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Human Right to Water and Intellectual Property Framework for Achieving SDG 6

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Abstract: Water is a vital part of the environment, and essential for sustaining life for all living organisms. Access to safe water, along with proper hygiene and sanitation, is a fundamental requirement for human health and well-being. According to United Nations, over 2 billion people may face challenges in obtaining safe water by 2025. Hence, it is imperative to ensure water sustainability for future generations. Water conservation initiatives and investing in innovative water technologies can help secure future water availability and promote sustainable development. Intellectual property rights (IPRs) are acknowledged as human rights under several global and national legal provisions, and their importance has significantly increased in the contemporary world. Desalination membranes, low-cost point-of-use filtration, pathogen detection tools, remote sensing and hydraulic modelling software—are protected by intellectual property (IP) rights. Current study explores the relationship between the right to clean water and intellectual property (IP), considering both international frameworks and the constitutional domain of India. This research attempts to establish a link between these two domains—clean water rights and intellectual property rights.

Keywords: right to water; SDG 6; TRIPS; patent pools; WIPO GREEN; human rights impact assessment

1. Introduction

Water is a fundamental resource that supports human life, and its scarcity poses serious challenges to societies worldwide. Access to clean and safe drinking water is not only vital for human health but also a cornerstone for sustainable economic development. Due to climatic changes, freshwater resources are depleting rapidly, while the global demand for water rising due to increasing population. Recognition of water as a human right motivates states to address basic human needs including water and advance sustainable development goal 6 (Hilderling 2020).

The UN has designated March 22 as World Water Day, reflecting the significance of water and its essential role in sustaining human life. In the previous century, global water consumption has doubled @ population growth, highlighting an alarming imbalance between demand and supply. Global water demand can increase by 55%, intensifying the need for sustainable management and conservation strategies (Boretti and Rosa 2019). To ensure water sustainability for future generations, it is imperative to adopt proactive measures. Such efforts may include water conservation initiatives and investing in innovative technologies that enhance the long-term availability of freshwater resources, thereby contributing to sustainable development. Technological innovation is often viewed as a key solution to these pressing challenges. Inventions and innovations are protected by IPRs, hence the role of Intellectual Property is particularly relevant. IPRs safeguard innovation and creativity, encouraging advancements in water management and conservation practices (Brunner et al. 2015).

2. Global perspective of Human Right to Water

Depleting water resources are one of the key concerns of the global community, placing this issue at the forefront of the international development agenda (Arora 2022). Table 1 summarizes global efforts for right to water, SDG 6, and human rights impact assessment.

The successful realization of SDG 6 is critical to achieve the entire 2030 Agenda. It provides the foundation for improving human well-being, supporting economic and social development, and safeguarding ecosystems. Water security helps benefit on existing investments in health and education. Natural environment such as forests, soils, and wetlands help regulate water quality and availability, enhancing watershed resilience, and complementing infrastructure, institutional, and regulatory frameworks for water access, efficient use, and disaster preparedness. Improved water management enhances the resilience of agriculture, food systems, and national economies against

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Table 1. Global Efforts for Right to Water, SDG 6, and Human Rights Impact Assessment.

Year	Domain	Significance	References
1977	Right to Water	UN Water Conference, Mar del Plata for the first time recognized that all people have the right to drinking water in sufficient quantity and quality.	(United Nations 1977)
1992	Right to Water and SDG precursor	Dublin Statement on Water and Sustainable Development declared water as a finite resource essential to life and human dignity.	(International Conference on Water and the Environment 1992)
1994	TRIPS	WTO adopts TRIPS Agreement Establishing minimum global IP protection standards, covering patents relevant to water technologies	(WTO 1994)
2000	SDGs precursor	Target 7C of millennium development goal 7 indicated the people without sustainable access to safe drinking water and sanitation.	(United Nations 2000)
2001	TRIPS Flexibilities	Doha Declaration affirmed that members can use TRIPS flexibilities to protect public health—interpretively relevant to water.	(WTO 2001)
2002	Right to Water	CESCR General Comment No. 15 defined the human right to water as implicit in ICESCR Articles 11 and 12.	(CESCR 2002)
2009	Patent Pools	Medicines Patent Pool (MPP) established as the first global patent pool for health; model for diffusion of essential technologies.	(Medicines Patent Pool 2009)
2010	Right to Water	Human right to safe and clean drinking water and sanitation for life was recognized in UNGA Resolution 64/292.	(United Nations General Assembly 2010)
2012	WIPO GREEN	WIPO GREEN as an online marketplace to promote licensing and diffusion of green technologies, including water innovation.	(WIPO 2012)
2013–2015	Open Licensing	CERN Open Hardware License (v1.2, 2013; v2.0, 2020) as an open legal infrastructure for sharing hardware, relevant to water pumps, filters, sensors.	(CERN 2013)
2015	SDGs	Global pledge for water availability, its sustainable management and sanitation for all by 2030.	(United Nations 2015)
2017	Human Rights Impact Assessment (HRIA)	UNGPs implementation expands HRIA as a key methodology for assessing rights impacts in business and state practices, including water.	(UN OHCHR 2017)
2019–2020	Open Licensing	Open COVID pledge as coordinated voluntary IP licensing initiative for urgent technologies; model transferable to water crises.	(Open COVID Pledge 2020)
2021	TRIPS Waiver Debate	COVID-19-related TRIPS waiver negotiations renewed focus on TRIPS flexibilities, compulsory licensing, and essential-technology transfer	(WTO 2021)
2023	HRIA	OHCHR publishes updated guidance on human rights & environment integrating water and sanitation into environmental human rights frameworks	(OHCHR 2023)

rainfall variability, enabling them to meet the demands of a growing global population (Wager and Watal efficient use, and disaster preparedness. Improved water management enhances the resilience of agriculture, food systems, and national economies against rainfall variability, enabling them to meet the demands of a growing global population (Wager and Watal 2015). Conversely, water scarcity undermines food security and threatens the livelihoods of rural farmers (Nastić 2021).

SDGs are part of an action plan within a legally non-binding resolution of the UNGA and do not impose direct legal obligations alone. Nevertheless, these commitments are significant as they are advanced by states as complementary to binding provisions of international law, largely due to their moral authority and pursuit of the greater common good. SDGs were unanimously adopted by states at high-level meetings of the UNGA. While such adoption does not transform the framework into a legally binding instrument, it does enhance the legitimacy of the commitments and underscores the political importance attributed to the agenda. At the same time, the follow-up and enforcement mechanisms remain uncertain (Wager and Watal 2015).

3. Human Right to Water in Indian Constitution and Laws

The Indian Constitution does not expressly provide for a right to water. However, this right has been recognized and expanded through judicial interpretation and constitutional principles. Various other constitutional provisions also support this framework as shown in table 2.

Table 2. Indian laws and right to water.

Legal Instrument	Relevance to IP, Right to Water and SDG 6	Reference
Article 21 of Constitution of India elaborates that the right to life includes right to enjoy pollution-free water and air (judicial interpretation).	Recognizing the human right to water in Indian law — justifies public-interest measures (including compulsory licensing of technologies).	(Supreme Court of India 1991)
Constitution — Seventh Schedule (State List Entry 17 / Union powers)	Central IP policies must align with state law.	(Constitution of India, Seventh Schedule)
Directive Principles & Fundamental Duties — Art. 48A / 51A(g) suggesting duty of the State and citizens to protect environment	Strengthens environmental and water-related sustainability norms.	(Constitution of India, Part IV and Part IVA)
Subhash Kumar v. State of Bihar (1991) in Indian Supreme Court indicating right to enjoyment of pollution-free water & air (Article 21)	Judicial precedent enforcing right to water; courts can compel remedies and tech deployment.	(Government of India 1970)
Water (Prevention & Control of Pollution) Act, 1974 & Environment Protection Act, 1986 help in pollution-control framework containing standards & penalties.	Necessitates water-treatment technologies, often IP-protected.	(Government of India 1974)
National Water Policy (2012) & National Water Mission	Supports R&D, diffusion, and local manufacture of water technologies.	(Government of India 1986)
Jal Jeevan Mission (Har Ghar Jal) of Ministry of Jal Shakti regarding tap connections & potable water in rural India	Public procurement programme scaling water technologies, can embed IP-access clauses.	(Government of India 1999)
Patents Act, 1970 — Sections 84 & 100(compulsory license & government use respectively).	Allows overriding exclusivity for public interest (water technologies).	(Government of India 2001)
Biological Diversity Act, 2002 & Traditional Knowledge Digital Library (TKDL) for access and benefit sharing and preventing biopiracy	Ensures communities benefit from use of traditional water knowledge.	(Government of India 2002)
Plant Varieties & Farmers' Rights Act, 2001 as IPRs for new plant varieties and farmers' rights to save seeds.	Balances breeders' rights with access to drought-resistant crops.	(Government of India 2005)
Geographical Indications Act, Copyright and Trademarks as IPRs.	Can protect community water tech but also restrict diffusion if exclusive.	(Government of India 2010)
National Green Tribunal Act, 2010 & regulatory bodies (CPCB/SPCBs) as bodies to control pollution.	Can order technology deployment, creating demand for affordable water technologies.	(Government of India 2012)
Right to Information Act, 2005 & Procurement rules providing transparency obligations and procurement norms.	Enables monitoring of IP/licensing terms in water projects.	(Government of India 2017)

4. Intellectual Property Rights, Human Right to Water, and SDG 6

The property created using human intellect is known as intellectual property (IP). It includes literary works, inventions, artistic expressions, symbols, performances, and designs. These intellectual creations are legally protected by copyrights, patents, trademarks, industrial designs, and geographical indications, enabling individuals or organizations derive economic benefits from their innovations or creative outputs. IP system help balance the rights of creators and the interests of society at large. By safeguarding innovation, IPRs encourage creativity and provide inventors with exclusive rights to exploit their work for a limited period of time.

IP framework plays a crucial role in technology transfer, technological advancement, industrial and economic development, export promotion, market expansion, and retention. It also fosters national innovation and creativity, thereby acting as a driver of progress across multiple sectors. In the 14th century, communities in the Alpine region who first discovered mineral mines often exercised control over surrounding resources such as water and wood. In Germany (1409), a special privilege was granted for the construction of a model mill to store grain. During the Harappan civilization in India, distinct markings on pottery were used to signify early trademarks.

Despite these measures, variations in the extent and enforcement of IPR protection across countries created unrest in various circles. The TRIPS Agreement adopted under the WTO framework, sought to bridge these disparities by introducing uniform international standards for IPR protection. TRIPS thus established minimum levels of protection across key categories of IP, making it the most comprehensive and influential international treaty on IP. It covers a wide range of rights including patents, trademarks, copyrights, geographical indications, layout designs of integrated circuits, and plant varieties. In 1970, WIPO was established, transforming BIRPI into WIPO. Headquartered in Geneva, Switzerland, WIPO is an intergovernmental body. By 1974, WIPO formally became a specialized agency of the United Nations, thereby reinforcing its role as a global institution. While membership is voluntary, all UN member states are entitled to join its framework.

Indian Constitution safeguards several fundamental rights, including the right to life, encompassing the right to privacy, human dignity, health, and a clean environment—covering both air and water. Originally, the right to property was also guaranteed as a fundamental right under Article 19(1)(f). However, following the 44th Constitutional Amendment (1978), this provision was deleted and replaced by Article 300A, which grants property the status of a constitutional right rather than a fundamental one. Consequently, violations of the “right to property” can now be challenged only before High Courts and not directly in the Supreme Court of India. In contrast, the United States Constitution explicitly guarantees protection of intellectual property rights. In India, there are no constitutional limitations on the legislature’s power to enact laws relating to IP.

Human rights are broader and more fundamental than the privileges conferred by IPR. IPRs should not violate or undermine human rights, and the granting of IPR must consider national interests and the sustainable use of resources. Intellectual products are, at their core, social goods, and this perspective should guide the allocation of rights to innovators. Consequently, IPRs are not immutable rights akin to human rights, but rather as privileges granted to individuals or corporations. It is most meaningful to evaluate intellectual contributions independently of existing IP regimes, treating all creative and innovative efforts as falling within the scope of Article 15(1) of the ICESCR, thereby emphasizing their societal value over individual entitlements. IP is crucial for safeguarding innovations and creative solutions in water conservation. Ensuring the sustainability of water resources is essential for achieving long-term sustainable development, and IPRs play a vital role in supporting innovation and advancing water conservation efforts (Nastić 2021)

5. Conclusions

Access to safe and affordable water is a fundamental right of every individual. IP protects technologies, processes, and new products designed to preserve and manage water resources. Sustainable development is a central focus of the global agenda, and the intellectual property system increasingly interacts with it. Human rights and intellectual property rights are distinct areas of law, evolving independently without intersecting. This study proposes a principled, practical framework to align IP governance with the human right to water. Building on international human rights law (notably General Comment No. 15 to the ICESCR and UNGA Resolution 64/292) and on flexibilities under the TRIPS Agreement, the framework emphasizes use of IP tools and exceptions, innovation ecosystem supports (standards, open science, data commons) and accountability through human rights impact assessment. It emphasizes the role of international conventions and India’s constitutional perspective in framing water as a human right and intellectual property as a legal safeguard.

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