



TRANSFER OF TECHNOLOGY AND CLIMATE CHANGE: GLOBALIZATION AS A CATALYST

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ABSTRACT

Climate change is a daunting issue to the future of mankind and has been prevailing in this world for a long time. One of the reasons for climate change is poor technology in many developing and underdeveloped countries. Many countries manufacture products with technology which causes pollution and releases harmful substances into the atmosphere. Since the issue of climate change is not confined to boundaries, it's the obligation of all the states to put efforts to bring in user-friendly technologies. Therefore, one of the sustainable solutions for this issue is the transfer of technology from developed states to developing or least developed states. However, this transfer is not easy as it says and it is considered to be more of a trade than a necessity. Even though there are international agreements stating provisions for such technology transfer, the issue is still prevalent since developed countries enjoy the dominance of Intellectual Property in the world. Many countries have the technology but are patented and this leads to a barrier in the transfer of technology. Therefore, in this paper, the researcher analyzes this issue through the lens of human rights and examines how far globalization has acted as a catalyst in technology transfer. The first part of the paper brings out the nexus among climate change, the transfer of technology, and human rights. The second part of the paper focuses on whether technology transfer is a good method to overcome the issue of climate change and finally concludes the paper by examining the role of globalization in such technology transfer.

Keywords: Climate Change, Green Technology, Globalization, Human rights, Technology, Transfer of Technology

1. INTRODUCTION

The wide consensus and negotiations on curbing the issue of climate change have paved the way for initiatives at the country and global level through various platforms such as the United Nations Framework Convention on Climate Change (“UNFCCC”). Due to industrialization, there was a lot of greenhouse gas emission and it has been characterized by developing new technologies. The going discussion is that if the old technology created problems, the new ones will resolve it. However, the new technologies belong to developed states and not with the states which are necessary to mitigate climate change.¹ Technology transfer is one of the solutions for this problem and it has been discussed in various forums and international negotiations as to how technology transfers bridge the gap.² For such technology transfers, there is a need for international cooperation for sustainable development between developed states and developing or least developing states. Multilateral agreements on climate change such as the Kyoto Protocol have covered the role of technology³ and special mention has been made to the development of such technology, its application, and know-how. But Intellectual Property Rights (“IPR”) has been a barrier to these technologies in the context of climate change and has been the point of discussion in stern reports and documents of the United Nations.⁴

The two significant IP rights associated with climate-friendly technologies are patents and trade secrets. This exclusive right makes the inventor dominant in the market and on the other hand, has been abused by them. Basic technologies for manufacturing and producing products are in the public domain. However, the companies play strategically by acquiring more patents on a particular technology forming a patent thicket so that the particular technology will never fall into the public domain. This is known as the evergreening of patents. Further, even if the states are ready to license the technologies, the negotiations fail since the licensing fee proposed is extremely high for the states. Due to these reasons, developing states are compelled to use technologies that pollute the environment. Therefore, this paper firstly, establishes the link between climate change, technology transfer, and human rights; secondly, analyses the role of globalization in such technology transfer and finally concludes the paper by suggesting a human rights approach to end this debate.

¹ Inter-Governmental Panel on Climate Change, *Methodological and Technological Issues in Technology Transfer*, <<https://www.ipcc.ch/report/methodological-and-technological-issues-in-technology-transfer/>> accessed February 1, 2022.

² IPCC's report on Methodological and Technological Issues in Technology Transfer defines the term "*technology transfer*" as a broad set of processes covering the flows of know-how, experience, and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, NGOs and research/educational institutions.

³ United Nations Framework Convention on Climate Change 1994, art.4.1(c), Kyoto protocol 2005, art.10(c).

⁴ Centre for International Environmental law, 'The Technology Transfer Debate in the UNFCC: Politics, Patents and Confusion'(2008)Fourth Quarter, Intellectual Property Quarterly Update < https://www.ciel.org/Publications/IP_Update_4Q08.pdf> accessed January 31, 2022.

2. BACKGROUND

Climate Change, Transfer of Technology and Human Rights

Michelle Bachelet, United Nations High Commissioner for Human Rights in her opening statement to the 42nd session of the Human Rights Council explained the issue of climate change. According to him, “Climate change is a reality which affects every region of the world. The human implications of currently projected levels of global heating are catastrophic. Storms are rising and tides could submerge entire island and coastal nations. Fires rage through our forests, and the ice is melting. We are burning up our future - literally”.⁵ Climate change affects many human rights such as the right to life, development, sanitation, water, housing, etc. Human Rights are rights that are acquired by an individual since birth. Therefore, it cannot be separated from them. At the global level, we have the Universal Declaration of Human Rights (“UDHR”) which sets out fundamental human rights that need to be protected by every state.⁶ Further, we have different international agreements such as International Covenant on Civil and Political Rights UN General Assembly,⁷ Convention on the Rights of Child UN General Assembly,⁸ Charter of Fundamental Rights of the European Union,⁹ African Charter on Human and People's Rights Organization of African Unity (“OAU”),¹⁰ American Convention on Human Rights,¹¹ which protects the right to life of an individual. The agreements not just protect the right to life but also cast an obligation on states to protect the life of an individual. Also, international agreements are protecting the right to health such as the UDHR,¹² International Covenant on Economic, Social and Cultural Rights UN General Assembly,¹³ Convention on the Rights of the Child,¹⁴ Conventions on the Elimination of all Forms of Racial Discrimination UN General Assembly,¹⁵ Convention on the Elimination of Discrimination against Women UN General Assembly,¹⁶ etc. Thus, it can be stated that climate change directly or indirectly affects our human rights such as the right to life and the right to health.

⁵ United Nations Human Rights, ‘OHCHA and Climate Change’ <<https://www.ohchr.org/en/issues/hrandclimatechange/pages/hrclimatechangeindex.aspx#:~:text=States%20have%20a%20human%20rights,enjoy%20lives%20of%20human%20dignity>> accessed January 29, 2022.

⁶ Universal Declaration of Human Rights 1948, Preamble.

⁷ International Covenant on Civil and Political Rights, 16 December 1966, United Nations, Treaty Series, vol. 999, p. 171, <<http://www.refworld.org/docid/3ae6b3aa0.html>> accessed January 28, 2022.

⁸ Convention on the Rights of the Child, 20 November 1989, UN Treaty Series 1577, p. 3 <<http://www.refworld.org/docid/3ae6b38f0.html>> accessed January 29, 2022.

⁹ Charter of Fundamental Rights of the European Union, 26 October 2012, 2012/C 326/02, <<http://www.refworld.org/docid/3ae6b3b70.html>> accessed January 29, 2022.

¹⁰ African Charter on Human and Peoples' Rights ("Banjul Charter"), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), <<http://www.refworld.org/docid/3ae6b3630.html>> accessed February 2, 2022.

¹¹ Organization of American States (OAS), American Convention on Human Rights, "Pact of San Jose", Costa Rica, 22 November 1969, <<http://www.refworld.org/docid/3ae6b36510.html>> accessed February 3, 2022.

¹² Universal Declaration of Human Rights 1948, art 25(1).

¹³ International Covenant on Economic, Social and Cultural Rights, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3, (hereafter "ICESCR") <<http://www.refworld.org/docid/3ae6b36c0.html>> accessed February 2, 2022.

¹⁴ Convention on the Rights of the Child 1990, art 6.

¹⁵ International Convention on the Elimination of All Forms of Racial Discrimination 1965, art 5(1).

¹⁶ Convention on the Elimination of All Forms of Discrimination against Women 1979, art 11.

Technology has become part of our life. However, the mismanagement and uncontrolled use of technology result in environmental pollution.¹⁷ In developed countries such as the European Union and the UK, states use climate-friendly technologies that reflect a highly positive impact on the environment.¹⁸ These technologies convert the extra emitted energy to electricity. Whereas in developing and least developed countries, we see less usage of such smart technologies. There are many reasons for the same. Some of them are less capital, financing, and funding by the government, less-skilled labour who knows the know-how of the technology, etc. Since the issue of climate change is non-territorial, it's the duty of all the states to cooperate and mitigate this issue. One of the effective ways to lessen this problem is by 'transfer of technology'.

❖ International Cooperation for Transfer of Technology

TRIPS Agreement is an International Agreement which lays down the standard provision for Intellectual Property Rights.¹⁹ The objective of the agreement itself states that the main aim is to transfer and disseminate technology to developing countries as and when required.²⁰ Further, it casts a duty upon the developed states to provide incentives for their companies so that they can transfer the technology to the least developed states.²¹ Further Article 29.1 (Disclosure requirement),²² Article 30²³ and 31 (exceptions and limitations on exclusive rights)²⁴ and article 40 (control over anti-competitive practice)²⁵ helps the developing states to adopt technologies without paying a huge cost through compulsory licensing of such technology. Even though there is a legal framework to transfer the technology, in practice the situation is completely different. There are many barriers to transferring the technology and one such barrier is Intellectual Property Rights

¹⁷ D Sankar Polaiah, 'Impact of Technology on Environment' (2018) IJESI Vol5 2319-6726 pp 53-55 <[http://www.ijesi.org/papers/Conf.1802\(ICMEEP\)/Vol-5/12.%2053-55.pdf](http://www.ijesi.org/papers/Conf.1802(ICMEEP)/Vol-5/12.%2053-55.pdf)> accessed February 2, 2022.

¹⁸ Edinburgh Sensors, 'The Impact of Technology on the Environment and How Environmental technology Could Save Our Planet' (13th November 2019) < <https://edinburghsensors.com/news-and-events/impact-of-technology-on-the-environment-and-environmental-technology/>> accessed on February 2, 2022.

¹⁹ Trade Related Aspects of Intellectual Property Rights, 1995.

²⁰ *Id.* at art. 7.

²¹ *Id.* at art.66.2.

²² *Id.* at art. 29.1.

²³ *Id.* at art. 30.

²⁴ *Id.* at art. 31.

²⁵ *Id.* at art. 40.

❖ Role of IPR and Impact of TRIPS on Technology Transfer

There is a constant debate since the introduction of Intellectual Property Rights (“IPRs”). Some scholars argue that patent right helps the innovator to bring in more innovation into the market whereas the other set of scholars argue that these rights create a natural monopoly in the market thereby excluding many developing nations from using certain technology which saves a life.²⁶ However, in this paper, the researcher argues that IPRs are barriers to transfer to technology. Even though there are provisions such as Article 31 which provides for compulsory licenses, in practice, there are very few numbers of compulsory licenses granted for environment-friendly technologies and according to a report of CTCN, there is a record number of requests for climate technology transfer.²⁷

After the adoption of the TRIPS agreement, there is stronger protection for IP rights. This stronger protection has been a boon to developing countries as there is a rise in their economic growth and at the same time, it has been a bane since the developed countries abuse their exclusive right preventing the transfer of environment-friendly technology to developing countries.²⁸ However, certain scholars like B Pandey and P Saha approach it quite optimistically. They argue that the flexibility in the TRIPS provisions should be exploited by the developing countries to achieve their goal of transferring the environment-friendly technologies.²⁹

Therefore, it is an undisputed fact that there is no proper implementation of the TRIPS agreement and IP rights act as a barrier to the transfer of technology. According to the researcher, the only way in which one can resolve this conflict of rights is through the human rights approach. Before analyzing the approach, the researcher has also shed light on whether the process of globalization has acted as a catalyst in helping the technology transfer.

3. METHODOLOGY

The present paper employs a doctrinal method and is analytical in nature. The paper examines that due to industrialization, there was a lot of greenhouse gas emission and it has been characterised by developing new technologies. The paper encompasses primary and secondary sources of data. The primary sources include statutory laws, international legislations which will help in analyzing the role of globalization in such technology transfer. Whereas, the secondary sources include textbooks, articles appearing in different journals and materials

²⁶ Rishi R Gupta, ‘Compulsory Licensing in TRIPS: Chinese and Indian comparative advantage in the manufacture and exportation of green technologies’, Sustainable Development Law and Policy’ 12, no. 3 (2012) 21,54-55.<<https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1534&context=sdlp>> accessed February 2, 2022.

²⁷ UN Environment Programme, ‘The CTCN reports record number of requests for climate technology transfer’ (9th December 2019) <<https://www.unenvironment.org/news-and-stories/press-release/ctcn-reports-record-number-requests-climate-technology-transfer>> accessed February 4, 2022.

²⁸ Mark Shugurov, ‘The TRIPS Agreement, International Technology Transfer and Development: Some lessons from Strengthening IPR Protection’, BRICS Law Journal Vol II (2016) Issue 1.

²⁹ Bishambhar N. Pandey & Prabhat K. Saha, *Technology Transfer in TRIPS Agreement: Implications for Developing Countries*, 3(1) Dehradun L. Rev. (2012).

available on the internet which will help in stressing the importance of human rights and that humans possess certain obligations with respect to climate change. For the footnotes, 21st Harvard Bluebook edition will be used.

4. RESULTS

Globalization - A Catalyst or Inhibitor?

The process of globalization has increased the capital flow between the countries. Foreign Direct Investment (FDI) is a fundamental component of globalization, and it is the most active aspect of foreign capital flows, since it is the conduit via which technology is moved between nations in the form of codified and tacit technical knowledge.³⁰ Still, the amount can be different from one country to another depending on other factors. Not only this, there are other positive impacts created by globalization. Some scholars argue that globalization acted as a catalyst in disseminating knowledge and technology across borders in two ways. Firstly, this process allows states to easily access foreign knowledge and secondly, it increases international competition as a result of the rising of emerging markets firms.³¹ In this way, it indirectly promotes innovation and provides incentives to the inventor. The researcher argues that the TRIPS agreement is born through the process of globalization. As the above paragraph clearly said, the provisions in the TRIPS agreement are quite flexible and developed countries have used it as a weapon to restrict the transfer of technology. The main element in technology is the technical know-how and this has been secretly used by the developed nations. Even if they are willing to provide it for a license, the cost of such licensing agreements runs into billions of dollars.³² Therefore it is clear that even though on one side globalization has acted as a catalyst in transferring knowledge and technology, on the other hand, it has made a rich-poor gap and this transfer is fully on a commercial basis.

Human Rights Approach

The researcher has adopted this approach since International Human rights are something that binds all states and has set out certain obligations in the subject of climate change. Firstly, as we all know there are certain existing rights in international agreements such as the right to life, right to health. If it is violated, it causes a violation of human rights. Therefore climate change results in human rights violations and nations can use this as a weapon to instigate government actions on this issue. Secondly, if there is no cooperation from the side of developed states, the developing states can use human rights as a weapon to threaten the country to avoid further

³⁰ Franco Praussello, 'Globalization and Incomplete Technology Transfer to Developing Countries' (Palgrave Macmillan, 1st edition, 2006) Chap. 11, pp 200-216.

³¹ Aqib Aslam, Johannes Eugster, Giang Ho, Florence Jaumotte, Carolina Osorio-Buitron, & Roberto Piazza, 'Globalization helps spread knowledge and technology across the Borders' (IMF Blog, 9th April 2018) <<https://blogs.imf.org/2018/04/09/globalization-helps-spread-knowledge-and-technology-across-borders/#:~:text=Globalization%20boosts%20technological%20development&text=First%2C%20globalization%20allows%20countries%20to,innovate%20and%20adopt%20foreign%20technologies.>> accessed February 2nd, 2022.

³² Dr. Sivalingam and E Bhaskaran, 'International technology transfer implications and impact in developing countries' (Researchgate, January 2004), <https://www.researchgate.net/publication/290441187_International_Transfer_Of_Technology_Impact_And_Implications_In_Developing_Countries> January 28, 2022.

litigation. Finally, there are various protocols for the climate. The developing nations can effectively implement those protocols through the human rights approach. Even though the process of globalization, there are many international agreements set up such as UDHR which base its arguments on human rights. Therefore, since IPR is a barrier to technology transfer, one can use the human rights approach to mitigate the problem of climate change.

5. CONCLUSION

The researcher in this paper has set out a co-relationship between climate change, transfer of technology, and human rights. Through this way, the researcher has established that transfer of technology is the best suitable sustainable solution for the problem of climate change. However, due to the barrier of IPRs, the developed countries use this right as a weapon to restrict such transfer. They even use international agreements such as TRIPS in their flexible way. Even though the process of globalization has acted as a catalyst for some states to develop, the researchers conclude that globalization has given more power to developed nations and has created a wide gap. Therefore, in the light of many international agreements for climate change and human rights, the researcher finds that the best way to approach this problem is through the lens of Human Rights since this right cannot be alienated by any states from any individual. Further, since the issue of climate change is at global level, there is a need for all states to cooperate and approach the issue from an angle of human rights. Thus, the researcher has used human rights, which is a tool of globalization, to mitigate the issue of climate change and technology transfer.