th>2011</th>
<th>2010</th>
<th>2009</th>
<th>2008</th>
<th>2007</th>
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<tbody>
<tr>
<td>Direct European Applications</td>
<td>62,537</td>
<td>71,393</td>
<td>55,949</td>
<td>62,737</td>
<td>62,646</td>
</tr>
<tr>
<td>Of which non divisional applications</td>
<td>51,862</td>
<td>50,142</td>
<td>49,203</td>
<td>55,514</td>
<td>55,563</td>
</tr>
<tr>
<td>Of which divisional applications</td>
<td>10,675</td>
<td>21,251</td>
<td>6,746</td>
<td>7,223</td>
<td>7,083</td>
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<tr>
<td>PCT applications entering the regional Phase</td>
<td>80,273</td>
<td>79,681</td>
<td>78,596</td>
<td>83,516</td>
<td>78,612</td>
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<td><strong>Total European Patent applications filed with the EPO</strong></td>
<td>142,810</td>
<td>151,074</td>
<td>134,545</td>
<td>146,253</td>
<td>141,258</td>
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<tbody>
<tr>
<td>European searches</td>
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<td>100,010</td>
<td>99,105</td>
<td>87,667</td>
<td>84,698</td>
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<td>Other searches</td>
<td>101,501</td>
<td>101,504</td>
<td>104,404</td>
<td>99,167</td>
<td>92,757</td>
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<tr>
<td>For national offices and third party</td>
<td>26,227</td>
<td>27,818</td>
<td>22,941</td>
<td>17,104</td>
<td>18,877</td>
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<tr>
<td>International</td>
<td>75,274</td>
<td>73,686</td>
<td>81,463</td>
<td>82,063</td>
<td>73,880</td>
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<tr>
<td>Total Searches</td>
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<td>201,514</td>
<td>203,509</td>
<td>186,834</td>
<td>177,455</td>
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<td>7128</td>
<td>9601</td>
<td>10430</td>
<td>11513</td>
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<td>European examinations</td>
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<td>114991</td>
<td>102178</td>
<td>99053</td>
<td>90310</td>
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<tbody>
<tr>
<td>European patents granted</td>
<td>62112</td>
<td>58108</td>
<td>52446</td>
<td>59810</td>
<td>54700</td>
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<tr>
<td>International preliminary examinations</td>
<td>2945</td>
<td>2766</td>
<td>2695</td>
<td>2840</td>
<td>3293</td>
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<tr>
<td>Decisions in opposition cases</td>
<td>2234</td>
<td>2309</td>
<td>2314</td>
<td>1982</td>
<td>2085</td>
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<tr>
<td><strong>Appeals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Technical Board of Appeals</td>
<td>2,657</td>
<td>2,542</td>
<td>2,475</td>
<td>2,362</td>
<td>2,049</td>
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<td><strong>Settled</strong></td>
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<tr>
<td>Enlarged Board of Appeals</td>
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<tr>
<td>- Petitions for review</td>
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<td>21</td>
<td>16</td>
<td>3</td>
<td>0</td>
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<td>7</td>
<td>0</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Technical Board of Appeals</td>
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<td>1,959</td>
<td>1,893</td>
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<td>1,620</td>
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<td>Legal Board of Appeals</td>
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<td>23</td>
<td>21</td>
<td>13</td>
<td>21</td>
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<tr>
<td>Disciplinary Board of Appeals</td>
<td>12</td>
<td>16</td>
<td>24</td>
<td>50</td>
<td>17</td>
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</table>

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Total Staff</td>
<td>6726</td>
<td>6778</td>
<td>6816</td>
<td>6685</td>
<td>6499</td>
</tr>
<tr>
<td>Examiners</td>
<td>3949</td>
<td>3952</td>
<td>3965</td>
<td>3856</td>
<td>3664</td>
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</table>

**Table 8**  **Source:** Annual Report 2011-Five Year Review (http://www.epo.org)
**Figure No. 7: (Source Bruno Van, pg. 46)**

<table>
<thead>
<tr>
<th>Current EPO administrative council</th>
<th>Future EPO administrative council</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 NPOs</td>
<td>10 member countries representatives (NPOs)</td>
</tr>
<tr>
<td>Observers:</td>
<td>Representatives of:</td>
</tr>
<tr>
<td>European Commission</td>
<td>Consumer associations</td>
</tr>
<tr>
<td>Business Europe</td>
<td>Business associations</td>
</tr>
<tr>
<td></td>
<td>Academia</td>
</tr>
<tr>
<td></td>
<td>Technology Transfer Office</td>
</tr>
<tr>
<td></td>
<td>Patent Attorneys</td>
</tr>
<tr>
<td></td>
<td>Centralized patent litigation institution</td>
</tr>
<tr>
<td>Patent attorneys</td>
<td>1. Independent member</td>
</tr>
<tr>
<td></td>
<td>2. European Commissioners for</td>
</tr>
<tr>
<td></td>
<td>research. Internal market, enterprise</td>
</tr>
<tr>
<td></td>
<td>and competition</td>
</tr>
<tr>
<td></td>
<td>Observer from the European</td>
</tr>
<tr>
<td></td>
<td>Parliament.</td>
</tr>
</tbody>
</table>
European Patent Application → Filling and formalities examination

Search report with preliminary opinion on patentability

Refusal or withdrawal of application → Grant of a European Patent

Substantive examination

Limitation / revocation / opposition proceedings → At the request of the patent proprietor

Appeal Proceedings

Unitary patent

For the territories of the 25 Participating States

Notes

The unitary patent replaces the individual effects of the European patent in the 25 participating states.
Notes

1. Priority Date: It is normally the date on which the applicant for patenting his invention first makes the application.

2. A complete specification field may include claims in respect of development of or additions to the invention described in provisional specifications. The inventor is entitled to apply for a separate patent in respect of such developments/additions. In case of a Convention application, the patent application must be accompanied with a complete specification only. The claim/claims of a complete specification relate to a single invention or to a group of inventions which form a single inventive concept e.g. in an instrument there may be 8 or 10 different inventions used. All these could be separately patented or they can be patented together as a group; if they form an integrated instrument.

3. Convention Country means a country notified as such by the Central Government.

4. India joined the PCT on 7 September 1998 and the PCT came into practice on December 1998. On 29 December, the same year, the first application was filed in India under the PCT route.

5. MOU was signed on 29 November 2006. A copy of this MOU is available at [http://ipindia.nic.in/ipr/patent/patents.htm](http://ipindia.nic.in/ipr/patent/patents.htm).

6. This fast track process is started by a request for early publication under Section 11 A(2) of the amended Patents Act of 1970.

7. Priority Filing: It is a type of filing in which an applicant file his application at a national level office.

8. Blocking Patents: These are those Patents which are neither used internally nor licensed but are meant to block some rivals from using the technology.

   Sleeping Patents: These are unused patents that are simply left unexploited, but that are not deemed strategic in any respect by the patent holder. They are the most amongst to potential use.

9. Triadic Patents are applications which are simultaneously filed at the USPTO, JPO an EPO.
References


Annual Report 2010-11, the Office of the CGPTM, Got. Of India.


Art. 226 of the Constitution of India.


Final Report. 2006.‘Study on Evaluating the Knowledge Economy, What are Patents Actually Worth? The Value of Patents for Today’s Economy and Society,’


Harhoff, Dietmar. 2006. ‘IPRs in Europe –Where Do We Stand and Where Should We Go’?, Economic Council of Finland, Prime Minister’s Officer, Sept.,20.


Penrose, E. 1951. *The Economics of the International Patent System*. Baltimore, US: John Hopkins University Press. Penrose by commenting on the impact of national patent laws stated that if they did not exist it would be difficult to make a conclusive case for introducing them, but the fact that they do exist shifts the burden of proof and it is equally difficult to make a really conclusive case for abolishing them. This fundamental difficulty is confirmed by recent research.
in this field. In this regard, see the literature review done by Mazzoleni and Nelson (1998) Economic Theories about the Benefits and Costs of Patents, Journal of Economic Issues, 32, 1031-1052.


TRIPS Agreement, Art. 28.


