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The Significance of Intellectual Property Rights in Environment Pollution

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ABSTRACT

The role of technological innovation in lowering pollution is motivated by the rise of global emissions. Technological innovation for carbon dioxide mitigation mainly focuses on the role of patents ignoring trademarks. By combining trademarks and eco-patents, this study introduces a new interaction term while investigating the effects of environmental policy, energy consumption, environmental taxes, urbanisation, and economic growth on the environment. The Nonlinear ARDL and OLS methods are used to test the panel effect, while the Granger causality approach is used to estimate country-specific results. The findings show that trademarks and eco-patents reduce CO2 emissions; however, energy consumption, urbanisation, and economic growth are the primary polluters in both regions. Environmental policies and taxes have a significant impact on the western region's mitigation efforts, while evidence for the southern region is insignificant. Although the variables show unidirectional and bidirectional causal relationships, the outcomes are country-specific. The study also discusses policy implications based on the findings.

Keywords: Patent, Technical Environment, CIEL, Green Technology, PCT, Sustainable Development.

I. INTRODUCTION

Innovation policies, in conjunction with environmental regulations, are critical in addressing many global environmental concerns. Intellectual property rights, which are temporary privileges over intellectual activity's products, define who controls information and technology. Intellectual property policies have a direct impact on the quality and availability of new ideas and goods, making them critical to achieving sustainable development, safeguarding human health, and protecting the environment. The level and scope of intellectual property protection have an impact on the flow of innovations between developed and developing countries. These criteria also have an impact on communities' sovereignty over their traditional knowledge, access to medicines and education, and other concerns critical to sustainable development. IPRs have grown in prominence during the last three decades, with both governments and

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corporations prioritising innovation in their policies and plans. IP Rights such as patents and trade secrets are intended to alleviate the externality problem that results in the imperfect approachability of knowledge by assisting in the establishment of secure routes for know-how transmission. Patents, in conjunction with Trade Secrets, enable companies to capture the value of their discoveries and investments in developing and scaling them by temporarily giving exclusive rights.

CIEL seeks to increase developing nations' and civil society's participation and influence in regional, bilateral, and multilateral institutions dealing with intellectual property. We seek to create and reinforce policies that encourage innovation and the transfer of knowledge and technology to address the interests and needs of both producers and users of knowledge and technology and to ensure equity between developed and developing nations.

Intellectual Property and the Technical Environment

Intellectual property is merely one component of broader ecosystems, and it does not fully foster technological advancement. It is part of a bigger conceptual framework, and its pillars are as follows:

- a) Access to cash (private investment, government funding, venture capital); research and development
- b) Professional services (lawyers, patent attorneys, financial advisors, and so on);
- c) Laws governing intellectual property and enforcement;
- d) Branding, advertising, promotion, and distribution are all aspects of the business.

Green technology is defined as technology that promotes sustainability, reduces greenhouse gas emissions, or aids in answering climate change. Intellectual property rights may have aided in the development of climate-changing technologies, but they have also aided in the creation of green technology.

There is a higher awareness and need for ecologically friendly and sustainable activities in today's world. Following significant research, it has also been discovered that intellectual property rights play a vital role in climate change mitigation. Whereas intellectual property rights may be viewed as a helpful instrument to aid in the development and diffusion of green technologies, they may also be viewed as a barrier to a worldwide effort to mitigate climate change. As a result, it is apparent that intellectual property rights have an impact on the development of green technology.

The increasing importance of innovation and intellectual property rights.

The most important development and key to economic success is the increase in innovation in government and private sector plans. It is also critical in tackling critical global concerns in a variety of industries like energy, health, and agriculture. The number of Intellectual Property applications has skyrocketed worldwide, particularly in the field of Patents. In 1992, there were only 25,419 applications under the **Patent Cooperation Treaty (PCT)** monitored by WIPO; in 2011, there were 182,120 PCT applications. Patents, in particular, have become significant assets in the modern economy for firms trying to gain market shares and crush competitors. Particularly in the information technology sector, where concerns about the effects of ongoing "patent wars" on innovation have been expressed.

Establishing firm ground rules for an organised discussion.

According to **Article 7 of the TRIPS Agreement**, "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and the transfer and dissemination of technology, to the mutual benefit of producers and users of technological knowledge, and in a manner conducive to social and economic welfare, as well as to a stability of rights and duties."

Efforts should be made to increase the use of green technologies in debates about sustainable development and climate change within the scope of the TRIPS Agreement's existing international norms. Relaxations should be regarded as an inherent aspect of the rules' balance of rights and obligations.

Environmentally sustainable information dissemination.

WIPO established an IPC Green Inventory in 2010 to assist searches for green/clean energy patents, which often cover a broad variety of industrial sectors. However, developing such classification schemes and research tools, as well as conducting patent landscape studies, is a costly and complex task that involves a wide range of actors, including governments, IP administrations, the private sector, international and regional organisations, and non-governmental organisations (NGOs). These actors must coordinate their efforts.

In the practice of IP Rights, licensing is not sufficiently used in the field of green technology because:

- a) Poor experience and expertise in the technical and the patent/licensing field,
- b) frail infrastructure,
- c) lack of knowledge concerning patent law, etc., in the recipient country,
- d) insufficient capital and/or financial support,

- e) lack of suitably skilled staff,
- f) favourable market conditions.

II. SUSTAINABLE DEVELOPMENT THROUGH INNOVATION ACTIVITIES

"In policy talks concerning initiatives to increase the diffusion of green technologies, open innovation and open source techniques, as well as other options such as patent commons and IP exchange platforms, have garnered very little attention."

However, there have been some notable strategies in this area in recent years, such as the Eco-Patent Commons launched in 2008 by IBM, Nokia, Pitney Bowes, and Sony in collaboration with the **World Business Council for Sustainable Development (WBCSD)** and the GreenXchange platform launched in 2010 by Nike and nine other organisations. Future endeavours can benefit from the above-mentioned experiences.

Green technology licensing should be encouraged.

WIPO Green is a WIPO-created technological marketplace designed to speed the adaption, uptake, and deployment of environmental solutions, particularly in developing and emerging economies. Other advantages include simple access to technology, technical advice, licensing, and financial assistance.

The WIPO GREEN initiative promotes package technology license agreements for green technologies in order to increase and improve their use globally, particularly in developing countries. An online platform provides information on existing green technologies and the demands of a specific technology to corporate and public sector institutions. Their main goal is to establish a global network that encourages relationships with companies dedicated to providing a package that includes crucial elements such as patent licensing, trade secrets, technical documentation, training programs, and so on.

III. THE PARIS CONVENTION, TRIPS, AND NATIONAL LEGISLATION ALL CONTAIN PROVISIONS RELATING TO COMPULSORY LICENSES

The Paris Convention: Article 5A of the Paris Convention talks about the rules concerning compulsory licenses relating to patents and utility models.

Article 5A (2) identifies the right of each Member State to take legislative measures providing for the permit of compulsory licenses to prevent abuses that might be a result of the exercise of the exclusive rights conferred by the patent.

Article 5A (4) clarifies that a compulsory license may not be granted on the ground of failure

to work or insufficient working before the expiration of a period of four years from the filing date or three years from the date of the grant of the patent. The compulsory license shall be non-exclusive and shall not be transferable.

TRIPS Agreement: TRIPS Agreement Articles 30 and 31 provide various exceptions and limitations to the exclusive rights that World Trade Organization Members may grant in their national laws.

Article 30 allows Members to grant limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably interfere with a normal exploitation of the patent and do not unreasonably prejudice the patent owner's legitimate interests, taking into account the legitimate interests of third parties.

Article 31 states that a Member may authorise uses other than those specified in Article 30 without the consent of the rights holder. This includes mandatory licenses granted to third parties and for government use without the permission of the right holder. Such use may be permitted only if, prior to such use, the intended user has made reasonable commercial terms and conditions attempts to acquire authorisation from the right holder and such efforts have not been successful within a reasonable length of time. A Member may waive this criterion in the event of a national emergency or other exceptional situation or in cases of public non-commercial use.

National laws: Many industrialised and developing countries have legislation that allows the government and/or other parties to utilise a patented invention without the right holder's permission under specified circumstances and conditions. Compulsory permits are provided for a fee rather than for free. The rights, like voluntary licensing, can be implemented following negotiation and payment of compensation.

IV. IP'S ENVIRONMENTAL IMPLICATIONS (LOW CARBON FUTURE)

Given the urgent need to address climate change on a global basis, it is critical to identify unique technological patterns that will stimulate development and environmental innovation in developing and emerging economies. The European Commission has set a carbon-neutral aim for the European Union by 2050. One of the most important ways countries are moving toward carbon neutrality is by shifting their energy mix away from fossil fuels and toward more sustainable and clean energy sources like bioenergy, solar, and wind.

Attempting to transition to a low-carbon future is a hard and multifaceted endeavour. But we have the collective intelligence, inventiveness, and imagination to devise better, more effective

ways to design a green future, and the IP system can help.

V. SUGGESTIONS

The new WIPO GREEN initiative promotes voluntary licensing of green technology packages (including, but not limited to, patent, copyright, and know-how/trade secret licenses). As a result, assistance and evaluation are required to identify the extent to which it is beneficial in encouraging green technology transfer.

Problems with technological problems in the context of climate change can be overcome by rewarding and promoting collaborations in the field of research and development. Such alliances should involve research institutions and businesses from developed, emerging, and developing countries. The treatment of background and foreground IP from such associations should be properly addressed in the parties' agreements.

VI. CONCLUSION

There is an urgent need for the entire globe to work together to reduce greenhouse gas emissions and combat climate change. Green technology is acknowledged as a tool for influencing mitigation. The fact that climate change impacts every single individual on the planet, as well as future generations, distinguishes green technology from traditional technology and justifies special consideration.

Intellectual property laws undoubtedly have an impact on the development and dissemination of green technologies. The question is whether the impact impedes or supports the development of green technology dissemination and, if so, if the impact necessitates and justifies implementing actions to improve development. As previously stated, moral principles have typically shaped intellectual property in some way. The Kyoto Protocol and the TRIPS Agreement provide a foundation for justifying acceptable measures if they are required.

Intellectual property should be viewed in the context of appropriate policies, institutions, and human resources to both encourage green innovation and ensure that its benefits are widely distributed.

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