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Limitations of Existing IPR Legislations in Managing Emerging Environmental Issues

Satish Bhagwatrao Aher,† Brij Lal Lakaria and Balram Singh Yadav
Indian Institute of Soil Science, Bhopal, Madhya Pradesh 462 038, India

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Along with numerous mandatory conditions, current IPR legislations defined the criteria for granting right of intellectual property including the criteria of environmentally sound or damage proof invention (u/s 3(b), 3(c) and 3(j) of Indian Patent Act, 1970) to the pioneer. But the criteria of environmental wellbeing is being frequently overlooked considering novelty, non-obviousness and usefulness of the inventions with respect to the socio-economic benefits by the competent authority meant for granting the approval. There are incidences where rights were granted to the intellectual property (IP) in the form of patents, trade secrets etc. which created significant socio-economic improvement but caused irreversible environmental damages. The weak description of environmental protection criteria in patent granting process is the biggest limitation of the present IPR legislations. Inventions for environmental protection, inventions without or minimum destruction and inventions for sound environmental management is the urgent need of present world. The various environmental laws are secondary enforcement, while the intellectual property laws could be first enforcement to avoid the effect of inventions having potential to cause significant threat to the environment. On this ground, it can be concluded that, the provisions under present IPR legislations are inadequate to overcome the forthcoming environmental issues arising from inventions escaped from environmental criteria for granting IP approval. Thus, incorporation of stringent criteria regarding environmental protection, conservation and management in the present IPR legislations for granting intellectual property rights to the pioneer is needed for sustainable development of mankind.

Keywords: IP limitations, environmental issues, sustainable development, Chlorofluorocarbons (CFCs), Dichlorodiphenyltrichloroethane (DDT), persistent organic pollutant, United States Environmental Protection Agency

Intellectual property refers to creations of the mind, such as, inventions; literary and artistic works; and symbols, names and images used in commerce which envelope copyrights, trademarks, patents, semi-conductor integrated circuits layout designs, industrial designs, geographical indications and undisclosed information, provide legal recognition and protection to the same. A patent is a set of exclusive rights granted by a sovereign state to an inventor or assignee for a limited period of time in exchange for detailed public disclosure of an invention. An invention is a solution to a specific technological problem and is a product or a process.[1] The procedure for granting patents, requirements placed on the patentee, and the extent of the exclusive rights however, a granted patent application must include one or more claims that define the invention. A patent may include many claims, each of which defines a specific property right. These claims must meet relevant patentability requirements, such as novelty, usefulness, and non-obviousness. The exclusive right granted to a patentee is the right to prevent others, or at least to try to prevent others, from commercially making, using, selling, importing, or distributing a patented invention without permission.[2] Along with these numerous mandatory conditions, current IPR legislations defined the criteria for granting right of intellectual property including the criteria of environmentally sound or damage proof invention[3] to the pioneer. But the criteria of environmental wellbeing are being frequently overlooked considering novelty, non-obviousness and usefulness of the inventions with respect to the socio-economic benefits by the competent authority meant for granting the approval which results in irreversible environmental impacts.

Intellectual Property and Environment: Two Cases

Worldwide, it was considered that, the intellectual property in particular, patents have a neutral impact on the environment but after granting patents to

†Corresponding author: Email: satishbaher@yahoo.com

invention that has had potential to harm the environment created awareness and resulted in reformation of IPR legislations.

The case of Chlorofluorocarbons (CFCs) and Dichlorodiphenyltrichloroethane (DDT) dramatically illustrates how the patentability of technology overlaps various states of knowledge with respect to the technology's environmental impacts, and in particular how IPR legislations keep granting the patents without examining the suspected harmful impacts of the technologies.[4]

Chlorofluorocarbons (CFCs)

Thomas Midgley, Jr. first synthesized CFCs in 1928,[5] and were introduced as an ostensibly safer alternative to sulfur dioxide and ammonia-based refrigerants in the early 1930s.[6] Subsequently, the patent was granted on the use of CFCs as refrigerants within a few years of their invention.[7] The use of CFCs was increased not only as refrigerants, but also as aerosol propellants, cleaning solvents, and blowing agents led to depletion of stratospheric ozone in the earth's atmosphere, and resulting in serious environmental and public health consequences.

During the year 1974-1987 scientists gradually accumulated evidence supporting the hypothesis that CFCs were depleting the earth's atmospheric ozone but the CFC industry consistently denying any such link and continued applying patents for their new products. Despite increasing evidence that CFCs were linked to atmospheric ozone depletion, the patents were granted continuously for inventions using aerosol forms of CFCs, as required by the IP law. Even in the post-1987 *era* of scientific certainty regarding the impacts of CFCs on stratospheric ozone and Montreal Protocol on Substances that Deplete the Ozone Layer patents were continuously granted for CFCs. After long journey and struggle between environmentalists/scientists/social workers and government/industries, since 1997 the patents for inventions likely to lead to atmospheric release of CFCs have stopped. This change, however, did not result from restrictions on CFC patentability, but rather because there was no remaining market incentive to procure a patent for an invention thus inventors simply stopped applying when the market incentive disappeared.[4]

Dichlorodiphenyltrichloroethane (DDT)

DDT is an organic chemical compound that was first synthesized in 1874.[8] It was introduced as a highly promising insecticide in 1938 and got U.S. patent in 1943.[9] The possible environmental and public health problems associated with DDT became widely known to the public in 1962 with the publication of the popular book Silent Spring,[10] which detailed numerous harmful properties of DDT, including its effects on bird reproduction, its toxicity to fish, and its effects as a carcinogen and producer of blood disorders in humans. Now a day, scientists have classified DDT as a persistent organic pollutant[11] (POPs), which have a number of known adverse environmental and human health effects.

The end of the era of scientific ignorance regarding the harmful effects of DDT and even scientific uncertainty eventually giving rise to scientific certainty had no effect on the patentability of DDT. In the late 1960s, studies commissioned by the United States Department of Agriculture (USDA) confirmed numerous harmful impacts of DDT and finally, the United States Environmental Protection Agency (EPA) banned the use of DDT domestically in 1973 due to its negative ecological and public health impacts.[4]

Thus, in both the cases the patents were granted without considering the forthcoming environmental impacts and finally after the damages occurred, the patented products were banned. These irreversible environmental damages could have been avoided through the stringent IP laws.

Conclusion

Inventions for environmental protection, inventions without or minimum destruction and inventions for sound environmental management is the urgent need of present world. The various environmental laws are secondary enforcement, while the intellectual property laws could be first enforcement to avoid the effect of inventions having potential to cause significant threat to the environment. However, the provisions under present IPR legislations are inadequate to overcome the forthcoming environmental issues arising from inventions escaped from environmental criteria for granting IP approval. Also, incorporation of stringent criteria regarding environmental protection, conservation and management in the present IPR legislations for granting intellectual property rights to the pioneer is needed for sustainable development of mankind. As a central link between economic development and environmental degradation, the IP laws can play a

significant role in ensuring protection and conservation of the environment.

IP laws generally do not distinguish between environmentally harmful and beneficial invention/technology. In order to avoid or mitigate emerging environmental issues from potentially harmful inventions or advancing technology, incorporation of the precautionary principle in IP laws would be a practical and effective way. Intellectual property laws can play a role in improving environmental protection by categorizing the inventions as environmentally sound (green category), neutral (yellow category), potentially harmful (orange category) and environmentally harmful (red category) and offering a fees waiver, ensuring rapid inspection and grant for the green category. The orange and red category inventions may be reviewed before commercialization by the experts/scientists in the field to ensure minimal environmental damages with adequate financial provisions for combating forthcoming environmental consequences.

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