



ASSESSING THE IMPACT OF INTELLECTUAL PROPERTY ON ADVANCING SDGs: TOWARD A SUSTAINABLE FUTURE

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Abstract

The 'United Nations 2030 Agenda for Sustainable Development' was adopted in 2015 with seventeen goals to address global issues like poverty, inequality, education, innovation, and environmental degradation has become a cardinal principle in the international agenda. It is a roadmap for social, economic, and sustainable development. To promote these goals with more significant effect, most nations have adopted modern solutions by intersecting innovation and green technologies, and this provides an opportunity for IP systems to interact with the SDGs. Intellectual Property Rights are vital in promoting these goals by encouraging innovation and creativity and disseminating technologies. However, the intersection between IP Rights and SDGs is multifaceted and may either accelerate or hinder the progress toward sustainable development. This duality makes the relationship between IP and SDGs an emerging, complex, and critical study area.

Keywords: Intellectual Property Rights, Sustainable Development Goals, Innovation, Technology Transfer, Global Initiatives.

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I Introduction

CHANGE IS an imminent part of life, but an effective change makes the world more sustainable, inclusive, and equitable. The last decade has witnessed incredible global commitments and contributions from different nations and institutions toward implementing sustainable policies and programs to address complex environmental issues through advancing green technologies to reaffirm the pursuit of SDGs for a better world. It is essential to take tangible actions to witness the power of innovation and green technology in sustainable development to shape a prosperous future for all. The nations worldwide came together to give effect to SDGs in their respective national system to promote social, economic, and environmental development by ensuring prosperity and peace with the aid of innovation and modern technology.

Human creativity and innovation play a significant role in providing modern solutions to global issues related to climate change, biodiversity loss, inequality, health crises, and environmental degradation. Most innovators, nations, and IP organizations have joined hands to address sustainability through IP, and this emerging interrelation between IP and SDGs can be seen as a double-edged sword; on the one hand, IP promotes innovation and technological growth but also has the potential to limit access to technology and innovation. In this regard, it has given rise to legal concerns and a new area for research on the interplay between IP Rights and SDGs.

Methodology and limitations:

The study adopts an integrated methodology of qualitative and quantitative analyses to explore the interrelation between Intellectual Property and its impact on Sustainable Development Goals. Data has

been collected by examining IP laws, international agreements, and relevant policies to understand their alignment with SDG objectives. The study has specific limitations on establishing direct causal relationships between IP policies and SDGs because of its complexity, still it provides an analysis of the impact of IP on relevant SDGs. Despite these limitations, the chapter provides a comprehensive study on the relation between intellectual property and sustainable development.

The significance of the study

The significance of this study lies in its comprehensive analysis of the interplay between Intellectual Property and Sustainable Development Goals, highlighting how IP can drive innovation and promote sustainability. By examining the impact of IP on key SDGs such as health, education, clean energy, and environmental protection, the study offers valuable insights for policymakers to design effective legal frameworks that foster green technologies and equitable access to innovation. It underscores the potential of IP to address global challenges like climate change, biodiversity loss, and resource depletion by promoting sustainable practices and technology transfer. Furthermore, the study encourages collaboration among governments, innovators, and international organizations to harness IP for achieving sustainable growth, making it a crucial contribution to the discourse on IP-driven sustainability.

II Connecting Intellectual Property with the SDGs

Need for Sustainable Development Goals:

To protect the environment and natural resources from the mounting pressures of "increasing population, urbanization, industrialization, and

globalization," sustainable development is crucial. These have put a great deal of strain on natural resources, which has resulted in environmental degradation, biodiversity loss, climate change, and the depletion of natural resources such as land, water, forests, and minerals. Natural resource depletion is a worldwide issue that calls for solutions to preserve ecological balance, protect our natural resources, and lessen the effects of climate change.

To protect the human environment, 'the United Nations adopted the Millennium Development Goals (MDGs) through the United Nations Millennium Declaration in 2000' with a set of eight goals signed by 189 nations to address global issues like poverty, education, gender equality, health, and environmental concerns with the target year 2015. 'The United Nations Conference on Sustainable Development, also popularly known as the Rio+20 conference', was adopted by the United Nations in 2012 to develop a new set of SDGs that will carry the essence of the MDGs beyond 2015. It consists of seventeen goals with 169 targets to address complex issues like education, poverty, inequality, gender equality, health, energy, innovation, and environmental degradation. It is an interdependent process that aims to achieve social inclusion, economic development, and a sustainable environment.

Integrating Intellectual Property with SDGs:

IP plays a vital role in promoting sustainable development by fostering innovation and encouraging technology transfer. Intellectual property leads to social and economic growth, and its impact can be seen in industries, health, education, nutrition, biodiversity, and cultural development. It acts as a tool to reward creators and innovators with exclusive rights for a specific period for their contribution to society

through the dissemination of knowledge and the transfer of technology. It has different interrelated disciplines like Patent, Copyright, Trademark, Geographical indications, Industrial designs, Undisclosed Information, and other related rights.

IP helps to develop sustainable technology and innovation, and leveraging these technologies helps to promote advanced sustainable development, enhance technology transfer, cross-border exchange, and knowledge-sharing with other nations to improve and achieve sustainable growth. Innovation involves new ideas, advanced technologies, and innovative processes, and is crucial to address environmental and social issues in driving sustainable development. Sustainable innovation promotes social well-being, economic growth, and a sustainable environment by minimizing the negative impact and becoming more valuable in promoting sustainable development. Sustainability within innovation and IP leads to technological advancement, aligning with economic and environmental sustainability, facilitating access and licensing of sustainable technologies to reduce the cross-border barrier. Earth's atmosphere is experiencing large amounts of carbon dioxide due to the release of greenhouse gases from burning fossil fuels and deforestation, so green technology initiatives are crucial in combating climate change, global warming, rising sea levels, extreme weather, and ecosystem disruption. By implementing sustainable technologies, nations can reduce carbon footprints and mitigate emissions to lessen ecosystem disruption, protect biodiversity, and conserve resources.

Sustainable development is a comprehensive action that aims to achieve the needs of the present generation by ensuring future needs without any barriers. It balances and provides inclusive and sustainable

economic growth, social well-being, and environmental sustainability, and its main objective is to foster harmony to achieve a sustainable and equitable world. Intellectual property promotes innovation and creativity to address complex global issues and solve economic, social, and environmental problems. World IP Day is observed every year on April 26 to recognize the value of innovation and creativity and to remember the establishment of the World Intellectual Property Organisation (WIPO), and the theme for 2024 was “IP and The SDGs: Building our common future with innovation and creativity” to act as a collective mechanism to achieve the SDGs. For instance, it provides an alternative to fossil fuels by advancing green technologies and renewable energy, provides sustainable agricultural practices to improve resource management, and tackles the climate crisis by reducing greenhouse gas emissions.

III Mapping the Impact of IP on Key SDGs

The importance of IP in advancing the SDGs cannot be overstated in the evolving landscape. It catalyses economic growth and addresses the SDGs, such as clean energy, health care, and environmental sustainability. IP advocates making a sustainable planet by supporting the inventors and creators in contributing their IP, like patents and geographical indications, to support sustainable agriculture, renewable energy, and healthcare, and copyright to advance quality education. Some of the goal-specific contributions of IP on SDGs are as follows:

A. IP in promoting health and well-being: SDG 3

IP, like patents and other rights, led to the invention of new medical tools, technologies, and pharmaceuticals that benefit the global health sectors. It encourages research and development in the medical field and

facilitates the dissemination of life-saving innovations worldwide. Therefore, it contributes to the overarching goal of promoting good health and well-being worldwide, and IP flexibilities under the TRIPS Agreement, like compulsory licensing, can be used to meet public health needs. “In 2007, Brazil issued a compulsory license on efavirenz to third parties to treat AIDS/HIV drugs at a reasonable price. Later, in 2012, India issued a compulsory license for Bayer’s patented drug Nexavar, making it reasonable for cancer patients¹”. The ‘Doha Declaration on TRIPS and Public Health, 2001’ has reaffirmed the compulsory licensing provided under the TRIPS Agreement that guarantees life-saving medicines at reasonable prices. Similar actions have been taken to increase access to medicines to treat deadly diseases like HIV/ AIDS, which helps to advance SDG Target 3.8, which emphasizes access to medicine at an affordable price. In India, more than 70% of the population relies on traditional knowledge for their livelihood and healthcare needs². India made an innovative effort to establish the Traditional Knowledge Digital Library (TKDL) to safeguard traditional medicinal knowledge and prevent its misuse at the international level. It was established in 2001 in collaboration between the Council of Scientific and Industrial Research (CSIR) and the Ministry of Health and Family Welfare. TKDL is a digital knowledge repository of traditional knowledge. It includes the details of medicinal plants and formulations used in the Indian medical system³.

¹ Enrico Bonadio, “India Grants a Compulsory Licence of Bayer's Patented Cancer Drug: The Issue of Local Working Requirement” 3(2) *European Journal of Risk Regulation* 247 (2012).

² About TKDL, available at: <https://www.tkdil.res.in/tkdil/langdefault/common/Abouttkdl.asp?GL=Eng> (last visited on March 28, 2025).

³ Nirmal Sengupta (ed.), *Economic studies of Indigenous and Traditional Knowledge* 158 (Academic foundation, New Delhi, 2007).

B. IP in facilitating Knowledge Sharing and Social Equity: SDGs 4 and 5

Goal 4 promotes ‘inclusive, equitable, quality education and lifelong learning opportunities’. IP supports this with educational exceptions in Copyright laws that allow others to use copyrighted material for the teaching and learning process, enhancing access to inclusive, equitable, and quality education for all. UNESCO’s Open Educational Resources (OER) initiative provides licensed teaching materials for open access, making quality education accessible globally. Copyright reform initiatives like enabling access to educational material support equitable access to education and lifelong learning opportunities, and contribute to ‘SDG Target 4.3 equal access to affordable education’. ‘The Technology Facilitation Mechanism (TFM),’ launched at the ‘2030 Agenda for Sustainable Development’ to promote SDGs by sharing information, experience, policies, and advice to the member nations and other stakeholders to facilitate multi-stakeholder collaboration and partnerships⁴.

Patent incentives like e-learning and other educational technologies allow everyone to learn from anywhere without geographical restriction to promote gender equality and women's empowerment. Since the beginning, innovators and creators from all aspects have aided in transforming our world through their knowledge and creativity. However, women and some other groups remain under-represented in many areas of IP, and their innovation is underutilized. Based on the 2024 report by WIPO, only 17.7% of women inventors' names were

⁴ United Nations Department of Economic and Social Affairs, UN Technology Facilitation Mechanism (TFM): Harnessing Science, Technology and Innovation to achieve the Sustainable Development Goals, *available at*: <https://sdgs.un.org/tfm> (last visited on April 1, 2025).

registered in international patent applications⁵. WIPO is working to raise their representation in the IP system, which aligns with Goal 5, to promote gender equality and women's empowerment.

C. IP in achieving clean energy and sustainable cities: SDGs 7 and 11

The objective of Goal 7 is “to ensure access to affordable, reliable, sustainable, and modern energy for all”. Energy is essential to the contemporary lifestyle, driving everything from day-to-day activities to advanced industrial processes. However, this dependency comes at a significant cost, making energy production a leading contributor to global greenhouse gas emissions, intensifying climate change⁶. Advancements of IP technology in solar photovoltaics, wind energy, hydropower systems, geothermal, ocean energy, and battery technologies have significantly enhanced energy conversion efficiencies and act as more viable and impactful alternatives to fossil fuels. In 2022, the contribution of energy through renewable sources reached a record of 5.5% in the global energy supply⁷. Tesla’s Open Patent Policy made its patents for electric vehicle technology open-source to encourage cooperation in developing sustainable transport solutions to promote innovation in green technologies, aligning with ‘SDG target 7.2 to increase the renewable energy source’. China, being the factory of the world, has contributed significantly to global pollution, but in recent times, it has adopted clean energy and other green technologies in its national laws to reduce the use of fossil fuels. China has become a large

⁵ WIPO, “Intellectual Property, Gender, and Diversity” *available at*: <https://www.wipo.int/web/gender> (last visited on March 28, 2025).

⁶ WIPO, *Green technology book: Energy solutions for climate change* 6 (World Intellectual Property Organisation, Switzerland, 2024).

⁷ International Energy Agency, “World Energy Outlook” (October, 2024).

producer of renewable energy patents, particularly in solar panels and wind energy technologies, and it also promotes technology transfer and knowledge sharing within domestic companies to facilitate green patents⁸. Based on a World Bank report, global waste will rise by around 3.88 billion tonnes in 2050⁹. So, it's vital to address waste management more effectively through smart recycling bins, solar-powered trash, and AI-enabled technologies. The issues related to transportation and energy efficiency to establish inclusive and sustainable cities by paving the way to implementing smart grids, air quality monitoring devices, low carbon emission, traffic management, and waste management as advocated under Goal 11.

D. IP in advancing economic growth and innovation: SDGs 8 and 9

Goal 9 of the SDGs emphasizes the importance of infrastructure, inclusive and sustainable industrial growth, and innovation to promote economic development and sustainability. IP is indispensable in fostering this goal by encouraging creativity, innovation, technological advancement, knowledge sharing, and technology transfer. IP significantly enhances infrastructure by developing smart solar grids for power consumption, renewable energy solutions, and sustainable transportation by introducing electric vehicles and renewable fuels. Technology transfer and licensing mechanisms facilitate the sharing of advanced sustainable technologies from developed nations to developing nations to foster sustainable development in infrastructure at the global level. In 2016, India framed a comprehensive legal framework on 'the National Intellectual Property Rights Policy' to protect and enforce IP in

⁸ Daniel Slotta, "Greentech in China - statistics & facts" (June, 2024).

⁹ Ganes Kesari, "How AI is Revolutionizing Waste Management", *Forbes*, May 31, 2025 available at < <https://www.forbes.com/sites/ganeskesari/2024/05/31/turning-trash-into-treasure-how-ai-is-revolutionizing-waste-sorting/> >

India. The policy encourages innovation and fosters creativity to develop sustainable technologies to promote sustainable development¹⁰. IP promotes inclusive industrialization and supports the advancement of green technologies through sustainable industrial processes. It also encourages innovation and protects the rights of the creators by offering flexible IP policies and incentives to address global crises like health and climate change through patents, copyrights, and other IP rights. It helps industries produce sustainable and eco-friendly products, use resources efficiently, and reduce emissions of harmful gases, fostering consumer trust to promote economic growth and sustainability as advocated under Goal 8.

E. IP in fostering environmental sustainability: SDG 13, 14, and 15

In 2023, nations at COP 28 recognized the impact of using fossil fuels on climate change (Goal 13) and the need for a transition. This prompted the nations to pledge to “triple the renewable energy capacity and double global energy efficiency by 2030¹¹”. Yet, the current renewable energy and technology adoption rate falls short of achieving global net zero emission and climate targets. Climate change is already disrupting energy systems and infrastructure, highlighting an urgent need for adaptive and innovative solutions to enhance resilience and ensure energy security. The leading causes of climate change are greenhouse gas emissions into the atmosphere and the use of fossil fuels. It can be controlled with IP advancements in renewable energy, carbon capture,

¹⁰ Department for Promotion of Industry and Internal Trade, Government of India, “National Intellectual Property Rights Policy” (Ministry of Commerce and Industry, May, 2016).

¹¹ Stephanie Ebbs, “Landmark fossil fuel agreement and other key takeaways from the COP28 climate conference” *abc NEWS*, December 13, 2023, available at < <https://abcnews.go.com/International/biggest-takeaways-cop28-climate-conference-dubai/story?id=105589122>>

and climate-resilient technologies. Intellectual Property promotes environmental sustainability by protecting Geographical indications and traditional knowledge to safeguard ecosystems and promote sustainable use of genetic resources. The European Patent Office (EPO) granted a patent to a U.S. company for a neem-based bio-pesticide. Later, it was challenged by an Indian NGO, stating it was based on traditional knowledge, and the patent was eventually revoked. It advocates SDG target 15.6, emphasizing the equitable sharing of genetic resources and knowledge. The GI registration of Darjeeling Tea in India has helped to preserve its unique identity, improved the local economy, and supported sustainable farming practices in the region by supporting 'SDG Target 12.2, sustainable management of natural resources'.

IV International Strategies to Promote Sustainability through IP

In the backdrop of sustainable development, IP fosters the creation and dissemination of technologies and solutions that address environmental, social, and economic challenges. Non-actors, like international organizations, governments, and private entities, have taken multiple steps to leverage IP for sustainable development. These initiatives aim to balance the need for innovation incentives with efforts to achieve a sustainable and inclusive future. Some of the key international initiatives that play a transformative role in connecting IP in driving sustainable development are:

1. International legal instruments connecting IP and Sustainability:

At the global level, several international instruments play a vital role in connecting IP and sustainable development, mainly through technology transfer and green technologies to control and monitor climate change,

environmental sustainability, and other related matters. Some of the key instruments and agreements are as follows:

the Sustainable Development Goals (SDGs) are intertwined, particularly in the context of technology transfer and access to essential goods and services. While TRIPS aims to protect intellectual property, it can also create barriers to achieving the SDGs, especially for developing countries, by potentially restricting access to technologies related to health, climate change, and other areas relevant to the SDGs

A. Trade Related Aspects of Intellectual Property Rights (TRIPS), 1995, administered by the WTO, provides a wide range of IP rights like Copyright, Trademark, Patent, GI, Industrial design, Trade secret and Protection of Plant varieties. These IP Rights play a vital role in promoting and achieving sustainable development and growth. They are interconnected and provide for technology transfer and sustainable technologies to give access to health, quality education, affordable energy, climate control and other relevant SDGs.

B. The Convention on Biological Diversity, 1992, is a multilateral treaty, signed at the Earth Summit in Rio de Janeiro in 1993, to conserve biological diversity, sustainable use of its components and equitable sharing of genetic resources and benefits. Later in 2010, the Nagoya Protocol supplement to the Convention on Biological Diversity provides a clear framework for access, fair and equitable sharing of benefits arising from genetic resources, which helps conserve and sustainably use biodiversity. It is considered a vital tool for achieving food security, human health, economic development, climate change mitigation and adaptation by closely

connecting with SDGs 1, 3, 13, and 15 for achieving a healthy environment and biodiversity

C. The United Framework Convention on Climate Change, 1992, is a UN treaty to mitigate climate change adopted in the United Nations Conference on Environment and Development (Earth Summit). It mainly addresses climate-related issues, including greenhouse gas reduction and mitigation through green technologies, technology transfer and cooperation. Its supreme decision-making body, called the Conference of the Parties (COP), meets every year to regulate climate-related issues at the global level. Among its numerous COPs and related agreements, including the Kyoto Protocol, Paris Agreement, and other COPs, it regulates greenhouse gases and their impact on the atmosphere, with the aid of Intellectual property, innovative green technologies aligning with goals 7, 9, and 13 to promote a sustainable future.

2. International organisations on linking IP and Sustainability

At the global level, there are several international organisations working to include IP Rights to promote a sustainable future, some of them are as follows:

A. World Intellectual Property Organization (WIPO):

WIPO is a specialized agency of the UN that was established in 1967 and began its operation in 1970 to protect and promote the IP rights of creators and inventors. It protects and encourages IP across borders, addresses IP issues, and provides universal standards, guidelines, and policies to establish an international IP system. In addition, it provides vital support to promote the United Nations SDGs at the national and regional levels through various programs, actions, and guidelines. It

encourages its member nations to use IP systems to enhance innovation and technology to achieve the SDGs. WIPO assists nations in framing national IP strategies to improve economic growth, sustainable technologies, innovation, and creativity to promote sustainable development. In line with that, “India has framed its national IP strategies and guidelines for the effective creation, protection, management, and commercialization of IP for economic, social, and technological advancement. It also promotes the connection of IP with other sectors like science and technology, trade, education, environment, culture, and heritage, to foster sustainable innovation and creativity¹²”. IP laws in India are well-legislated based on international principles, standards, and judicial interpretations. IP in India includes “copyright, trademarks, patents, geographical indications, plant varieties, industrial designs, Trade secrets (confidential information), protection of biodiversity, and semiconductor integrated circuit layout designs”. It actively supports Goal 9 to foster innovation, creativity, and technological development through its multiple missions. It plays a vital role in connecting IP to promote the implementation of SDGs by encouraging innovation and creativity.

B. WIPO Match and WIPO’s Accessible Books Consortium (ABC):

WIPO has introduced WIPO Match, a free online tool to connect seekers of specific IP to offer resources to help other providers with relevant needs. WIPO acts as a facilitator and provides services to connect relevant IP with multiple global partners to use the resources more effectively in aligning with SDG 17. It connects the global community.

¹² Consulate General of India, Hamburg (Germany), Recommendations for a National IPR Strategy for India (July, 2014) available at: https://www.cgihamburg.gov.in/pdf/national_IPR_Strategy_21July2014.pdf (last visited on April 24, 2025).

Industry and the private sectors should promote economic, social, and cultural development through IP assistance. In addition to that, WIPO has introduced WIPO's Accessible Books Consortium (ABC), which supports goal 4 of SDGs by providing technical assistance and guidelines to people who are blind, visually impaired or other disabled people through innovation and creativity.

C. WIPO GREEN:

In 2013, WIPO established WIPO GREEN to advance and promote green innovations and technologies. It is a free online marketplace that connects innovators, technology seekers, and partners by addressing climate action, modern energy, innovation, and sustainability, and facilitating technology transfer to tackle environmental issues. It provides a platform for investors to share their expertise with global stakeholders, facilitate technology transfer, and encourage renewable energy innovations as outlined in Goal 7 to lower the utilization of fossil fuels. Implementing sustainable technologies that reduce greenhouse gas emissions also helps achieve Goal 13 of climate mitigation. WIPO GREEN connects technology providers with users to facilitate industrial transformation towards sustainability, as emphasized under Goal 9. It also encourages innovators to invent and develop green technologies to facilitate the sharing and licensing of technologies that mitigate climate change, directly supporting SDG Target 13.2. Green technologies help for responsible consumption, production, and smart cities under Goals 11 and 12 by facilitating water management, energy efficiency, waste reduction, optimizing the use of resources, and promoting recycling to make inclusive modern cities. It acts as a centralized hub under Goal 17 to promote and collaborate with innovators, businesses, governments, and international organizations to pool resources and to accelerate the

global adoption of green technologies. WIPO GREEN serves as a repository of green technologies and has a significant role in bridging IP systems with sustainability goals by leveraging intellectual property to facilitate green technology and dissemination for a more sustainable and equitable future.

D. World Trade Organisation (WTO):

It plays a significant role internationally in implementing trade policies and reforms to foster stable and equitable trading relations. SDGs emphasize the importance of trade's role in sustainable development and growth. To promote this, the WTO helps to reduce hunger and poverty, create opportunities for women's employment, inclusive economic growth, innovation in doing business, reduce inequalities, and promote global partnership to improve economic growth by fostering sustainability. The 'Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)', 1994, is a cornerstone of the World Trade Organization (WTO). It establishes international minimum standards for the protection of intellectual property and innovation. The Agreement covers intellectual property rights like 'patents, trademarks, copyrights, Geographical indications, and industrial designs', with provisions supporting sustainability. For instance, inventions that protect life, health, or the environment may be excluded from patent protection, encouraging open access to develop and use sustainable technologies and promoting knowledge sharing by transferring technological advancements to developing countries.

E. The International Centre for Trade and Sustainable Development (ICTSD):

It is a non-governmental organization founded in 1996 to advance sustainable development and international trade by "providing information, networking, well-targeted research, and capacity building to stakeholders in trade policy and sustainability." One of the first non-governmental organizations to investigate the relationship between intellectual property and sustainable development, it serves as a facilitator by supplying working groups and developing countries with information and expertise to support their innovation and IP policies in support of sustainable development. From 2001 to 2018, numerous studies were conducted in collaboration with the United Nations Conference on Trade and Development (UNCTAD), especially in relation to intellectual property in sustainable development. ICTSD significantly contributed to the global advancement of intellectual property and sustainable development, but ceased its operations in 2018.

V Conclusion and Suggestions

Despite global actions on promoting SDGs to reduce environmental degradation, the recent study by the World Economic Forum in its Global Risks Report, 2024, shows that extreme weather has been identified as the leading risk factor in 2024, and this could continue with extreme drought, forest fire, climate changes, heatwaves, biodiversity loss, resource shortages, heightened pollution, and ecosystem imbalance. Besides these environmental threats, the report highlighted vital risks related to technology, cybercrime, disruptions in the food chain, and

other systematic vulnerabilities¹³. Collaborative action by the government, international institutions, and other actors is essential to save the planet from degradation.

IP plays a vital role in achieving this goal by fostering innovation and technological advancement in clean energy, facilitating the dissemination of green technology, and promoting global collaboration to advance the SDGs. By giving creators and inventors the exclusive right to their creations, IP can encourage foreign investment and technology transfer by developing new technologies that are more economical, sustainable, and energy efficient. Sustainable development has become a key priority in the global agenda, and IP systems have recently come into closer contact, leading to a new set of legal and policy issues. Though IP has not gained much attention in the SDGs framework, but it provided a space for the relevance of IP in advancing sustainability. Including IP in sustainable development promotes innovation and fosters a broad approach to achieving SDGs.

The SDGs adopted by the UN provide a global framework to address critical social, economic, and environmental issues. Achieving these goals promotes equality, well-being, innovation, and peace. IP plays a vital role in fostering innovation and technological advancement, and its interaction with SDGs provides challenges and benefits to achieve sustainability. IP protects the rights of creators and innovators by providing exclusive rights for a specific period and ensuring economic benefits. On the other hand, it hinders access to affordable technology, specifically in developing nations, by impeding their growth in achieving

¹³ World Economic Forum, "The Global Risk Report 2024, 19th edition" (January, 2024).

SDGs. Some of the challenges and opportunities in leveraging IP for SDGs are as follows;

Firstly, the scope of Intellectual property has impacted different spheres, from knowledge to technology, and expanded over the years to cover sustainability. The essential feature of IP is granting exclusive rights to creators and innovators for a specific period, which provides a primary challenge in assuring the availability and fair dissemination of innovations. It often raises accessibility concerns, particularly regarding essential technologies and medicines. Striking an equilibrium between safeguarding the rights of IP holders and intellectual property rights and ensuring that advanced innovation reaches those who need it most remains a complex challenge for sustainable development. Policymakers should create a supportive policy and legal framework to encourage businesses and innovators to align their efforts with the principles of sustainable development.

Secondly, collaboration plays a vital role in the future of intellectual property and its role in achieving the Sustainable Development Goals. Governments, international organizations, companies, and innovators must act together to make a real impact. Commitment to doing business more responsibly, ensuring ideas are shared fairly, and thinking about the long-term effects of IP decisions are essential. The adoption of SDG 17 by companies and innovators has significant opportunities to leverage the IP for sustainable development through global partnerships and licensing agreements.

Finally, the relationship between IP and SDGs at the international level must be regulated based on the principle of mutual supportiveness. For instance, in the case of biodiversity, the Convention on Biological

Diversity (CBD) obligates the disclosure of the origin/ source of biological resources and equitable sharing; in contrast, the approach to biodiversity in the IP regime contradicts this rule. Intellectual Properties like geographical indication and patents on the protection of plant varieties, including sui generis laws, have increased agricultural production and the income of local communities, but the increased monopolies have a negative impact on many developing nations. Hence, global regulation is essential for the harmonious intersection of IP with SDGs.